

AD9907175A2

Service Manual

Stereo Control / Power Amplifier

SU-A909

Please file and use this manual together with the service manuals for
Model No. SU-C909U, Order No. AD9907176C2 and Model No.
SE-A909S, Order No. AD9907177C2.

Colour

(K).....Black Type

Areas

(E).....Europe and Russia.

(EB).....Great Britain.

(EG).....Germany, France and Italy.

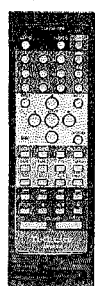
System: SU-A909

Control Amplifier.....SU-C909U

Power Amplifier.....SE-A909S

SU-C909U

Remote Control
Transmitter



SE-A909S

1

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®

1. Notes

- The SU-A909 consists of a Control Amplifier “SU-C909U” and a Power Amplifier “SE-A909S” contained in one and the same packing case.
So the new parts are those packed in and named below.
For information of others than those packed in, refer to both the SU-C909U Service Manual and the SE-A909S Service Manual.
- All parts are supplied by MESA.

2. Replacement Parts List

Ref. No.	Part No.	Part Name & Description	Pcs.	Remarks
P1	RPG4514	PACKING CASE	1	(E)
P1	RPG4515	PACKING CASE	1	(EB,EG)
P2	RPQ0978	PAD	1	
P3	RPQ0977	PAD	1	

3. Packaging



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AD9907176C2

Service Manual

Control Amplifier

SU-C909U

Colour

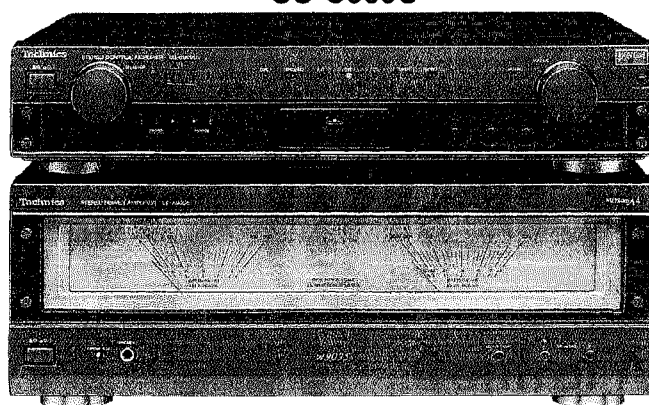
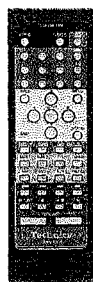
(K).....Black Type

Area

(E).....Europe and Russia.

SU-C909U

Remote Control
Transmitter



SE-A909S

SPECIFICATIONS

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

System: SU-A909

Control Amplifier	SU-C909U
Power Amplifier	SE-A909S

Specifications (DIN 45 500)

Input sensitivity/impedance:

PHONO MM;	2.5 mV/47 kΩ
TUNER, CD, DVD, AUX, TAPE 1, TAPE 2/MD;	200 mV/22 kΩ

Total harmonic distortion (VGCA ON)

(Vol. MAX, 20 Hz – 20 kHz):

PHONO MM;	0.01 %
TUNER, CD, DVD, AUX, TAPE 1, TAPE 2/MD;	0.01 %

S/N (VGCA ON):

PHONO MM;	75 dB (77 dB, IHF '66)
TUNER, CD, DVD, AUX, TAPE 1, TAPE 2/MD;	103 dB (100 dB, IHF '66)
	114 dB (IHF A S=2 V rated output)

Frequency response (VGCA ON):

PHONO MM;	RIAA standard curve ± 1 dB (30 Hz – 15 kHz)
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TUNER, CD, DVD-6CH, AUX, TAPE 1, TAPE 2/MD;	3 Hz – 100 kHz (+0 dB, –3 dB) +0 dB, –0.3 dB (20 Hz – 20 kHz)
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Phono maximum input voltage (1 kHz, RMS):

MM;	90 mV (IHF '66)
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Tone controls:

BASS;	+ 10 dB, –10 dB (50 Hz)
TREBLE;	+ 10 dB, –10 dB (20 kHz)
Muting;	–∞ dB

Output voltage:

TAPE 1, TAPE 2 REC OUT;	200 mV
PRE OUT;	1 V

■ GENERAL

Dimensions (W × H × D):	430 × 91.5 × 300 mm
Weight:	2.85 kg

Note:

- Specifications are subject to change without notice.
Weight and dimensions are approximate.

1

⚠ WARNING

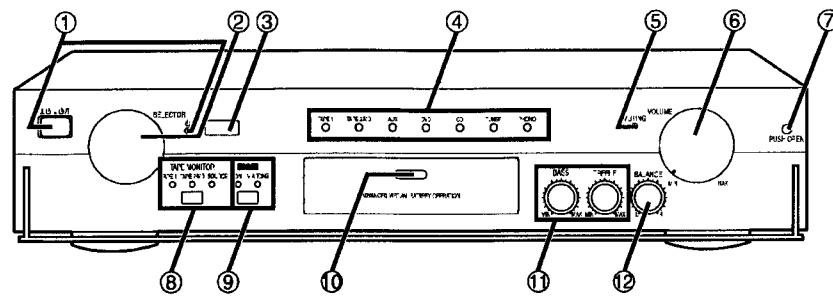
This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should 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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1. Note

Refer to the service manual for Model No. SE-A909S (ORDER No. AD9907177C2) for information on Accessories, Connections, Operations and Packaging.

2. Location of Controls



Main units

No.	Name	No.	Name
①	Unit on/off button () and remote standby indicator () Use this button to turn the unit on and off. (off): The unit is in standby mode. (on): The unit is on. The unit can be turned on and off with the remote control. When the unit is turned off with the remote control it is in remote standby and the indicator lights. The unit is still using a small amount of power in the standby and remote standby conditions. Standby uses less power. Note The control amplifier switches between ON and the standby mode only if the power amplifier [] switch is in the " " position.	⑦	Panel button (PUSH OPEN) Press to open the clear panel. Close by hand.
②	Input selector (SELECTOR)	⑧	Tape monitor button/indicators (TAPE MONITOR)
③	Remote control signal sensor	⑨	VGCA button/indicators ()
④	Input indicator	⑩	"ADVANCED VIRTUAL BATTERY OPERATION" indicator This will illuminate to indicate that the advanced virtual battery (a circuit which removes the noise contained in the power supply while playing a sound input source) is functioning.
⑤	Muting indicator (MUTING)	⑪	Tone controls (BASS, TREBLE)
⑥	Volume control (VOLUME)	⑫	Balance control (BALANCE)

3. To Supply Power Source

This unit SU-C909U is designed to operate on power supplied from the Power Amplifier SE-A909S.

When operating the unit SU-C909U alone for testing and servicing, without having power supplied from the Power Amplifier SE-A909S, use the following method.

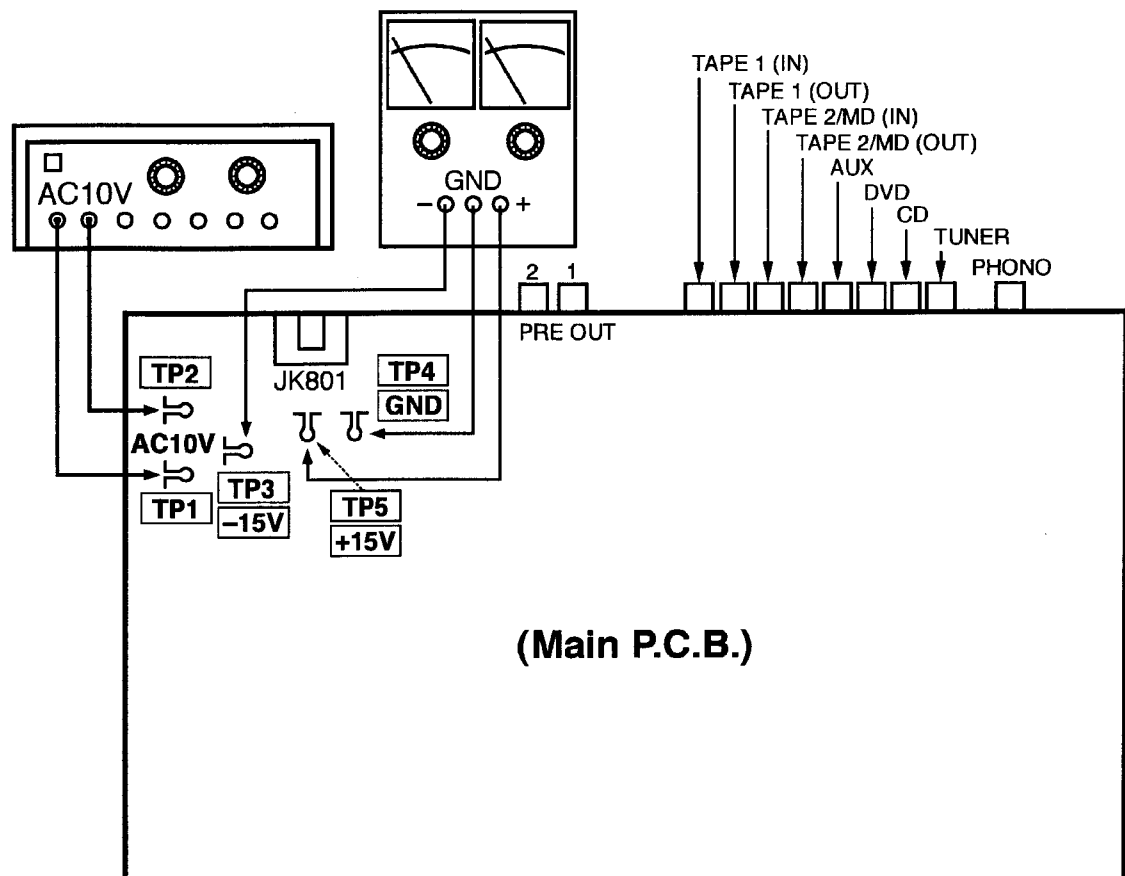
3.1. Power Supply to Main Circuit

1. Apply 10 V AC power to the section between the point TP1 and the point TP2. Shown in Fig.1
2. Connect the DC +12 V to +15 V (more than 0.1 A) to the point TP5, and the GND terminal to the point TP4 using the DC power supply. Shown in Fig.1
3. Connect the DC -12 V to -15 V (more than 0.1 A) to the point TP3, and the GND terminal to the point TP4 using the DC power supply. Shown in Fig.1

3.2. Operation Check

1. Input a signal (1 kHz, 100 mV) to the each line-in terminal.
2. Connect the oscilloscope or the speaker with the built-in amplifier to the PRE OUT terminals and check if the signals are outputting from this unit.

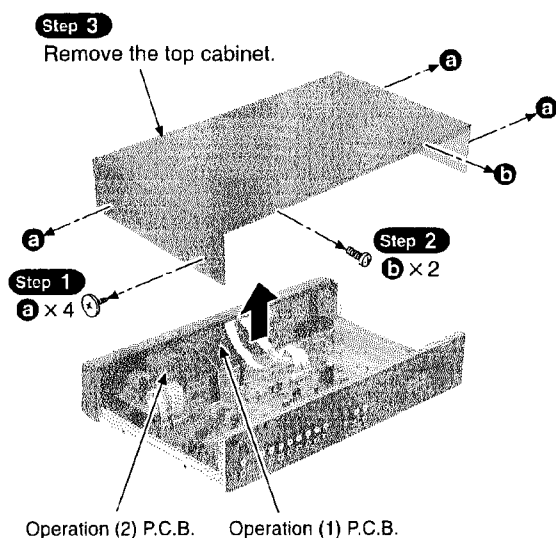
Fig.1



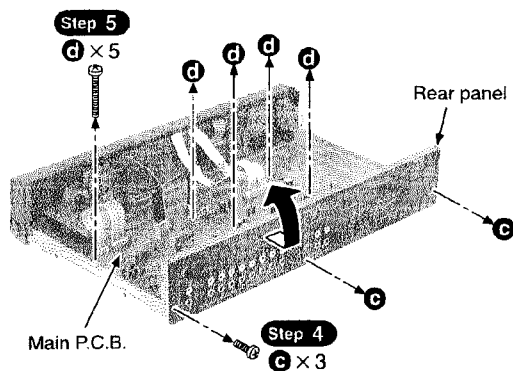
4. Operation Checks and Component Replacement Procedures

- 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.

1. Checking for the operation (1) P.C.B., operation (2) P.C.B. and main P.C.B.

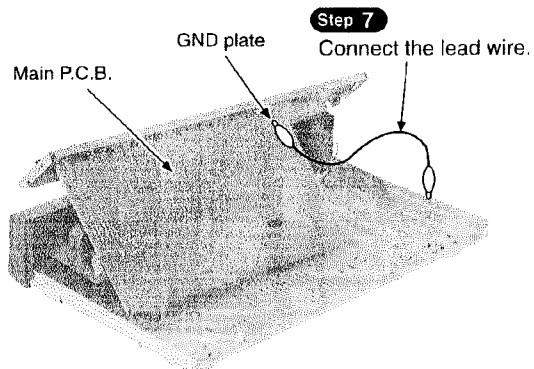


· Check the operation (1) P.C.B. and operation (2) P.C.B. as shown above



Step 6
Remove the main P.C.B. and rear panel in the direction of arrow.

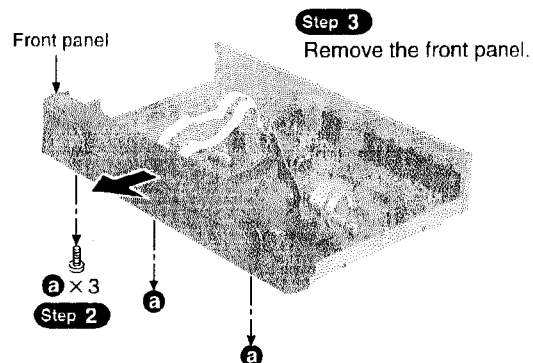
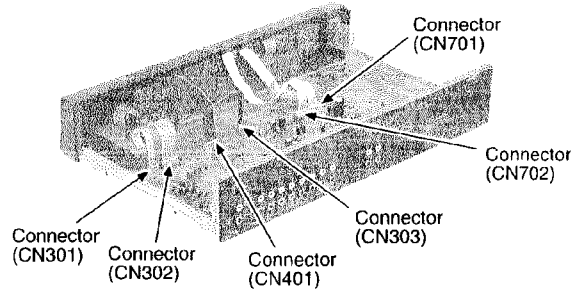
· Check the main P.C.B. as shown below.

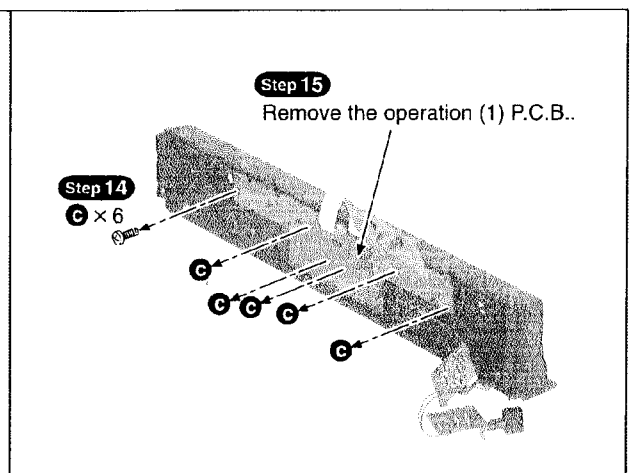
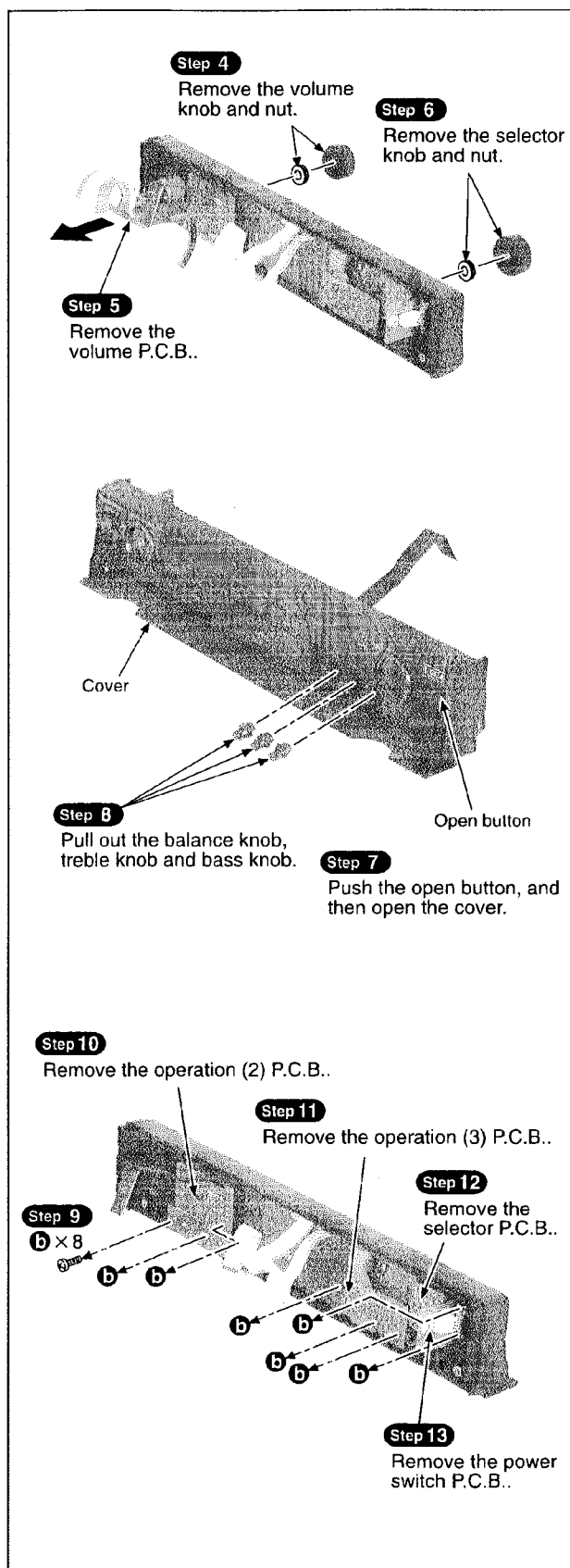


To remove each P.C.B.

· Follow the **Step 1** ~ **Step 3** of the item 1.

Step 1
Remove the 6 connectors.





5. Type Illustration of ICs, Transistors and Diodes



6. Schematic Diagram

6.1. Schematic Diagram Notes

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

Notes:

S801:



VGCA switch ()

S802:

Tape monitor switch (TAPE MONITOR)

S804:

Input select switch (SELECTOR)

S805:

Unit on/off switch (    //)

VR301:

Volume control VR (VOLUME)

VR311:

Output voltage adjustment VR (L ch)

VR312:

Output voltage adjustment VR (R ch)

VR401:

Balance control VR (BALANCE)

VR402:

Tone control VR (BASS)

VR403:

Tone control VR (TREBLE)

- 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 manufacturers 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.

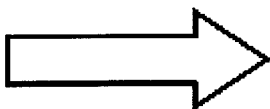
- Voltage and signal line



: Positive voltage line



: Negative voltage line



: Phono signal line



: Tape rec signal line

6.2. Schematic Diagram



7. Printed Circuit Board Diagram



8. Block Diagram



9. Wiring Connection Diagram



10. Measurements and Adjustments

10.1. Measurement instruments and Special tools

- AC electric voltmeter (AC EVM)
- AF oscillator

10.2. Output Voltage Adjustment

1. Turn on the power.
2. Select the input source to CD.
3. Connect the measuring instrument as shown in Fig.2
4. Apply 1 kHz, 200 mV signal to CD terminal.
5. Adjust the VOLUME to maximum.
6. Adjust VR311 (L ch) and VR312 (R ch) so that the output voltage to AC 1.00 V $\pm$ 0.2 dB. Shown in Fig.3

Fig.2

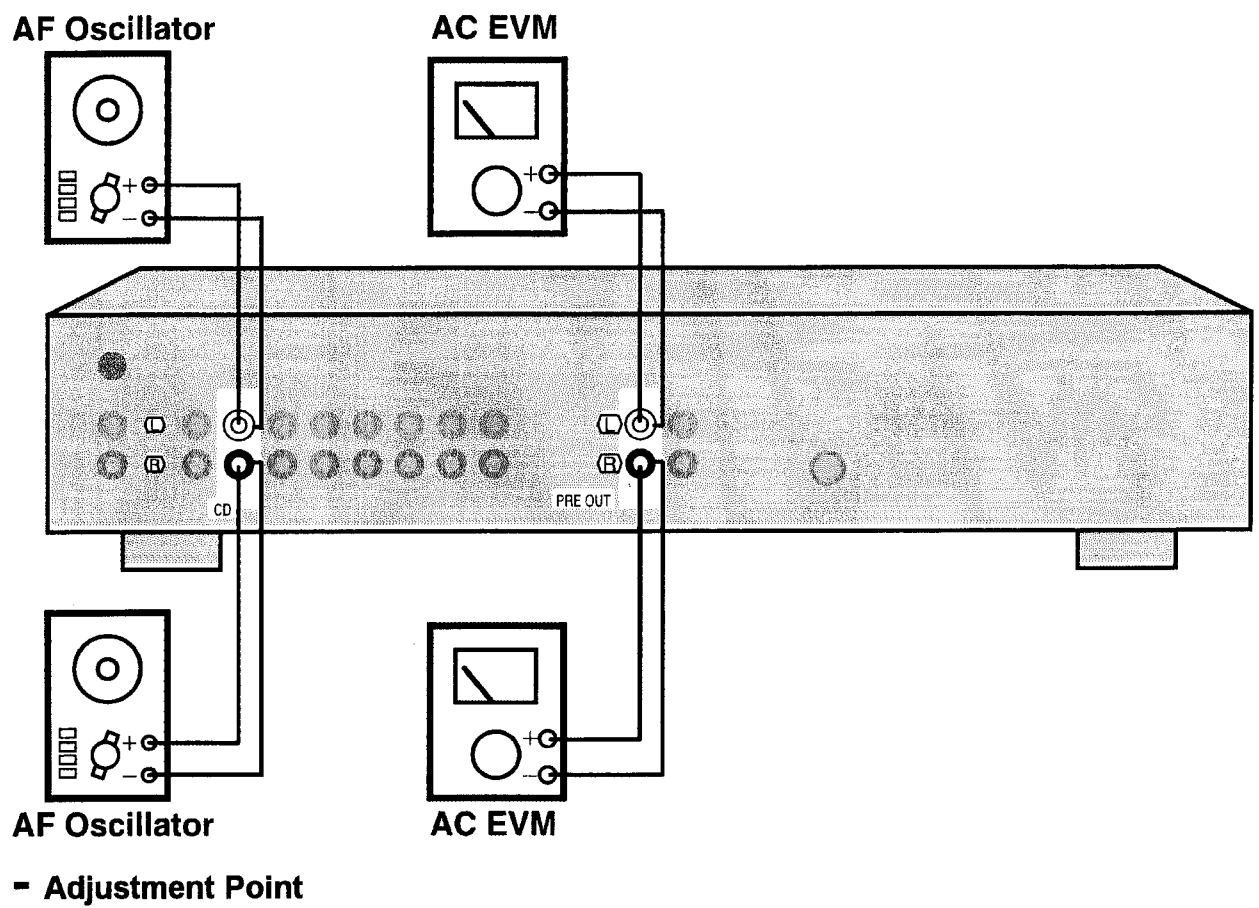
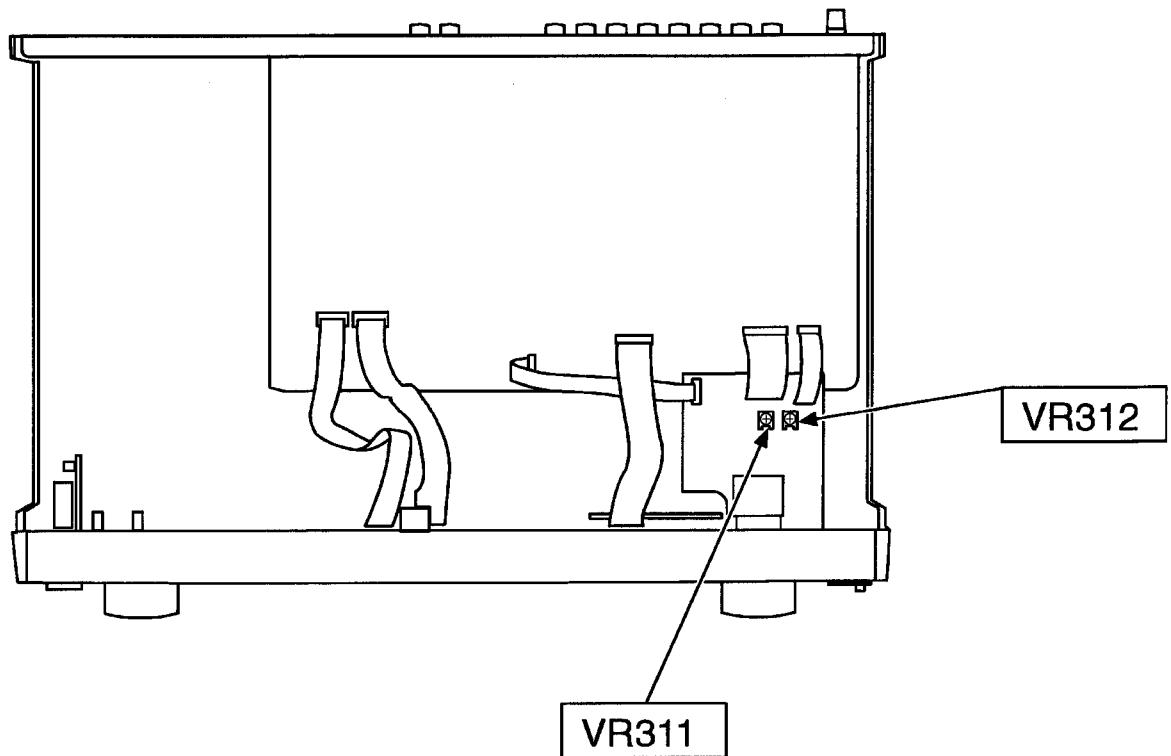


Fig.3



11. Terminal Function of ICs

11.1. IC701 (M38503M2404F) : Micro Computer

Pin No.	Name	I/O	Function
1	VCC	I	Power supply (+5 V) terminal
2	VREF	I	Reference voltage input
3	AGND	-	GND terminal
4	CS	I	Chip select signal input
5	NC	-	Not used, open
6	REMCON	I	Remote control signal input
7	BACKUP	I	Power failure detect signal input
8	NC	-	Not used, open
9	SELDATA	O	Data signal output for input select IC (IC201 and IC202)
10	SELCLK	O	Clock signal output for input select IC (IC201 and IC202)
11	SELSTB	O	Strobe signal output for input select IC (IC201 and IC202)
12	POWERSW	I	Selector switch (S804) detect signal input
13	LEDCLK	O	Clock signal output for LED drive IC
14	LEDDATA	O	Data signal output for LED drive IC
15	CNVSS	-	Connected to GND
16	VRDOWN	O	Motor drive signal output (Volume down)
17	VRUP	O	Motor drive signal output (Volume up)
18	RESET	I	System reset signal input
19	XIN	I	Connected to the ceramic oscillator (8 MHz)
20	XOUT	O	Connected to the ceramic oscillator (8 MHz)
21	GND	-	GND terminal
22	BATELED	-	Battery level (empty) LED (D809) drive signal output (Not used, open)
23	BATFLED	-	Battery level (full) LED (D809) drive signal output (Not used, open)
24	VIALED	O	VIA LED drive signal output
25	VGALED	O	VGCA LED drive signal output
26	STABYLED	O	Stand by LED drive signal output
27	FRNTOUT	O	Front output control signal output
28	CSWSOUT	-	Center/S.woofer/Surround output control signal output (Not used, open)

			used, open)
29	PWRRLY	O	Power control signal output
Pin No.	Name	I/O	Function
30	CHRGRLY	-	Battery charge relay control signal output (Not used, open)
31	BATRLY	-	Battery drive relay control signal output (Not used, open)
32	VGARLY	O	VGCA mode relay control signal output
33 36	NC	-	Not used, open
37	SELPH	-	Not used, open
38	BATLVL2	-	Battery voltage detection (2) signal input (Not used, open)
39	NC	-	Not used, open
40	RSWAD	I	Power switch (S805) detect signal input
41	KEYAD	I	Tape monitor and VGCA switch input
42	BATLVL1	-	Battery voltage detection (1) signal input (Not used, open)

12. Replacement Parts List

Notes:

- 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 manufactures specified parts shown in the parts list.

- 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	RKM0078-1K	TOP CABINET	1	
2	RHD30035-K1	SCREW	4	
3	XTBS3+8JFZ1	SCREW	2	
4	RGW0229-K	KNOB,SELECTOR	1	
5	RGW0230-K	KNOB,VOLUME	1	
6	RKA0053-A	FOOT	4	
6-1	RMG0270-K	RUBBER	4	
7	RDG0449	GEAR	2	
8	RGB0031-A	TECHNICS BADGE	1	
9	RGB0112-N	VGCA BADGE	1	
10	RGG0168C-K	PANEL	1	
11	RGK0747-S	RING ORNAMENT	2	
12	RGK1111-K	NUT	4	
13	RGK1163-K	DISPLAY 1	1	
14	RGK1164A-K1	DISPLAY 2	1	
15	RGL0453-Q	PANEL LIGHT 1	2	
16	RGL0454-Q	PANEL LIGHT 2	2	
17	RGP0740A-K	SUB GRILL	1	
18	RGP0743-K	GRILL	1	
19	RGU0890-1K	BUTTON,POWER	1	
20	RGU1712-K	BUTTON,OPEN	1	
21	RGU1774-S	BUTTON,VGCA	1	
22	RGW0205-S	KNOB,	3	
23	RHD26033	SCREW	4	
24	RHD26034	SCREW	3	
25	RHN90001	NUT	2	
26	RKF0593-Q	DOOR	1	
27	RKG0009	MAGNET	1	
28	RKW0273A-K	FILTER	1	
29	RME0284	SPRING	1	
30	RMR1202-K	ARM(L)	1	
31	RMR1203-K	ARM(R)	1	
32	RMR1204-K	MAGNET HOLDER	1	
33	RMR1205-K	DAMPER HOLDER	2	
34	RMR1206-K	DAMPER(R)	1	
35	RMR1207-K	DAMPER(L)	1	
36	XTBS26+8J	SCREW	20	
37	XTS2+4GFZ	SCREW	4	
38	SNE2123	SCREW	1	
39	XTBS3+8JFZ1	SCREW	10	
40	XTB3+20JFZ	SCREW	5	
41	XTB3+6JFZ	SCREW	3	
C101,02	ECBT1H221KB5	50V 220P	2	
C103,04	ECA1HPXS4R7B	50V 4.7U	2	
C107,08	RCE1AKA330BG	10V 33U	2	
C113,14	ECQB1H682JF3	50V 6800P	2	
C115,16	ECQB1H223JF3	50V 0.022U	2	
C117,18	ECEA1VKA4R7B	35V 4.7U	2	
C119,20	ECQB1H472JF3	50V 4700P	2	
C121,22	ECKR1H103ZF5	50V 0.01U	2	
C123,24	ECBT1H102KB5	50V 1000P	2	
C201,02	ECBT1H101KB5	50V 100P	2	
C203-06	ECCR1H101K5	50V 100P	4	

Ref. No.	Part No.	Part Name & Description	Pcs.	Remarks
C211,12	ECBT1H101KB5	50V 100P	2	
C215	ECBT1H101KB5	50V 100P	1	
C217,18	ECBT1C103NS5	16V 0.01U	2	
C219,20	ECA1HPXS4R7B	50V 4.7U	2	
C221	ECBT1H101KB5	50V 100P	1	
C223,24	ECBT1C103NS5	16V 0.01U	2	
C225,26	ECA1HPXS4R7B	50V 4.7U	2	
C231	ECBT1E103ZF	25V 0.01U	1	
C251-58	ECBT1H101KB5	50V 100P	8	
C301,02	ECBT1H181KB5	50V 180P	2	
C303,04	ECBT1E103ZF	25V 0.01U	2	
C305,06	ECA1EPXS100B	25V 10U	2	
C351,52	ECA1EPXS100B	25V 10U	2	
C353,54	ECCR1H101K5	50V 100P	2	
C355,56	ECA1APXS221	10V 220U	2	
C357,58	ECBT1H820KB5	50V 82P	2	
C359,60	ECBT1H390J5	50V 39P	2	
C361,62	ECA1HPXS3R3	50V 3.3U	2	
C363,64	ECBT1E103ZF	25V 0.01U	2	
C367,68	ECA1EPXS220B	25V 22U	2	
C391,92	ECEA0JKS101	6.3V 100U	2	
C393,94	ECFR1E104ZF5	25V 0.1U	2	
C401,02	ECEA1HKS010	50V 1U	2	
C403-06	ECBT1H101KB5	50V 100P	4	
C407,08	ECBT1H560J5	50V 56P	2	
C409,10	RCE1CKA470BG	16V 47U	2	
C411,12	ECBT1E103ZF	25V 0.01U	2	
C415,16	ECBT1C222KR5	16V 2200P	2	
C417,18	ECBT0J153MS5	6.3V 0.015U	2	
C419,20	ECBT1C332KR5	16V 3300P	2	
C421,22	ECQV1H823JZ	50V 0.082U	2	
C423,24	ECBT0J153MS5	6.3V 0.015U	2	
C425,26	ECBT1H121KB5	50V 120P	2	
C427,28	ECEA1HKS010	50V 1U	2	
C513,14	ECEA1HPS010	50V 1U	2	
C515,16	ECCR1H101J5	50V 100P	2	
C519,20	ECA1EPXS100B	25V 10U	2	
C521,22	ECA1CPXS470B	16V 47U	2	
C523,24	ECCR1H331J5	50V 330P	2	
C601	ECEA1HKS010	50V 1U	1	
C607,08	ECA1EPXS470B	25V 47U	2	⚠
C651	ECA1EM222	25V 2200U	1	⚠
C655	RCE1CKA470BG	16V 47U	1	
C656	ECQV1H104JM3	50V 0.1U	1	
C658	ECBT1C103NS5	16V 0.01U	1	
C701,02	ECA0JM102	6.3V 1000U	2	
C703	RCE1HKAR47BG	50V 0.47U	1	
C704	ECEA1HKS2R2	50V 2.2U	1	
C705,06	ECBT1C103NS5	16V 0.01U	2	
C707,08	RCE1HKAR22BG	50V 0.22U	2	
C709	ECBT1C103NS5	16V 0.01U	1	
C801	ECEA0JKS101	6.3V 100U	1	
C802	ECBT1E103ZF	25V 0.01U	1	
C803	ECBT1H104ZF5	50V 0.1U	1	

Ref. No.	Part No.	Part Name & Description	Pcs.	Remarks
C804,05	ECBT1H101KB5	50V 100P	2	
C806	ECBT1H104ZF5	50V 0.1U	1	
CN301	RJS1A6604	CONNECTOR(4P)	1	
CN302	RJS1A6607T1	CONNECTOR(7P)	1	
CN303	RJS1A6604	CONNECTOR(4P)	1	
CN401	RJS1A6607T1	CONNECTOR(7P)	1	
CN701	RJS7T4ZA	CONNECTOR(7P)	1	
CN702	RJS8T4ZA	CONNECTOR(8P)	1	
D201,02	MA165	DIODE	2	
D501	MA165	DIODE	1	
D521	MA165	DIODE	1	
D601	MA165	DIODE	1	
D607	MA165	DIODE	1	
D651-54	RL1N4003N02	DIODE	4	⚠
D655,56	MA167	DIODE	2	⚠
D658	MA4056M	DIODE	1	⚠
D701	1SS291TA	DIODE	1	
D702	MA165	DIODE	1	
D704	1SS291TA	DIODE	1	
D705-07	MA165	DIODE	3	
D709,10	MA165	DIODE	2	
D712	MA165	DIODE	1	
D801-04	SLR325VCT31	LED	4	
D806-08	SLR325VCT31	LED	3	
D811	SLR325DCT31	LED	1	
D812,13	SLR325VCT31	LED	2	
D814,15	SLR325DCT31	LED	2	
D816-18	SLR325VCT31	LED	3	
IC101	AN6558F	IC	1	
IC201	TC9163N	IC	1	
IC202	TC9164N	IC	1	
IC311	UPC4570C	IC	1	
IC351	UPC4570C	IC	1	
IC391	BA6218	IC	1	
IC401	NJM4580EDTE1	IC	1	
IC511	UPC4570C	IC	1	
IC601	M5F78M05L	IC	1	⚠
IC701	M38503M2404F	IC	1	
IC801	BU2090AFE2	IC	1	
JK201	SJF3069-11N	JACK,PHONO	1	
JK202-05	SJF3069N	JACK,IN/OUT	4	
JK501	SJF3069N	JACK,PRE/OUT	1	
JK801	RJS1D0706	JACK(7P)	1	
L391,92	ELEXT1R0KA9	COIL	2	
L601-07	ELEXT1R0KA9	COIL	7	
L701	ELEXT101KA9	COIL	1	
L801	ELEXT101KA9	COIL	1	
L802	ELEXT100KA9	COIL	1	

Ref. No.	Part No.	Part Name & Description	Pcs.	Remarks
P1	RPG4512	PACKING CASE	1	
P2	RPN1206	PAD	1	
P3	SPP756	PROTECTION COVER	1	
PCB1	REP2873A-M	MAIN PCB	1	(RTL)
PCB2	REP2841D-S	PANEL PCB	1	(RTL)
Q201	DTC124EST	TRANSISTOR	1	
Q202	DTA124ESTP	TRANSISTOR	1	
Q203	DTC124EST	TRANSISTOR	1	
Q204	DTA124ESTP	TRANSISTOR	1	
Q501	DTA124ESTP	TRANSISTOR	1	
Q502	DTC124EST	TRANSISTOR	1	
Q521	DTC124EST	TRANSISTOR	1	
Q522	DTA124ESTP	TRANSISTOR	1	
Q601,02	DTA124ESTP	TRANSISTOR	2	⚠
Q603	DTC144ESTP	TRANSISTOR	1	⚠
Q701	DTC114ESTP	TRANSISTOR	1	
Q702	DTC114YSTP	TRANSISTOR	1	
Q710	DTC114YSTP	TRANSISTOR	1	
R101,02	ERDS2FJ152	1/4W 1.5K	2	
R103,04	ERDS2FJ224	1/4W 220K	2	
R105,06	ERDS2FJ563	1/4W 56K	2	
R117,18	ERDS2FJ181	1/4W 180	2	
R123,24	ERDS2FJ680	1/4W 68	2	
R125,26	ERDS2FJ123	1/4W 12K	2	
R127,28	ERDS2FJ184	1/4W 180K	2	
R129,30	ERDS2FJ563	1/4W 56K	2	
R131,32	ERDS2FJ102	1/4W 1K	2	
R201-06	ERDS2FJ102	1/4W 1K	6	
R211,12	ERDS2FJ102	1/4W 1K	2	
R215-17	ERDS2FJ103	1/4W 10K	3	
R219-21	ERDS2FJ103	1/4W 10K	3	
R222,23	ERDS2FJ102	1/4W 1K	2	
R224	ERDS2FJ472	1/4W 4.7K	1	
R227	ERDS2FJ472	1/4W 4.7K	1	
R251-58	ERDS2FJ102	1/4W 1K	8	
R301,02	ERDS2FJ104	1/4W 100K	2	
R315,16	ERDS2FJ272	1/4W 2.7K	2	
R351,52	ERDS2FJ102	1/4W 1K	2	
R353,54	ERDS2FJ333	1/4W 33K	2	
R355,56	ERDS2FJ272	1/4W 2.7K	2	
R357,58	ERDS2FJ224	1/4W 220K	2	
R361,62	ERDS2FJ183	1/4W 18K	2	
R363,64	ERDS2FJ103	1/4W 10K	2	
R365,66	ERDS2FJ102	1/4W 1K	2	
R391	ERDS1FJ100	1/2W 10	1	⚠
R401,02	ERDS2FJ472	1/4W 4.7K	2	
R403-06	ERDS2FJ224	1/4W 220K	4	
R407,08	ERDS2FJ392	1/4W 3.9K	2	
R409,10	ERDS2FJ102	1/4W 1K	2	
R411,12	ERDS2FJ183	1/4W 18K	2	

Ref. No.	Part No.	Part Name & Description	Pcs.	Remarks
R413,14	ERDS2FJ392	1/4W 3.9K	2	
R415-18	ERDS2FJ223	1/4W 22K	4	
R503,04	ERDS2FJ332	1/4W 3.3K	2	
R513,14	ERDS2FJ104	1/4W 100K	2	
R515,16	ERDS2FJ224	1/4W 220K	2	
R521,22	ERDS2FJ331	1/4W 330	2	
R523,24	ERDS2FJ473	1/4W 47K	2	
R525,26	ERDS2FJ101	1/4W 100	2	
R655,56	ERDS2FJ103	1/4W 10K	2	
R701	ERDS2FJ681	1/4W 680	1	
R702,03	ERDS2FJ103	1/4W 10K	2	
R704,05	ERDS2FJ104	1/4W 100K	2	
R706	ERDS2FJ103	1/4W 10K	1	
R707-09	ERDS2FJ104	1/4W 100K	3	
R710	ERDS2FJ103	1/4W 10K	1	
R723-25	ERDS2FJ103	1/4W 10K	3	
R726	ERDS2FJ102	1/4W 1K	1	
R728	ERDS2FJ104	1/4W 100K	1	
R801	ERDS2FJ821	1/4W 820	1	
R802	ERDS2FJ102	1/4W 1K	1	
R803	ERDS2FJ122	1/4W 1.2K	1	
R804	ERDS2FJ152	1/4W 1.5K	1	
R805	ERDS2FJ182	1/4W 1.8K	1	
R806	ERDS2FJ222	1/4W 2.2K	1	
R807	ERDS2FJ332	1/4W 3.3K	1	
R808	ERDS2FJ472	1/4W 4.7K	1	
R809	ERDS2FJ682	1/4W 6.8K	1	
R810	ERDS2FJ123	1/4W 12K	1	
R811	ERDS2FJ223	1/4W 22K	1	
R812	ERDS2FJ561	1/4W 560	1	
R813,14	ERDS2FJ181	1/4W 180	2	
R815	ERDS2FJ331	1/4W 330	1	
R819	ERDS2FJ271	1/4W 270	1	
R820	ERDS2FJ223	1/4W 22K	1	
R821	ERDS2FJ123	1/4W 12K	1	
R822	ERDS2FJ331	1/4W 330	1	
R823	ERDS2FJ181	1/4W 180	1	
R824,25	ERDS2FJ331	1/4W 330	2	
R826,27	ERDS2FJ101	1/4W 100	2	
R828,29	ERDS2FJ103	1/4W 10K	2	
R830	ERDS2FJ331	1/4W 330	1	
RL201 ,02	RSY0020M-R	RELAY	2	
RL501	RSY0020M-R	RELAY	1	
RL521	RSY0020M-R	RELAY	1	
S801,02	EVQ21405R	SW,PUSH	2	
S804	RSR9A001-A	SW,SELECTOR	1	
S805	RSP2B023-A	SW,UNIT ON/OFF	1	
TP1-P5	QJT1090	TEST POINT	5	
VR301	RRV16J05Z24A	VR,VOLUME	1	
VR311, 12	EVNDXAA00B23	VR,OUTPUT VOLT.ADJ.	2	
VR401	EVJ02QF01G15	VR,BALANCE	1	

Ref. No.	Part No.	Part Name & Description	Pcs.	Remarks
VR402 ,03	EVJYA1F01C15	VR,BASS/TREBLE	2	
X701	RSXY8M00D01T	OSCILLATOR	1	
Z801	RCD12042TH	COMPONENT COMBINATION	1	

13. Cabinet Parts Location

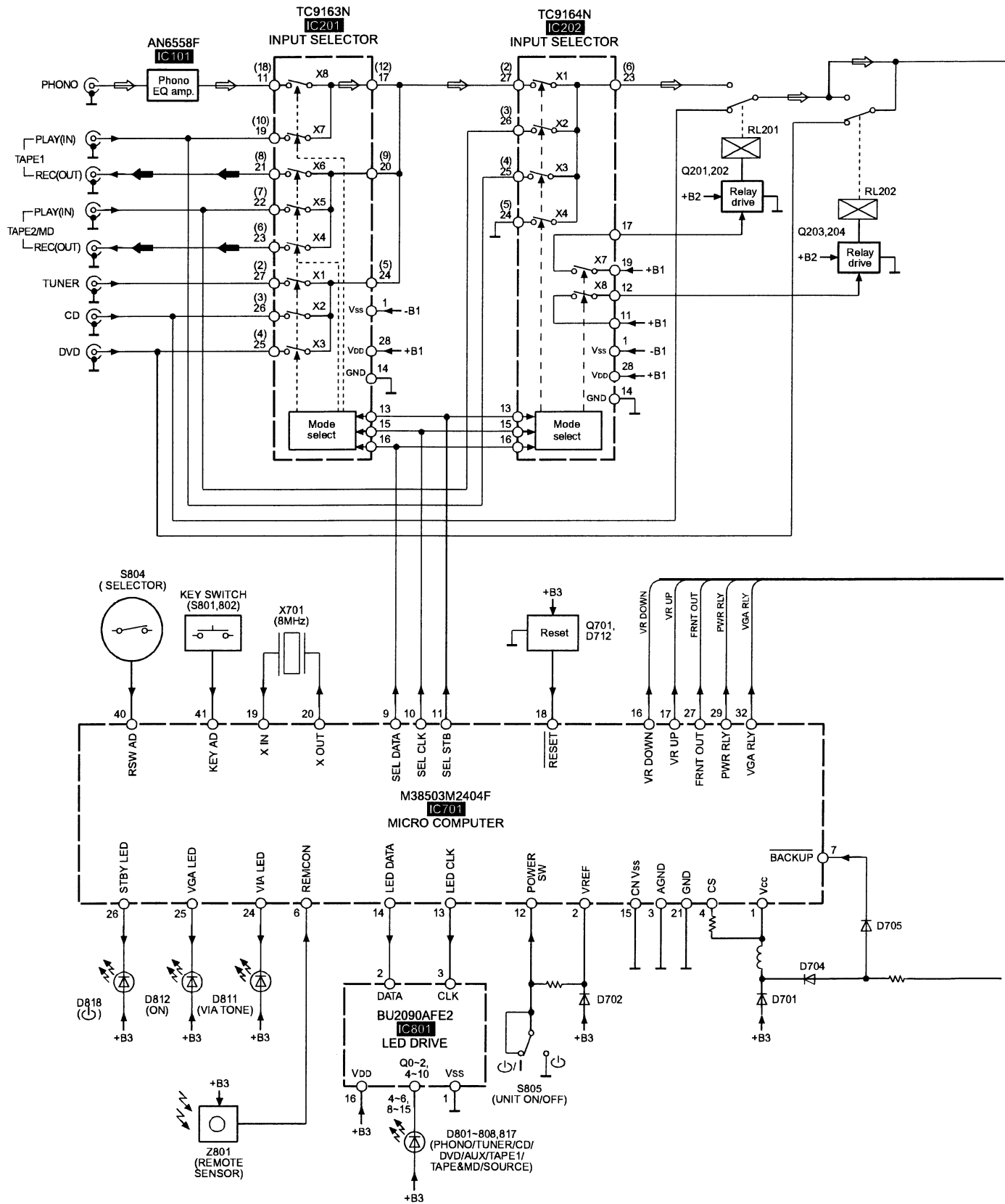


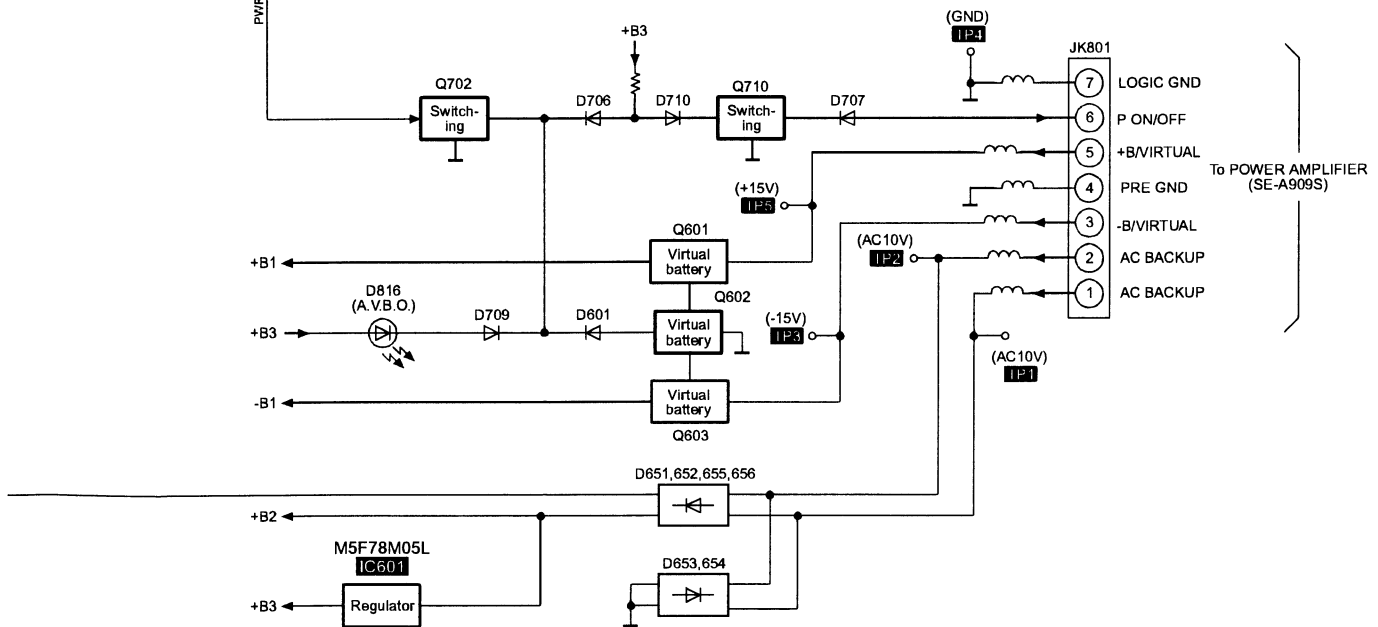
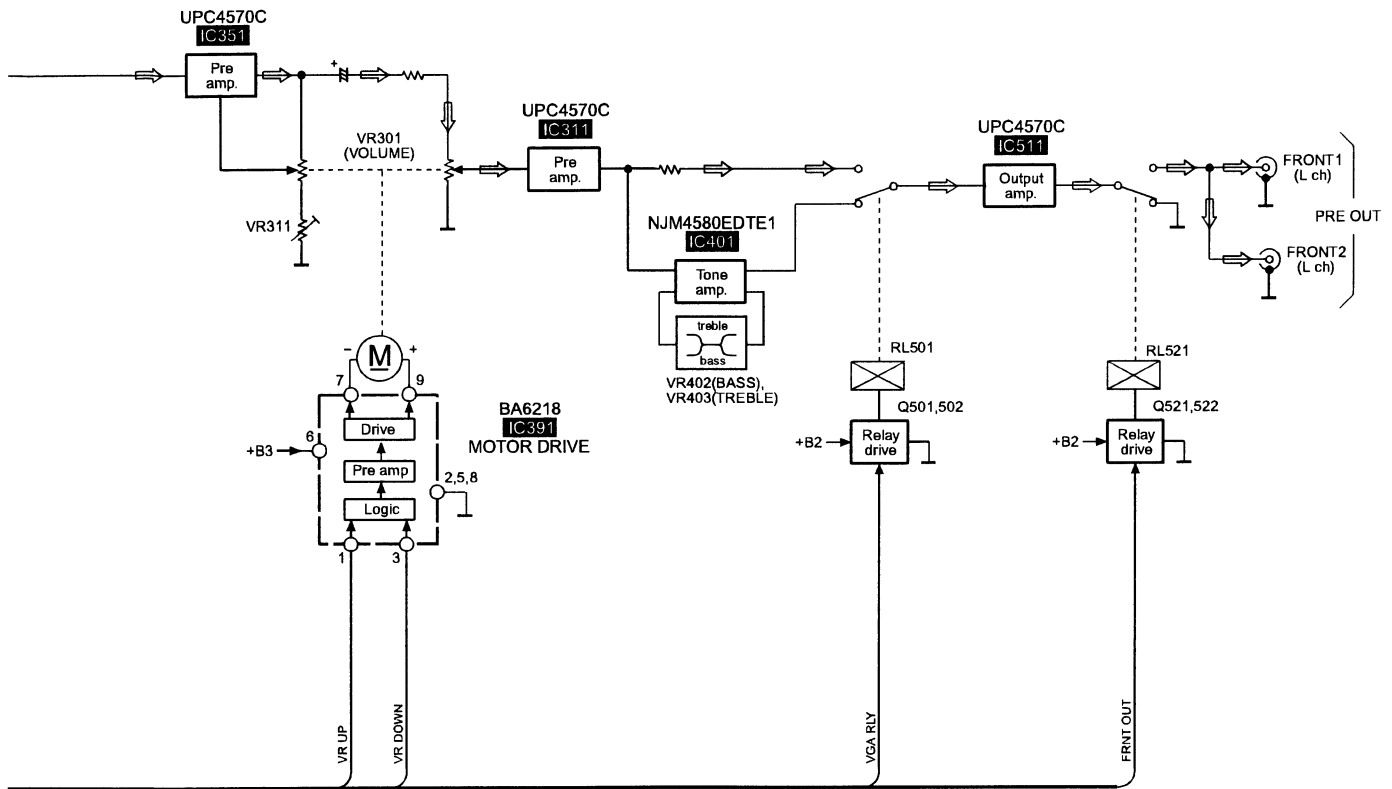
14. Packaging



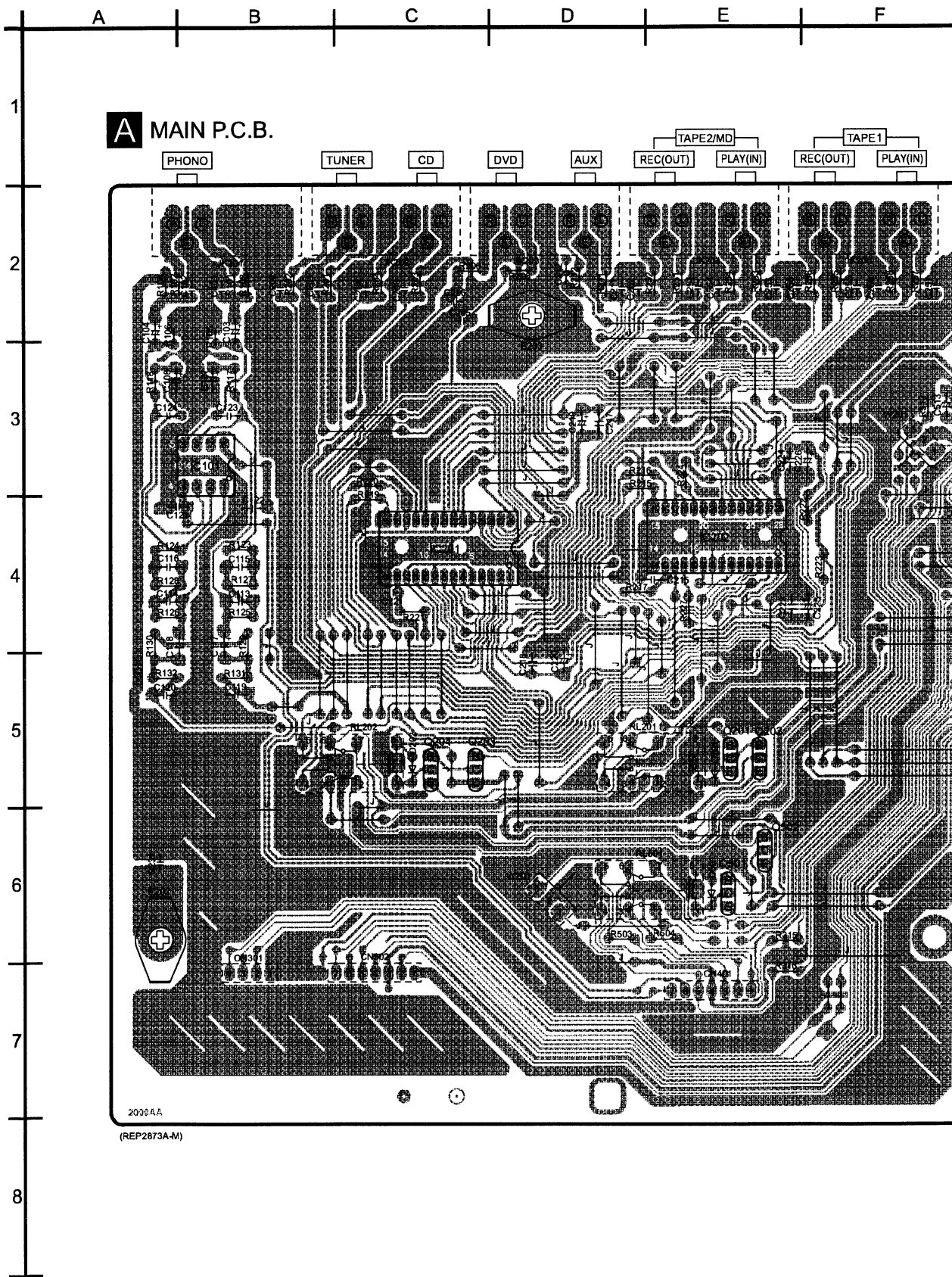
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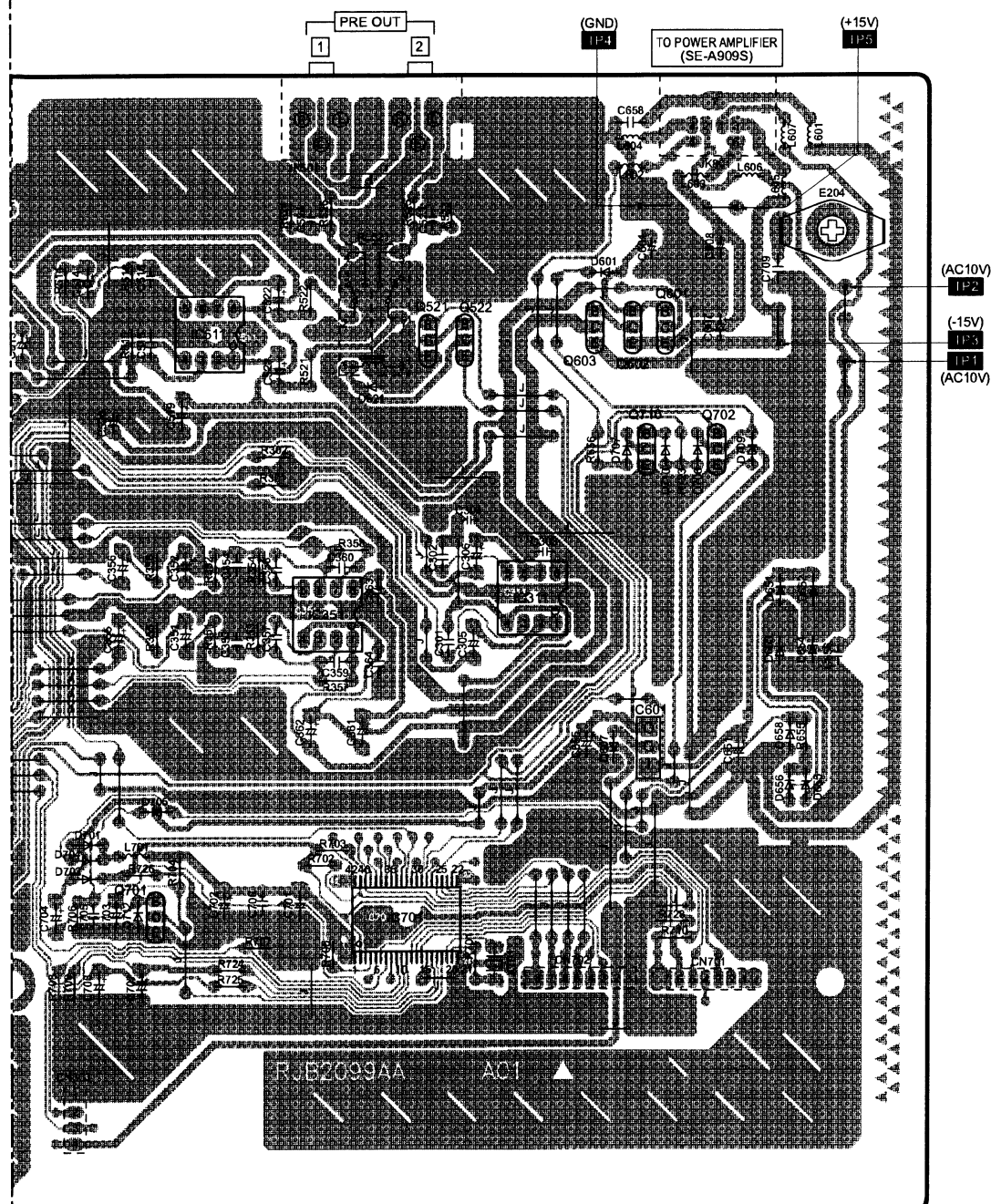




Notes
 • Signal line
 • () indicates pin No. Right channel.



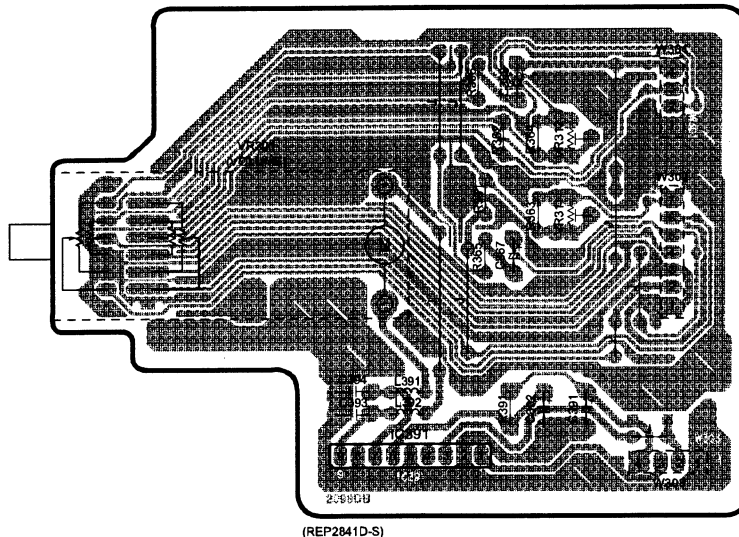
G H I J K L

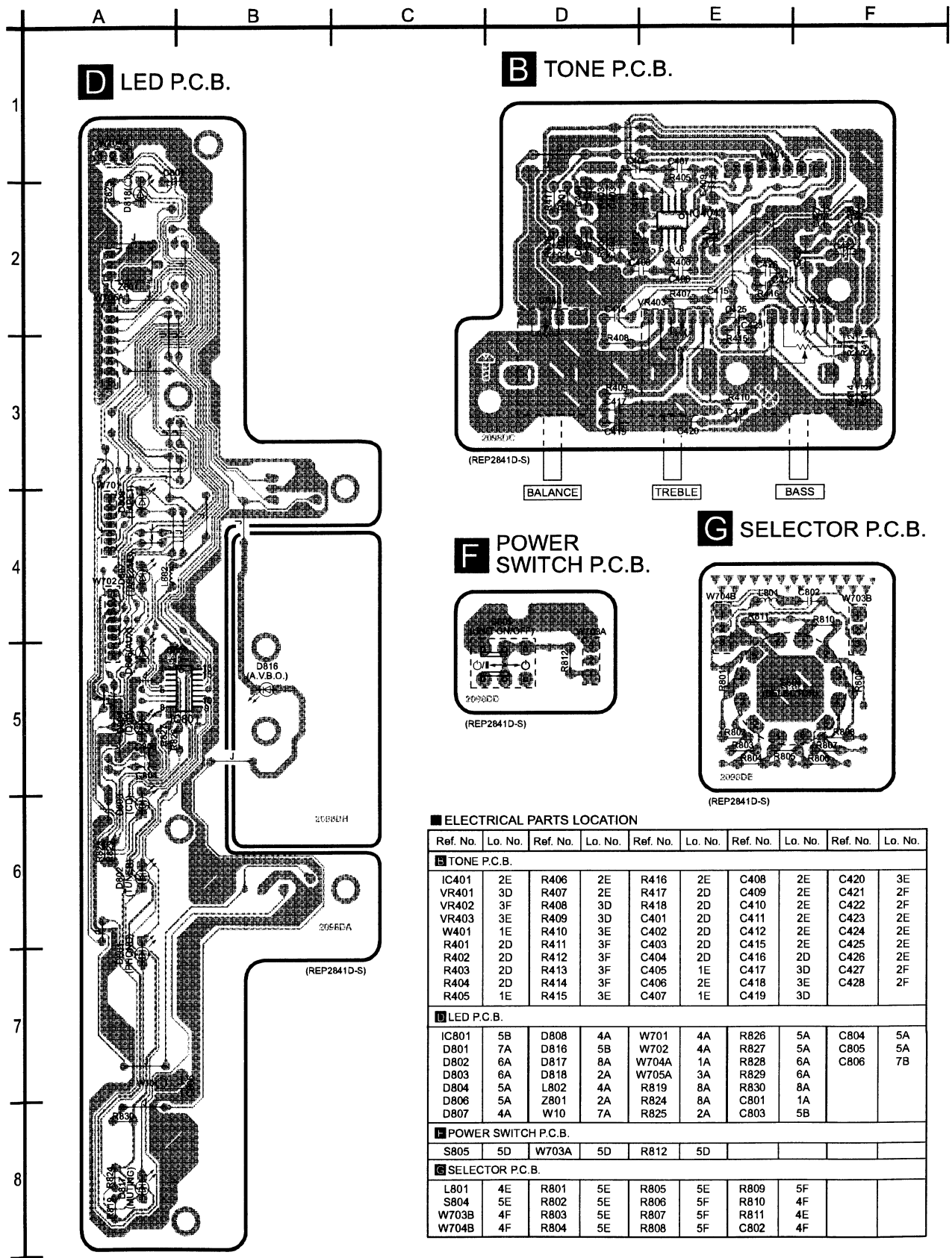


■ ELECTRICAL PARTS LOCATION

Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.
■ MAIN P.C.B.																	
IC101	3B	D601	3J	X701	6I	TP4	2J	R206	2C	R352	4H	R706	6G	C123	3B	C256	2E
IC201	4C	D607	5J	RL201	5E	TP5	2J	R211	2D	R353	4H	R707	6H	C124	3A	C257	2F
IC202	4E	D651	4K	RL202	5C	R101	2B	R212	2D	R354	4H	R708	6G	C201	2B	C258	2F
IC311	4I	D652	4K	RL501	6E	R102	2A	R215	3D	R355	4G	R709	6G	C202	2B	C301	5I
IC351	4H	D653	5K	RL521	3H	R103	2B	R216	3D	R356	4G	R710	6J	C203	2C	C302	4I
IC511	3H	D654	5K	CN301	7B	R104	2A	R217	4D	R357	5H	R723	4J	C204	2C	C303	4I
IC601	5J	D655	5K	CN302	7C	R104	3B	R219	4C	R358	4H	R724	6H	C205	2C	C304	4I
IC701	6I	D656	5K	CN303	7G	R105	2B	R220	3C	R503	6D	R725	6H	C206	2C	C305	5I
Q201	5E	D658	5K	CN401	7E	R106	2A	R221	4C	R504	6E	R726	6G	C211	2D	C306	4I
Q202	5E	D701	6G	CN701	6J	R117	3B	R222	4F	R513	3F	R728	6J	C212	2D	C351	4G
Q203	5C	D702	6G	CN702	6J	R118	3A	R223	4F	R514	3G	C101	2B	C215	4E	C352	4G
Q204	5C	D704	6G	JK201	2B	R123	4B	R224	3E	R515	3G	C102	2B	C217	3D	C353	5H
Q501	6E	D705	5G	JK202	2C	R124	4A	R227	4E	R516	3G	C103	2B	C218	5D	C354	4H
Q502	6E	D706	4J	JK203	2D	R125	4B	R251	2E	R521	3H	C104	2A	C219	3D	C355	5G
Q521	3I	D707	3J	JK204	2E	R126	4A	R252	2E	R522	6G	C107	3B	C220	5D	C356	4G
Q522	3I	D709	3J	JK205	2F	R127	4B	R253	2E	R523	2I	C108	3A	C221	4C	C357	4H
Q601	3J	D710	4J	JK501	2H	R128	4A	R254	2E	R524	2H	C113	4B	C223	4E	C358	4H
Q602	3J	D712	6G	JK801	2J	R129	4B	R255	2F	R525	2I	C114	4A	C224	3E	C359	5H
Q603	3J	L601	2K	E202	6A	R130	4A	R256	2F	R526	2H	C115	4B	C225	4F	C360	4H
Q701	6G	L602	2J	E203	2D	R131	5B	R257	2F	R655	5K	C116	4A	C226	3F	C361	5H
Q702	3J	L603	2J	E204	2K	R132	5A	R258	2F	R656	3J	C117	4B	C231	6A	C362	5H
Q710	3J	L604	2J	W201	6D	R201	2B	R301	4H	R701	6I	C118	4A	C251	2E	C363	4H
D201	5E	L605	2K	W201	3F	R202	2B	R302	4H	R702	6H	C119	5B	C252	2D	C364	5H
D202	5C	L606	2J	TP1	3K	R203	2C	R315	6E	R703	6H	C120	5A	C253	2E	C513	3F
D501	6E	L607	2K	TP2	3K	R204	2C	R316	7E	R704	6G	C121	4A	C254	2E	C514	3G
D521	3H	L701	6G	TP3	3K	R205	2D	R351	4H	R705	6H	C122	4B	C255	2F	C515	3G

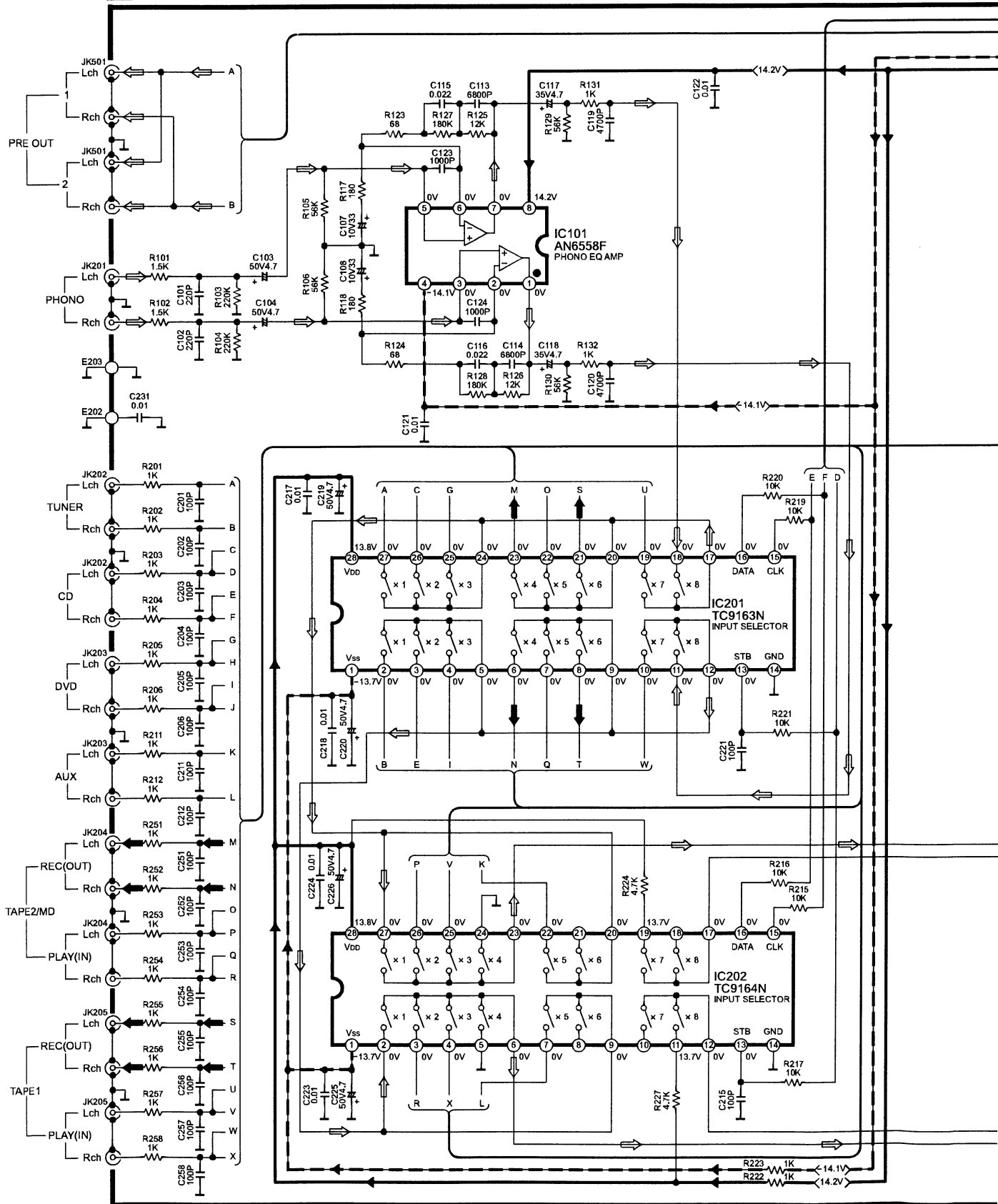
■ VOLUME P.C.B.



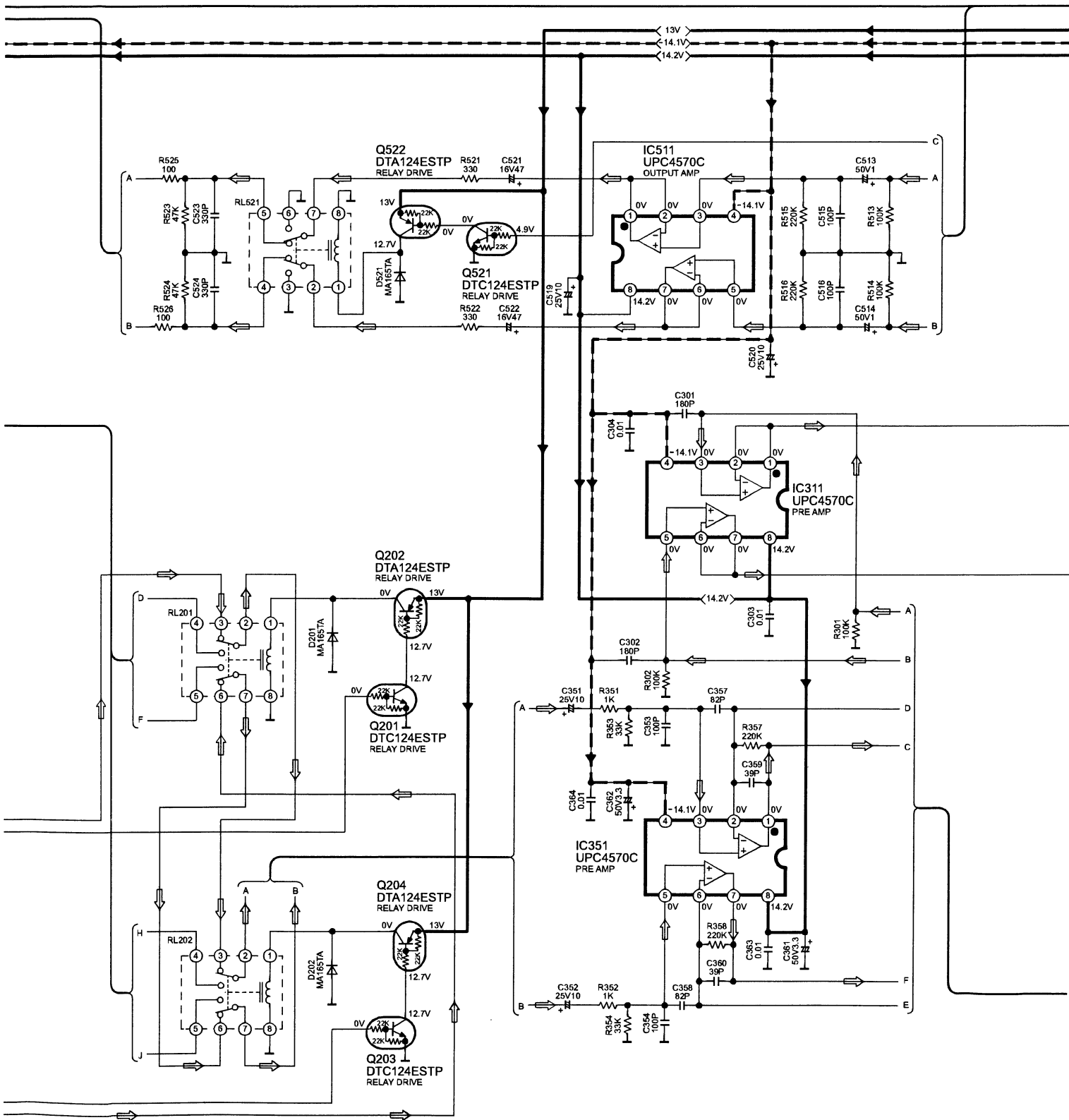


A MAIN CIRCUIT

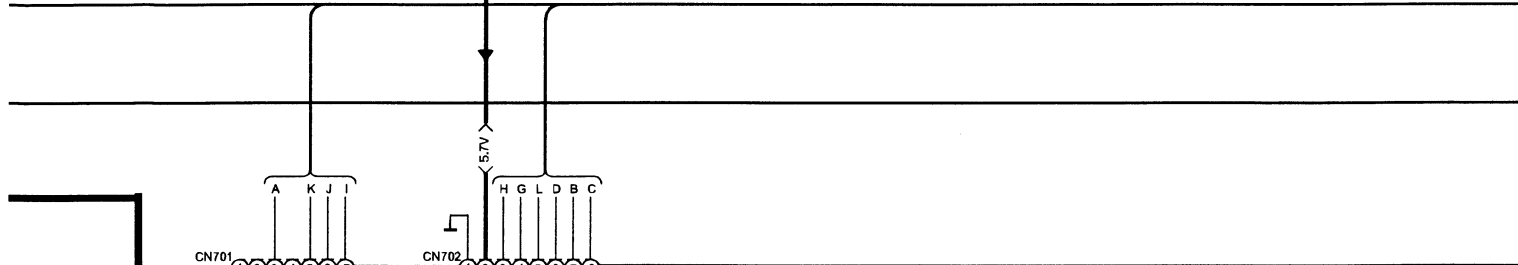
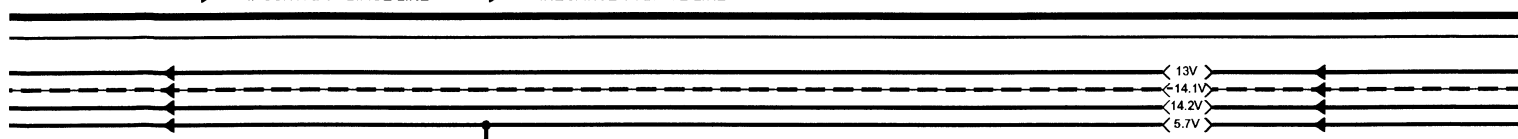
——— : POSITIVE VOLTAGE LINE
 - - - : NEGATIVE VOLTAGE LINE
 ——— : PHONO SIGNAL LINE
 ——— : TAPE REC SIGNAL LINE



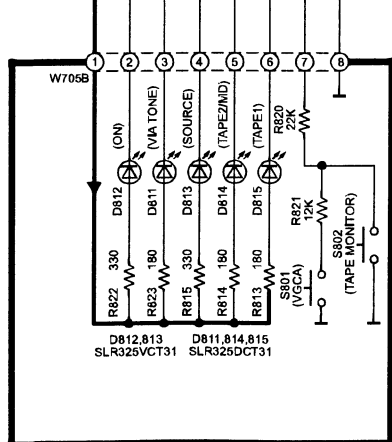
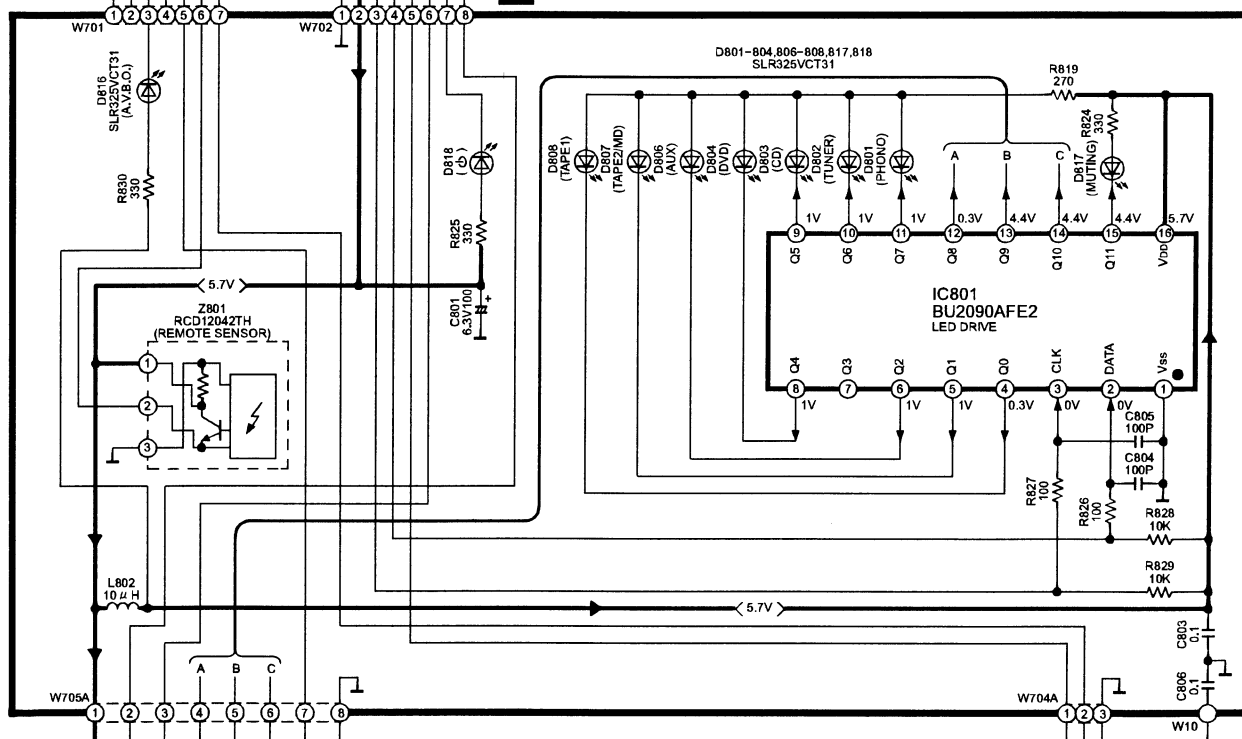
→ : POSITIVE VOLTAGE LINE → : NEGATIVE VOLTAGE LINE ⇨ : PHONO SIGNAL LINE



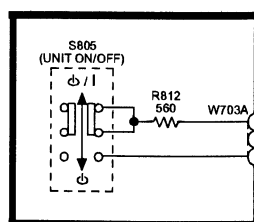
→ : POSITIVE VOLTAGE LINE → - : NEGATIVE VOLTAGE LINE



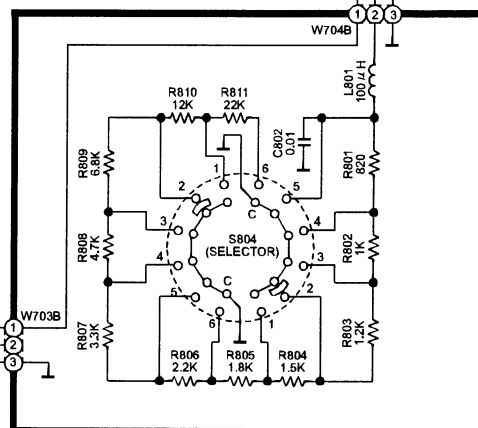
D LED CIRCUIT



E OPERATION CIRCUIT



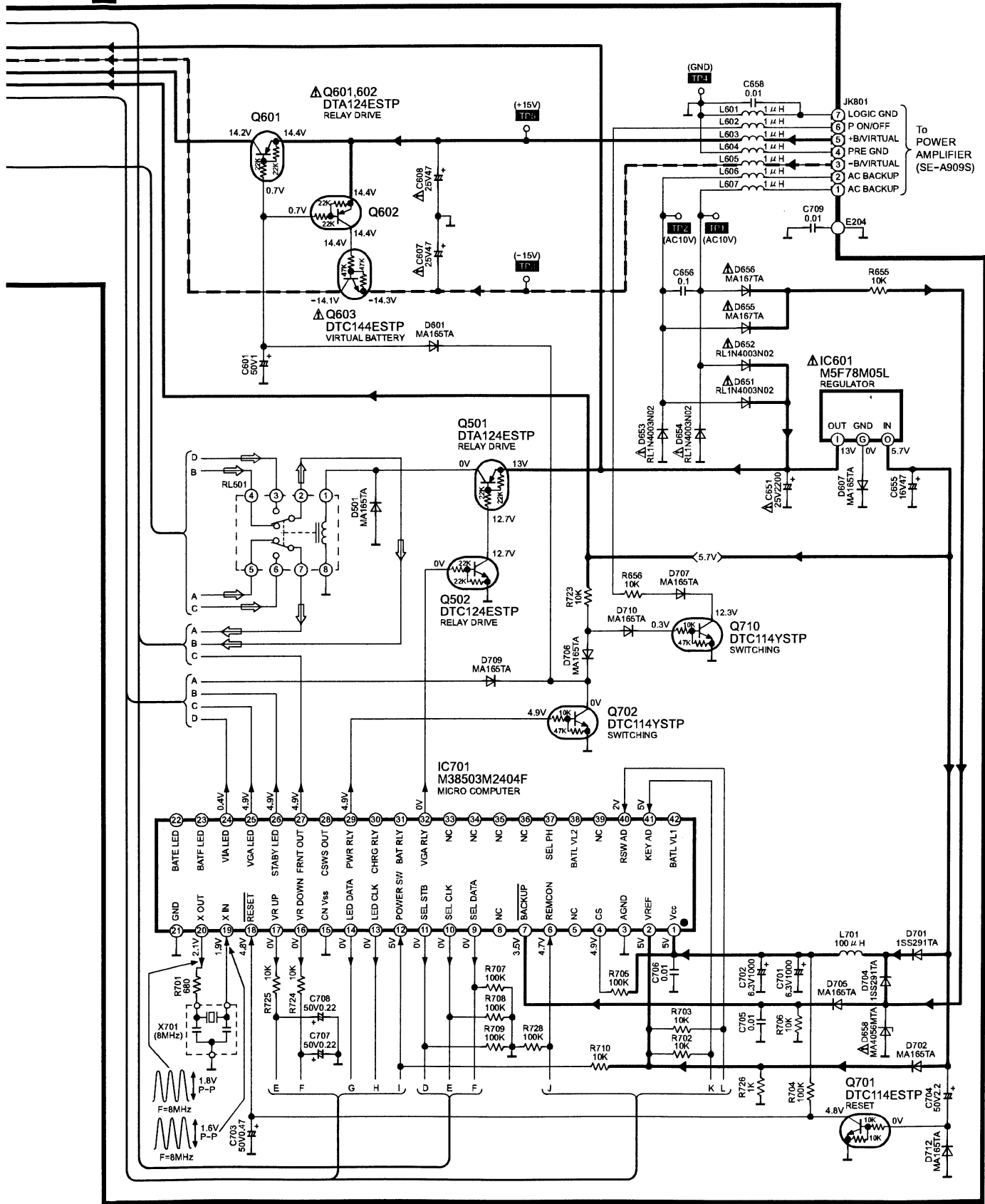
F POWER SWITCH CIRCUIT

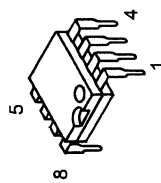
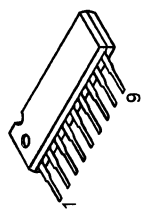
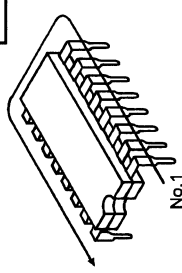
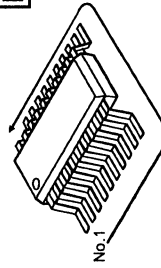
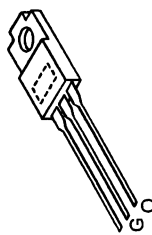
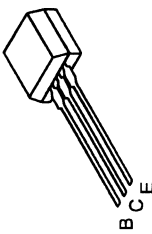
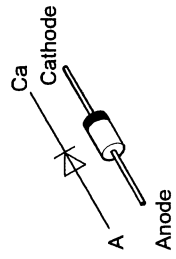
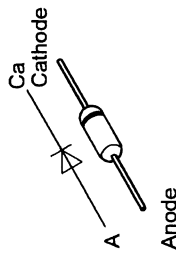
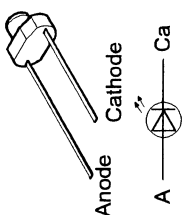
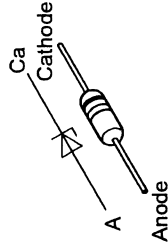
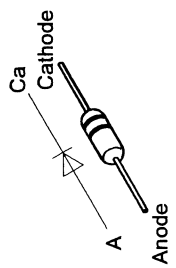


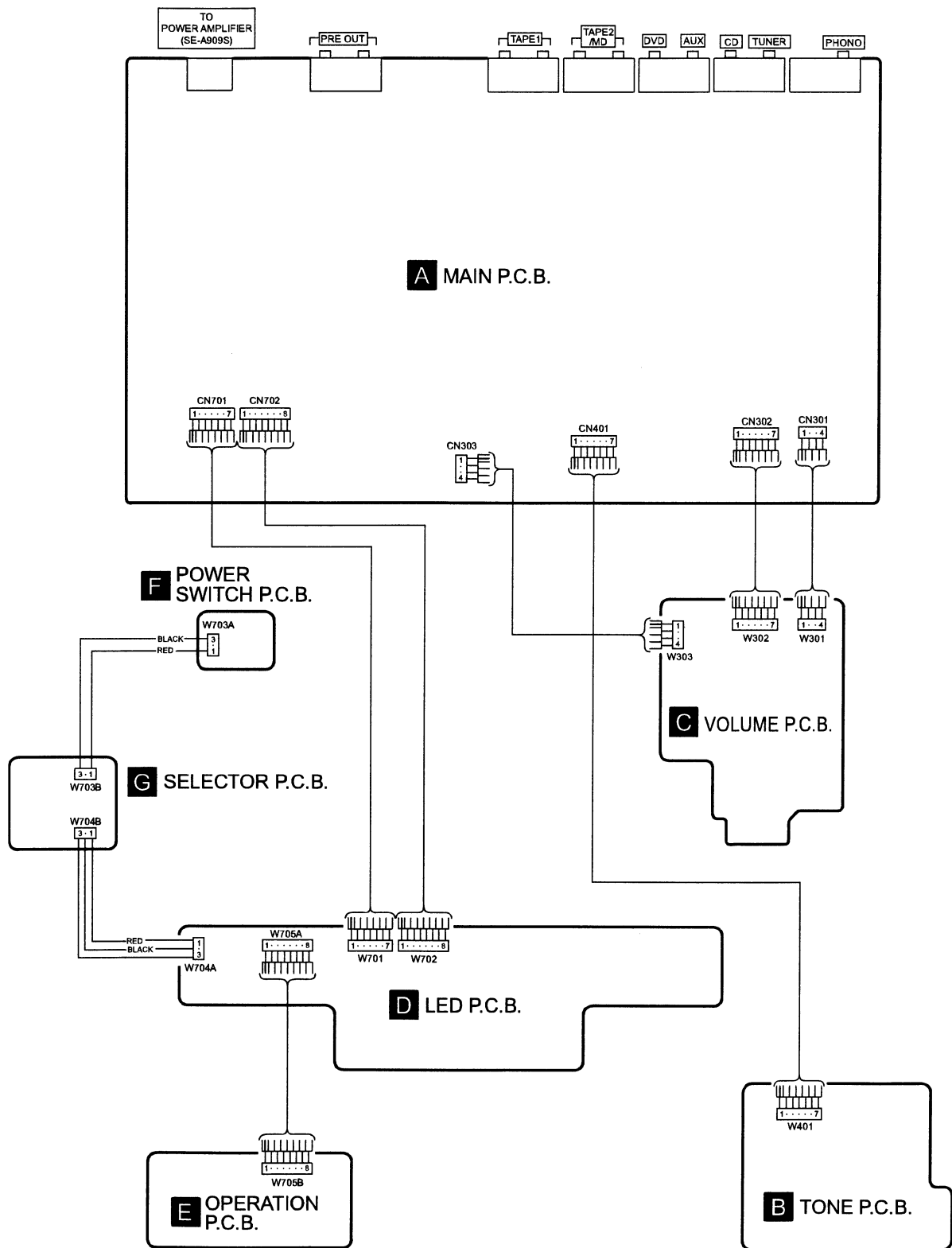
G SELECTOR CIRCUIT

A MAIN CIRCUIT

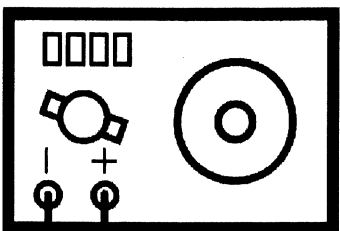
→ : POSITIVE VOLTAGE LINE → : NEGATIVE VOLTAGE LINE ⇨ : PHONO SIGNAL LINE



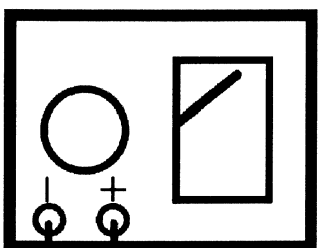
UPC4570C AN6558F		BA6218		<table><tr><td>TC9163N</td><td>28PIN</td></tr><tr><td>TC9164N</td><td>28PIN</td></tr></table> 	TC9163N	28PIN	TC9164N	28PIN	<table><tr><td>NJM4580EDTE1</td><td>8PIN</td></tr><tr><td>BU2090AFE2</td><td>16PIN</td></tr><tr><td>M38503M2404F</td><td>42PIN</td></tr></table> 	NJM4580EDTE1	8PIN	BU2090AFE2	16PIN	M38503M2404F	42PIN
TC9163N	28PIN														
TC9164N	28PIN														
NJM4580EDTE1	8PIN														
BU2090AFE2	16PIN														
M38503M2404F	42PIN														
M5F78M05L			DTC114ESTP DTC114YSTP DTA124ESTP DTC124ESTP DTC144ESTP	RL1N4003N02 	MA165TA MA167TA 										
SLR325DCT31 SLR325VCT31		MA4056MTA 	1SS291TA 												



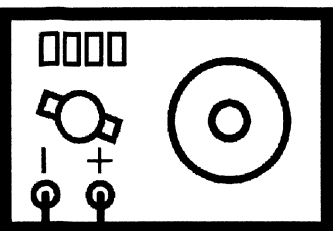
AF Oscillator



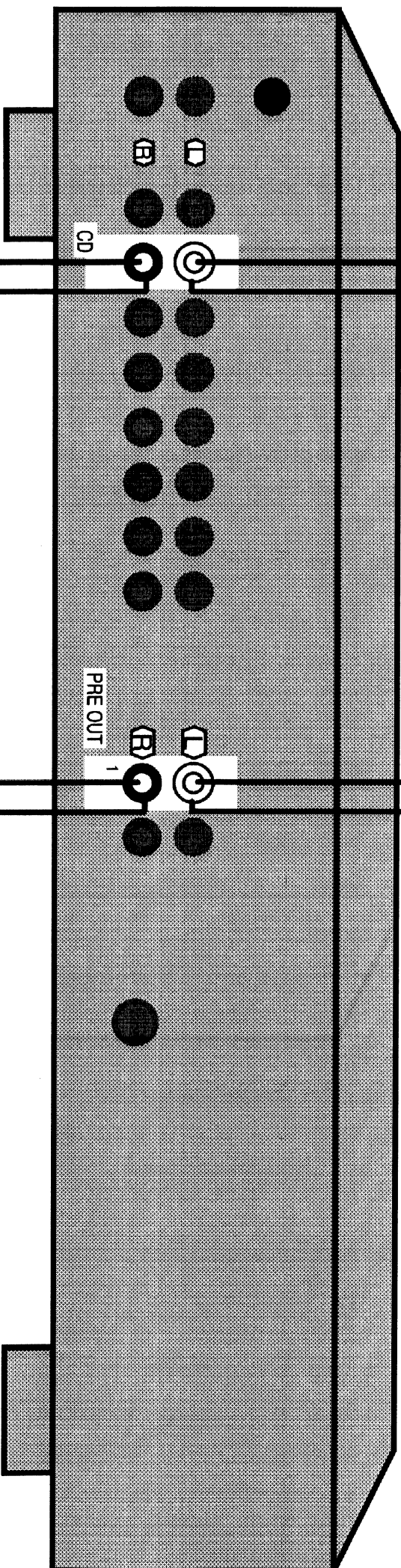
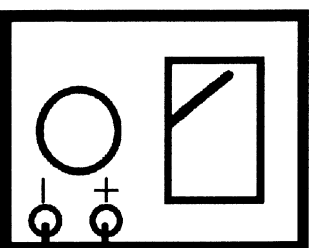
AC EVM

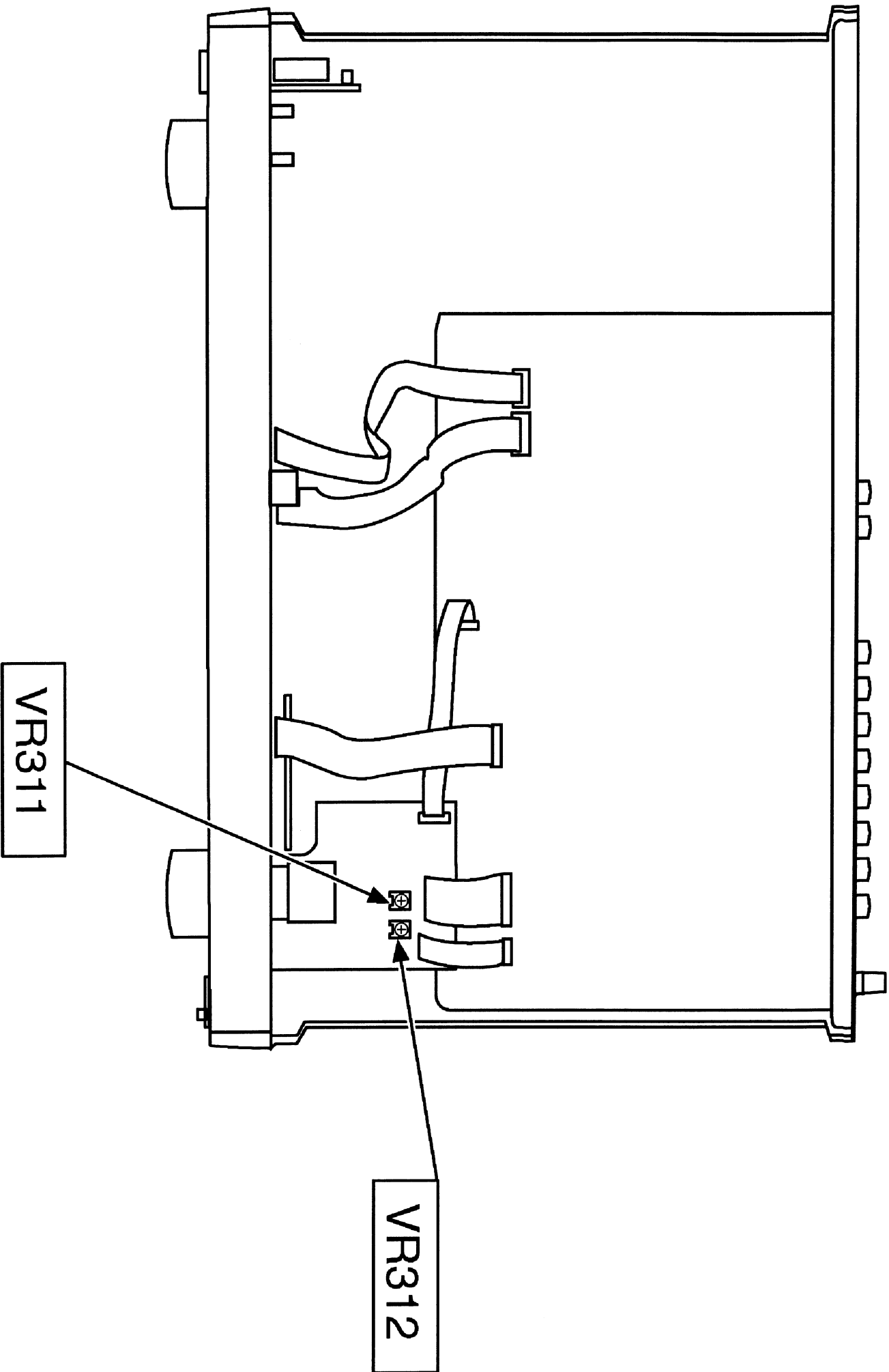


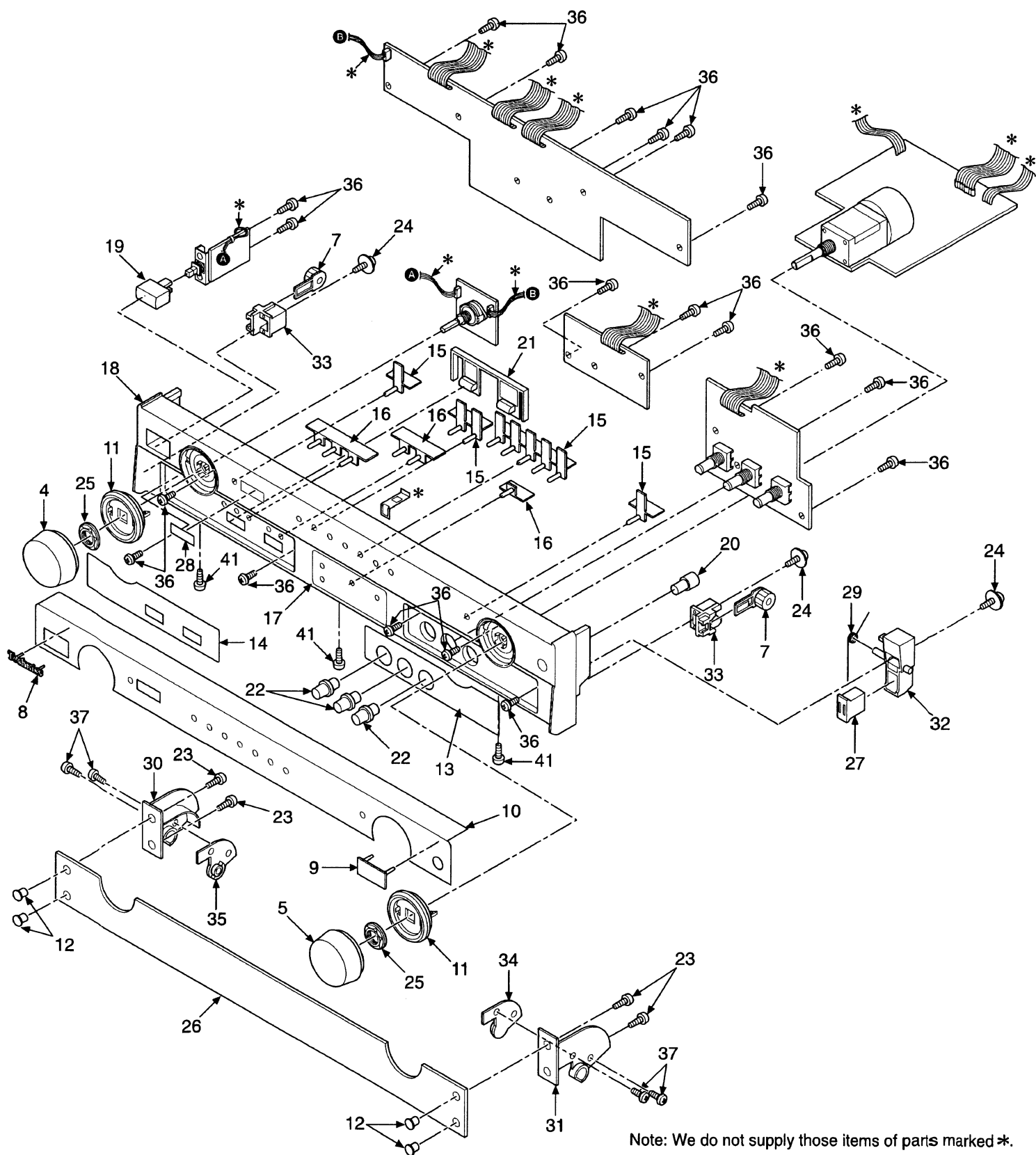
AF Oscillator



AC EVM



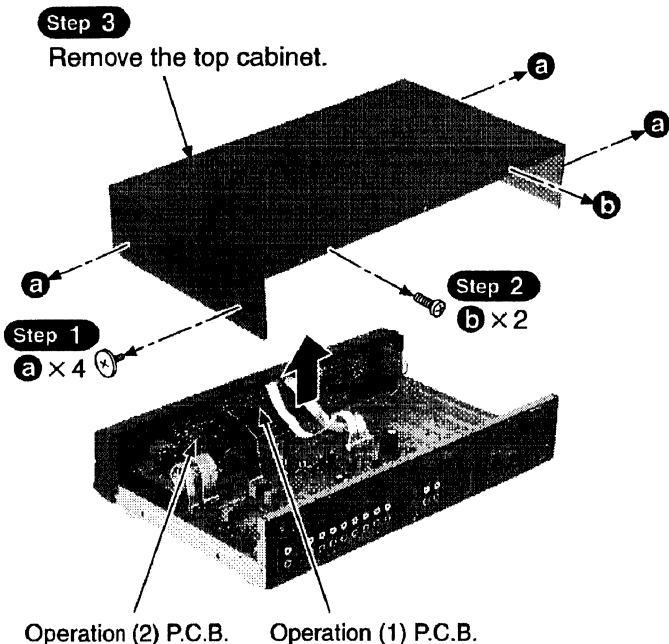




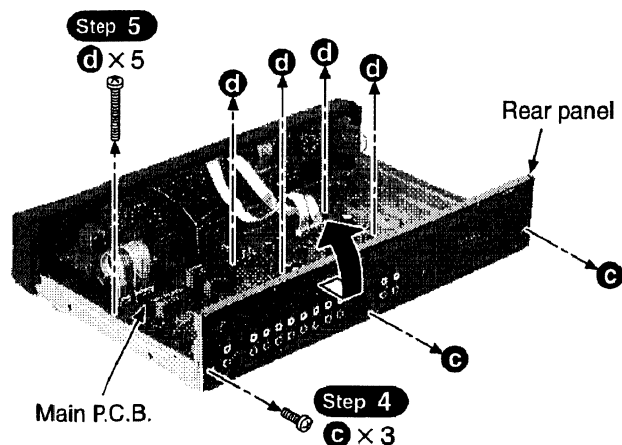
Note: We do not supply those items of parts marked *.

- 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.

1. Checking for the operation (1) P.C.B., operation (2) P.C.B. and main P.C.B.

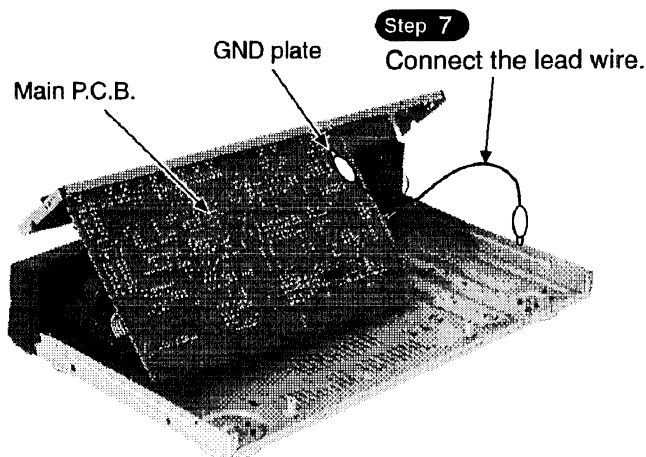


- Check the operation (1) P.C.B. and operation (2) P.C.B. as shown above



- Step 6**
Remove the main P.C.B. and rear panel in the direction of arrow.

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

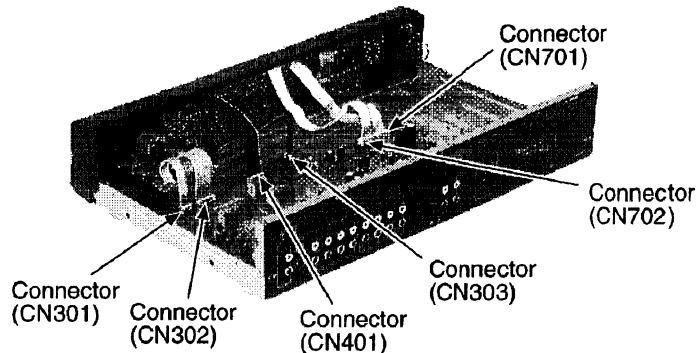


To remove each P.C.B.

- Follow the **Step 1** ~ **Step 3** of the item 1.

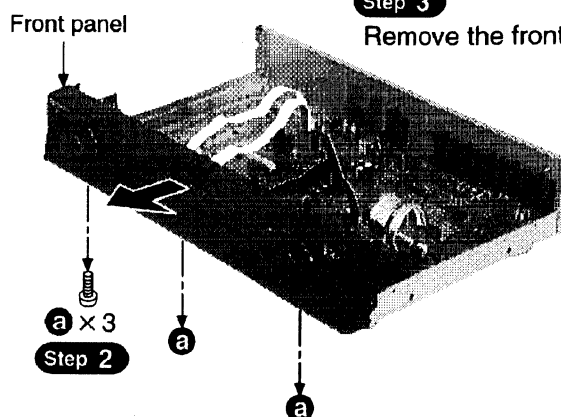
Step 1

- Remove the 6 connectors.



Step 3

- Remove the front panel.



Step 4

Remove the volume knob and nut.

Step 6

Remove the selector knob and nut.

Step 5

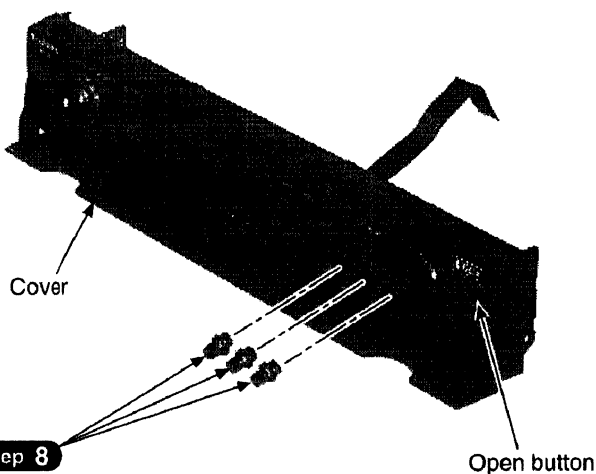
Remove the volume P.C.B..

Step 15

Remove the operation (1) P.C.B..

Step 14

$C \times 6$



Step 8

Pull out the balance knob, treble knob and bass knob.

Step 7

Push the open button, and then open the cover.

Step 10

Remove the operation (2) P.C.B..

Step 11

Remove the operation (3) P.C.B..

Step 12

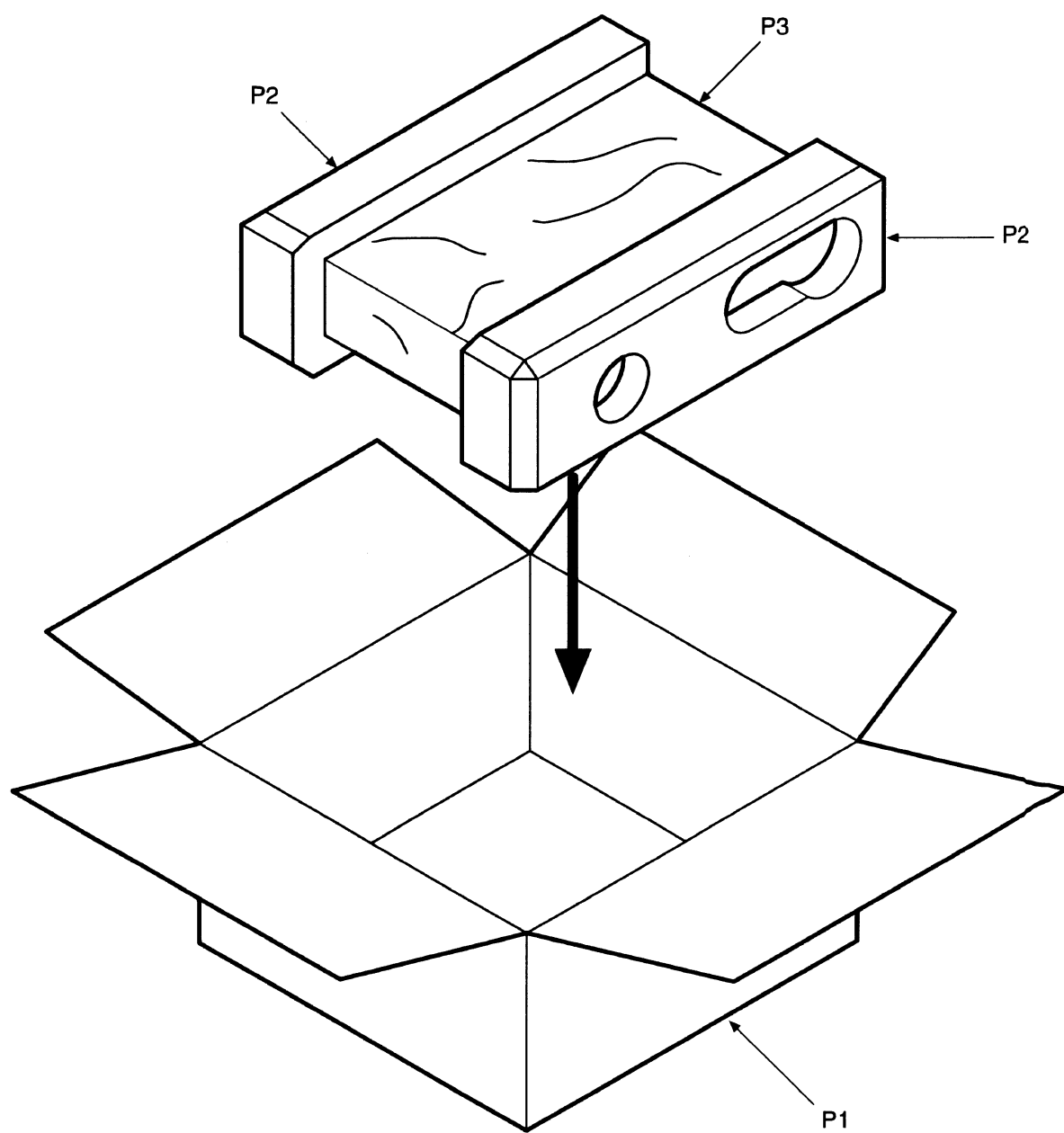
Remove the selector P.C.B..

Step 9

$b \times 8$

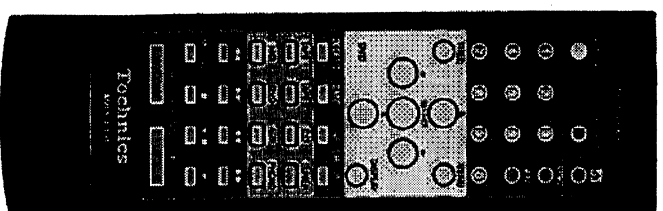
Step 13

Remove the power switch P.C.B..

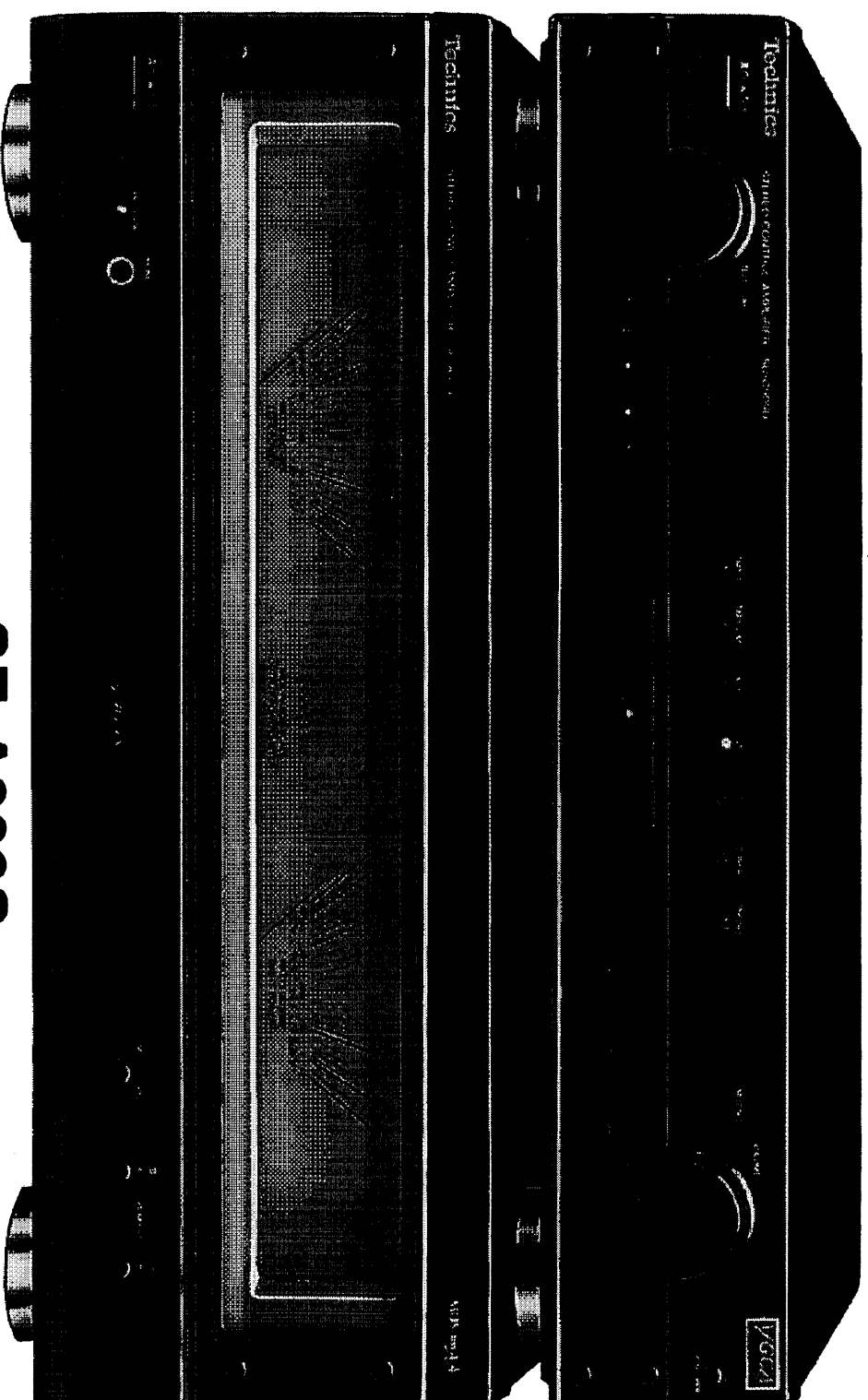


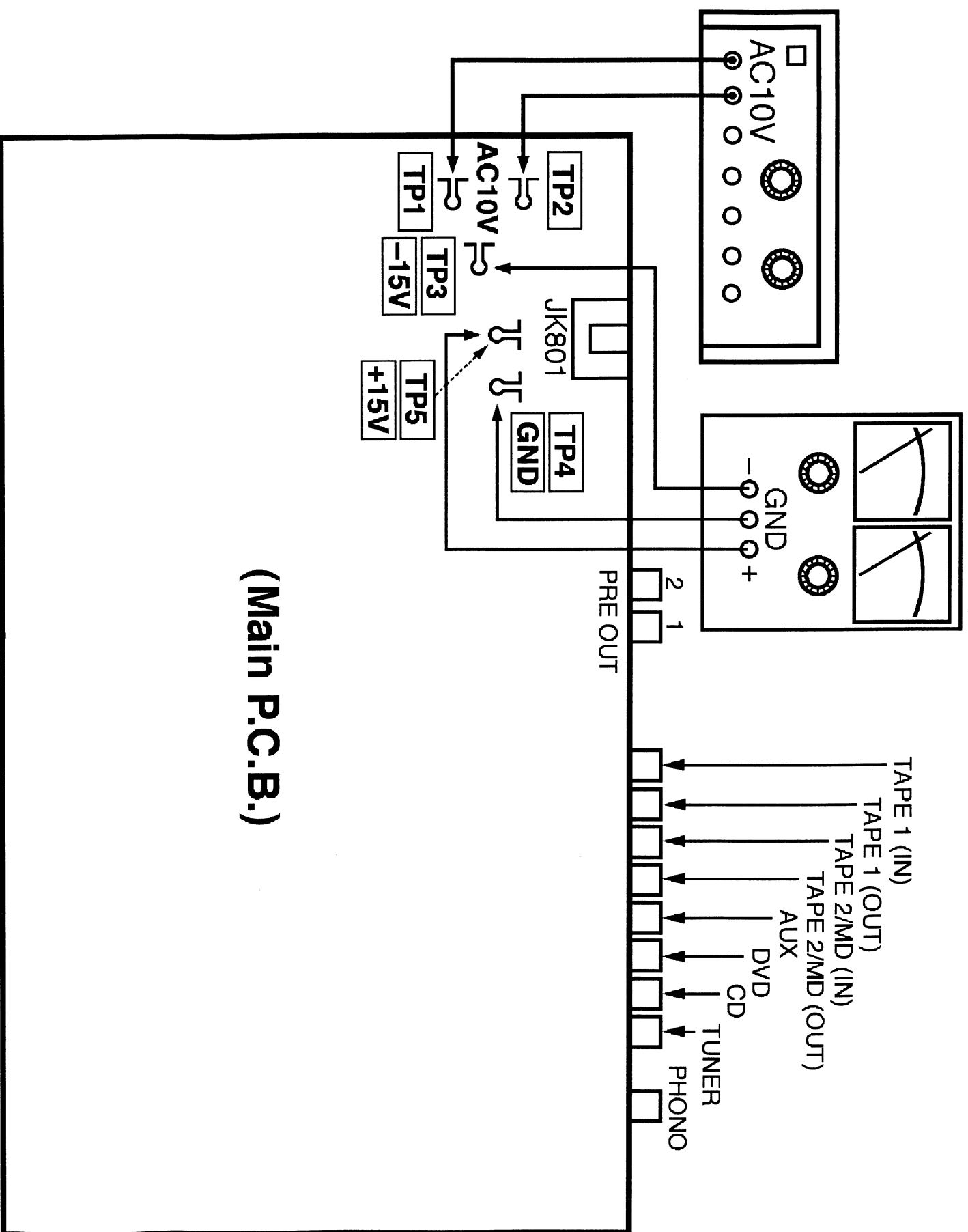
SU-C909U

Remote Control Transmitter



SE-A909S

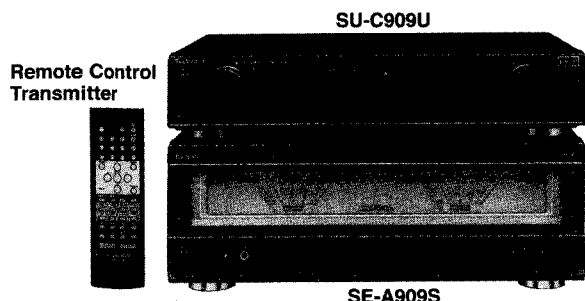




(Main P.C.B.)

Service Manual

Power Amplifier



SE-A909S

Colour

(K).....Black Type

Areas

(E).....Europe and Russia.

(EB).....Great Britain.

(EG).....Germany, France and Italy.

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

System: SU-A909

Control Amplifier	SU-C909U
Power Amplifier	SE-A909S

Specifications (DIN 45 500)

20 Hz–20 kHz continuous power output
both channels driven: $2 \times 70\text{ W } (8 \Omega)$

1 kHz continuous power output
both channels driven (THD: 1%) $2 \times 85\text{ W } (8 \Omega)$
 $2 \times 120\text{ W } (4 \Omega)$

63 Hz–12.5 kHz continuous power output
both channels driven (THD: 0.7%) $2 \times 80\text{ W } (8 \Omega)$
 $2 \times 105\text{ W } (4 \Omega)$

Total harmonic distortion
rated power at 20 Hz–20 kHz: 0.015 % (8 Ω)

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

Residual hum and noise: 0.3 mV

Damping factor: 70 (8 Ω)

Headphones output level / impedance: 35 (4 Ω)

Headphones output level / impedance: 540 mV / 330 Ω

Load impedance:

A or B; 4–16 Ω

A and B; 8–16 Ω

Input sensitivity / impedance: 1 V / 20 k Ω

S/N (rated power, 4 Ω): 95 dB (115 dB, IHF '66)

Frequency response:

INPUT;

5 Hz – 100 kHz (+0 dB, –3 dB)
20 Hz – 20 kHz (+0 dB, –0.5 dB)

■ GENERAL

Power supply:

(E) and (EG) areas;

AC 50 Hz, 230 V

(EB) area;

AC 50 Hz, 230 – 240 V

Power consumption:

285 W

STANDBY;

1.6 W

Dimensions (W × H × D):

430 × 158 × 344 mm

Weight:

10.1 kg

Notes:

- Specifications are subject to change without notice. Weight and dimensions are approximate.
- Total harmonic distortion is measured by the digital spectrum analyzer.
- For (EB) area: The specification values given have been measured while using a 240 V-power supply.

⚠ 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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1 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 50 Hz in NO SIGNAL mode should be shown below with respect to supply voltage 230/240 V.

Power supply voltage	AC 230 V, 50 Hz	AC 240 V, 50 Hz
Consumed current	160-320 mA	160-320 mA

2 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:

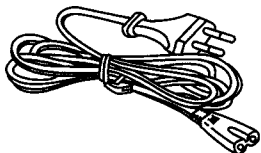
1. Switch OFF the power.
2. Determine the cause of the problem and correct it.
3. Switch ON the power once again.

Note:

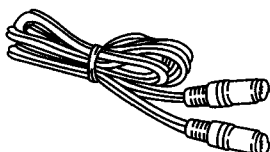
When the protection circuitry functions, the unit will not operate unless the power is first switched OFF and ON again.

3 Accessories

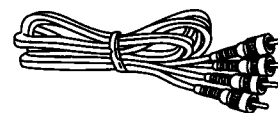
- AC mains lead
(E) and (EG) areas : (RJA0019-X)..... 1 pc.
(EB) area : (RJA0053-2X).....1 pc.



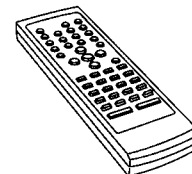
- Amplifier connection cable
(RJL6D001B10).....1 pc.



- Stereo connection cable
(SJP2276).....1 pc.

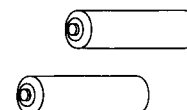


- Remote control transmitter
(RAK-SUA11WH).....1 pc.



- Batteries
(R6/LR6, AA, UM-3).....2 pcs.

Note: These are available on sales route.



4 Caution for AC Mains Lead (For United Kingdom)

("EB" area code model 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.

Figure A

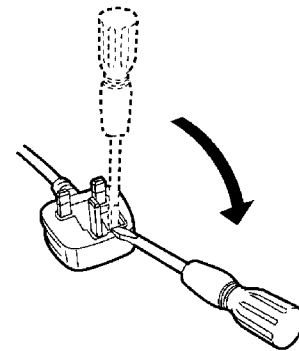
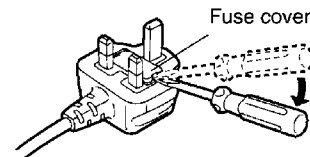


Figure B



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

Figure A

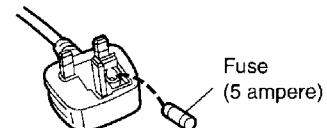
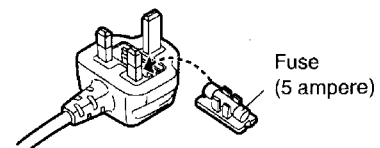
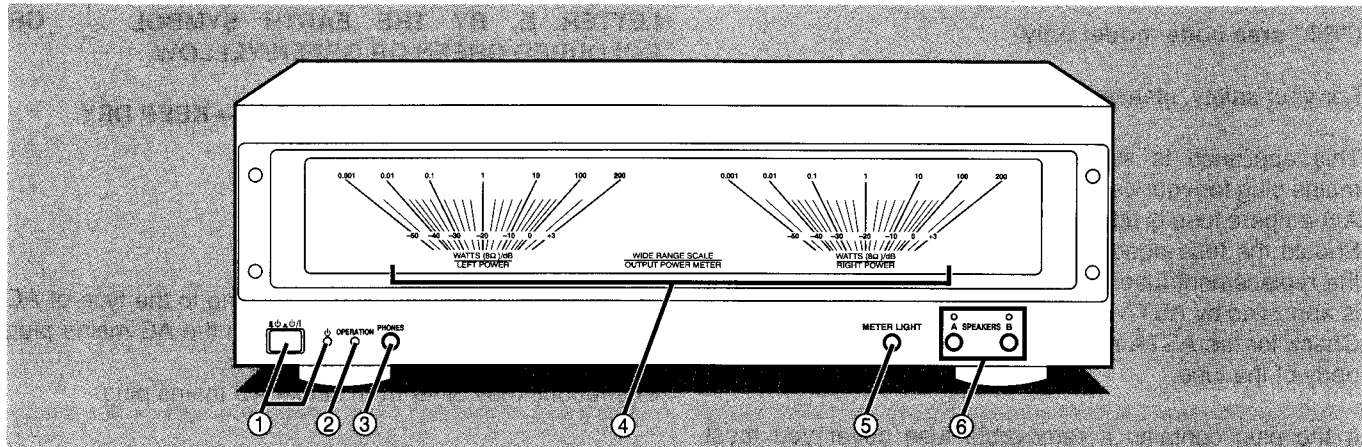


Figure B



5 Operations

■ Front Panel Controls



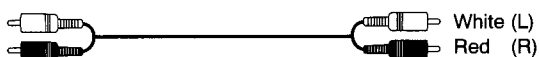
Main units

- | No. | Name |
|-----|---|
| ① | Unit on/off button () and remote standby indicator ()
Use this button to turn the unit on and off.
(off): The unit is in standby mode.
(on): The unit is on. The unit can be turned on and off from the control amplifier. When the unit is turned off from the control amplifier, it is in remote standby and the indicator lights.
The unit is still using a small amount of power in the standby and remote standby conditions. Standby uses less power. |
| ② | Operation indicator (OPERATION) |
| ③ | Headphone jack (PHONES) |

- | No. | Name |
|-----|---|
| ④ | Power meters
Indicate the output (watts) of this unit.
When speakers having an impedance of 8 Ω are connected, the output level will be as indicated. However, if the speaker impedance is 16 Ω, the output level will be one-half the indicated value, and if the impedance is 4 Ω, the output level will be double the indicated value.
$\text{Actual output} = \frac{\text{meter indication} \times 8 (\Omega)}{\text{impedance of the speakers } (\Omega)}$ |
| ⑤ | Power meter light button (METER LIGHT) |
| ⑥ | Speaker select buttons/indicators (A SPEAKERS B) |

Connections

Stereo connection cable (1 included with this system)



Amplifier connection cable (included)



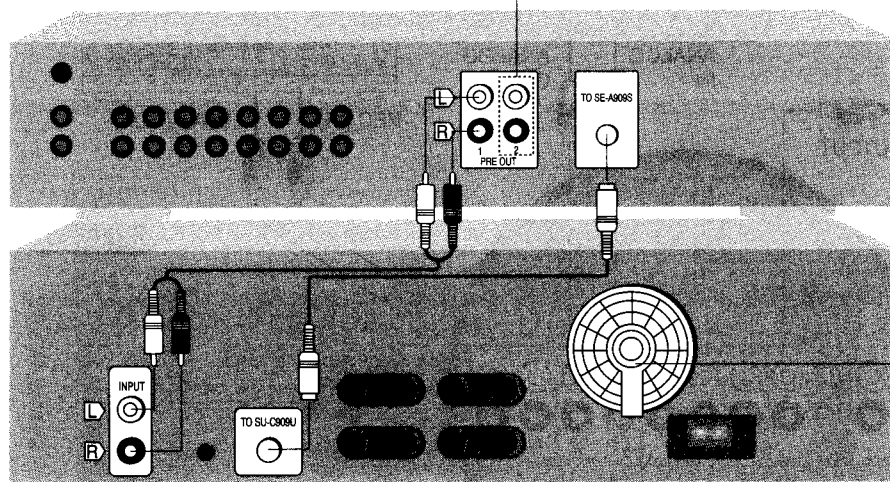
Control amplifier and power amplifier connections

Make sure that the power supply for all components has been turned off before making any connections.

Connect the AC power supply cord to the amplifier only after all other connections between components have been made.

"PRE OUT 2" terminals:

These terminals let you connect a second power amplifier.



SU-C909U

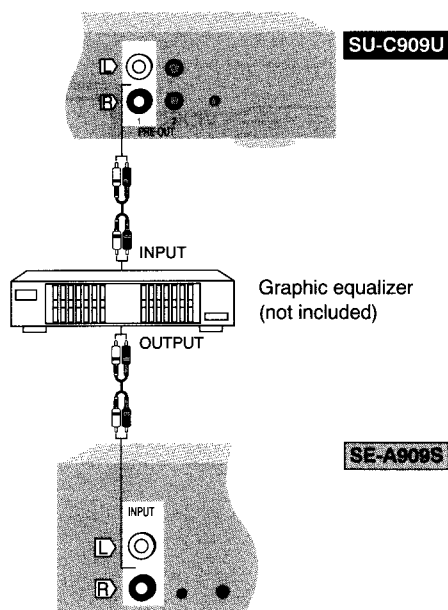
SE-A909S

Cooling fan

The cooling fan operates at high power output levels only.

When connecting a graphic equalizer

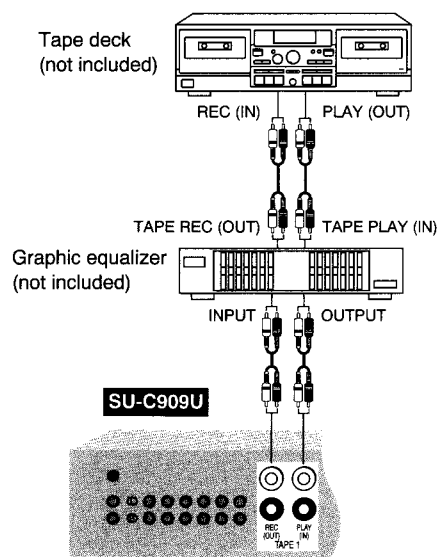
- Connect it between the PRE OUT terminals of this unit and the INPUT terminals of the power amplifier.



- If sound deteriorates when the graphic equalizer is connected between the control and power amplifiers.

Passing the sound through the tape deck can improve sound quality. Connect the power amplifier as shown at the top of the page. Then connect the graphic equalizer and tape deck as shown here.

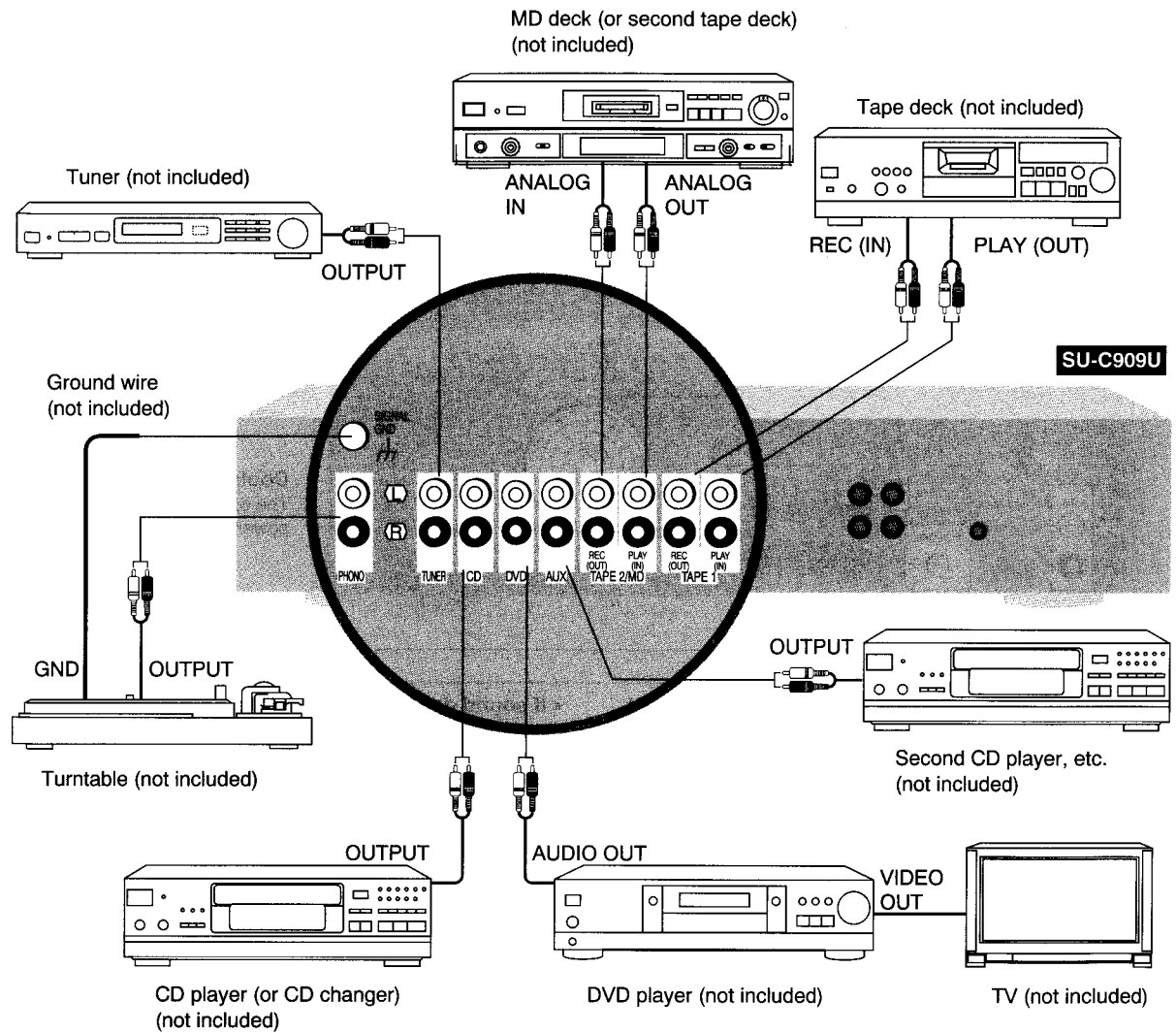
Press [TAPE MONITOR] on the control amplifier to select TAPE 1. Set the graphic equalizer's selector to "SOURCE" when playing sources other than the tape deck used in this connection (see the graphic equalizer's manual for details).



Stereo connection cable (1 included with this system)

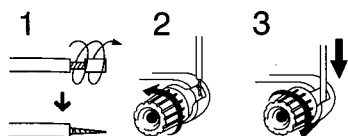


Connections to other equipment



Connecting the speakers

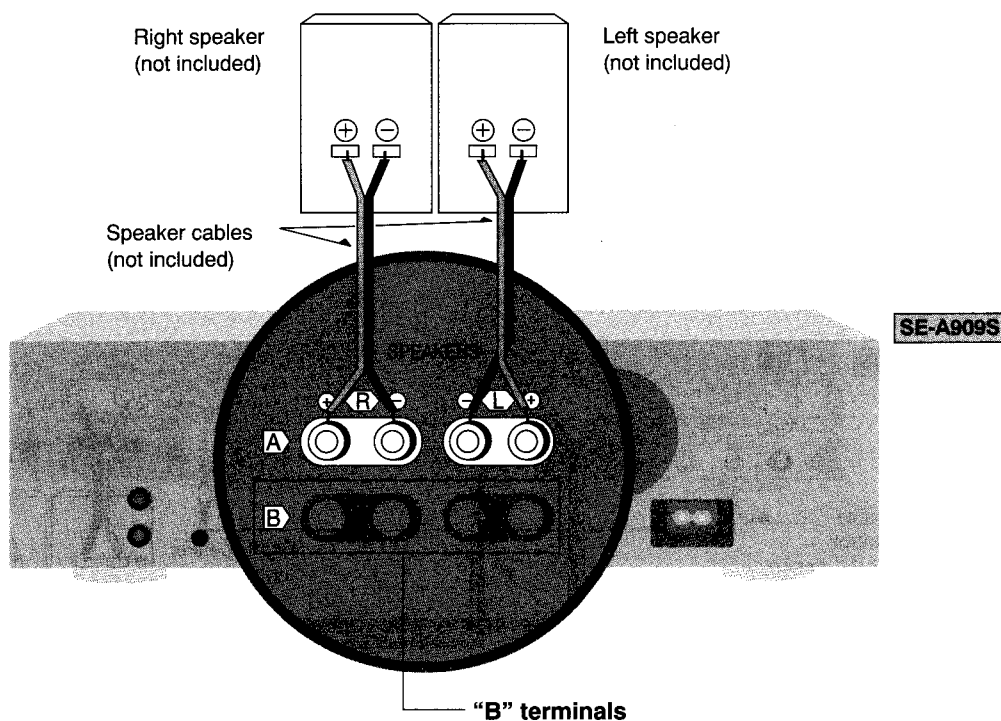
Connecting the speaker cables



NO

Caution

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



Speaker impedance

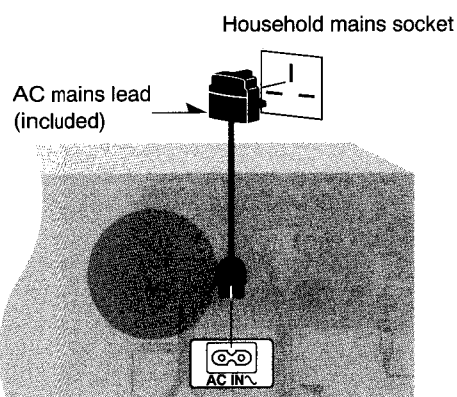
When only the "A" or only the "B" terminals are used: 4–16 Ω

When the "A" and "B" terminals are used simultaneously: 8–16 Ω

"B" terminals

For connection to a second pair of speakers.

Connecting the power supply



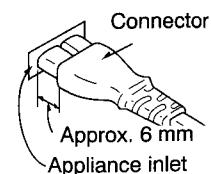
BE SURE TO READ THE CAUTION FOR THE AC MAINS LEAD BEFORE CONNECTION.

Connect the AC mains lead only after all other connections have been made.

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.



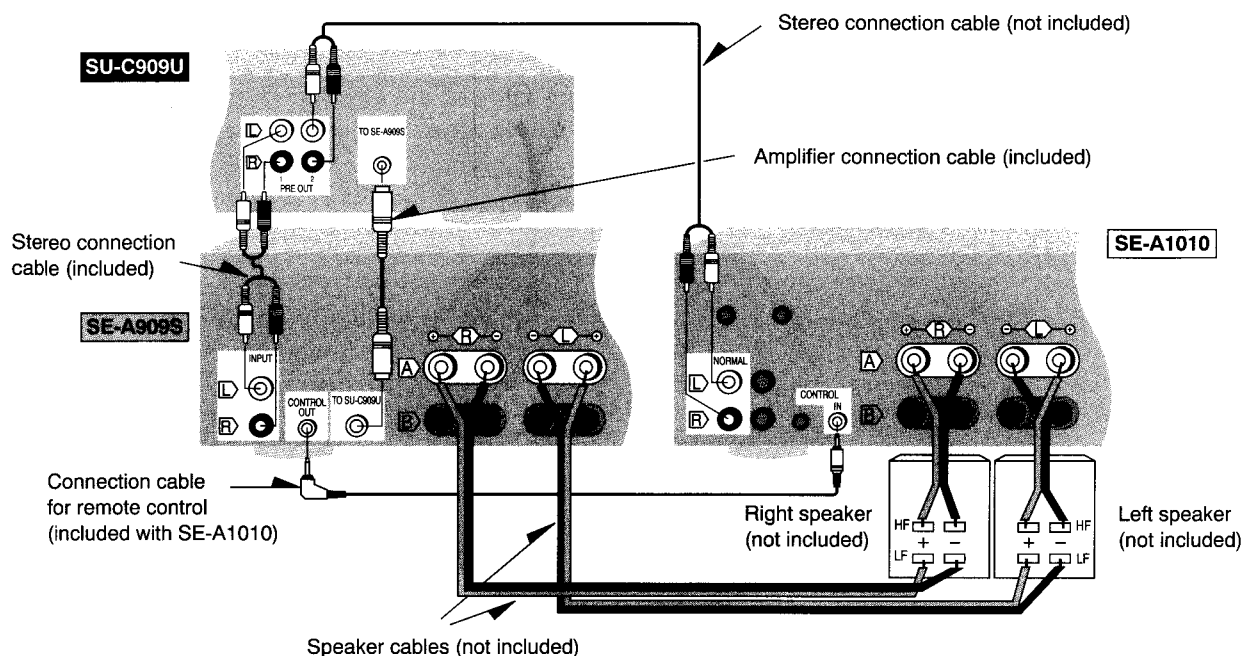
Multi-amplifier system setup

The two PRE OUT terminals on the control amplifier allow you to connect a second power amplifier. This kind of setup with the Technics SE-A1010 (not included) unleashes a multitude of system configurations which will give you better control over sound quality in the listening ambient and gain clearer sound than ever before.

This explains how to connect a Technics SE-A1010.

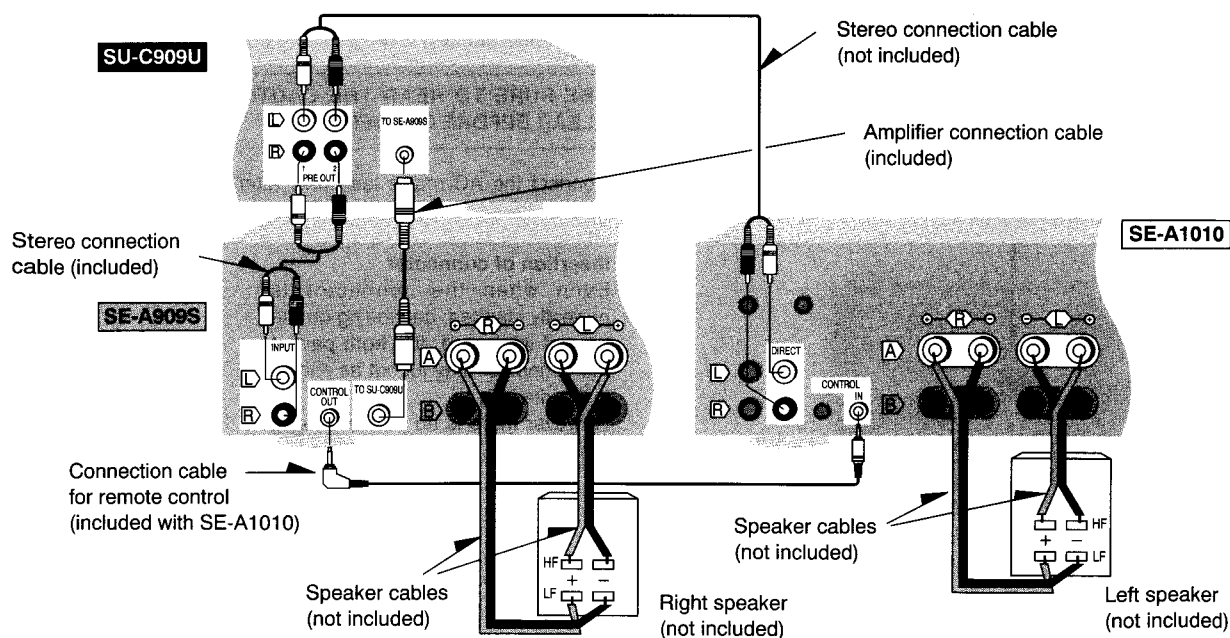
To use one amplifier for the high region and one for the low region

This illustration shows connection that allows control of the treble range level with [LEVEL CONTROL] on SE-A1010. If you would rather have control over the bass range level, connect SE-A1010 to the LF terminals on the speakers. (See the SE-A1010's operating instructions for details.)

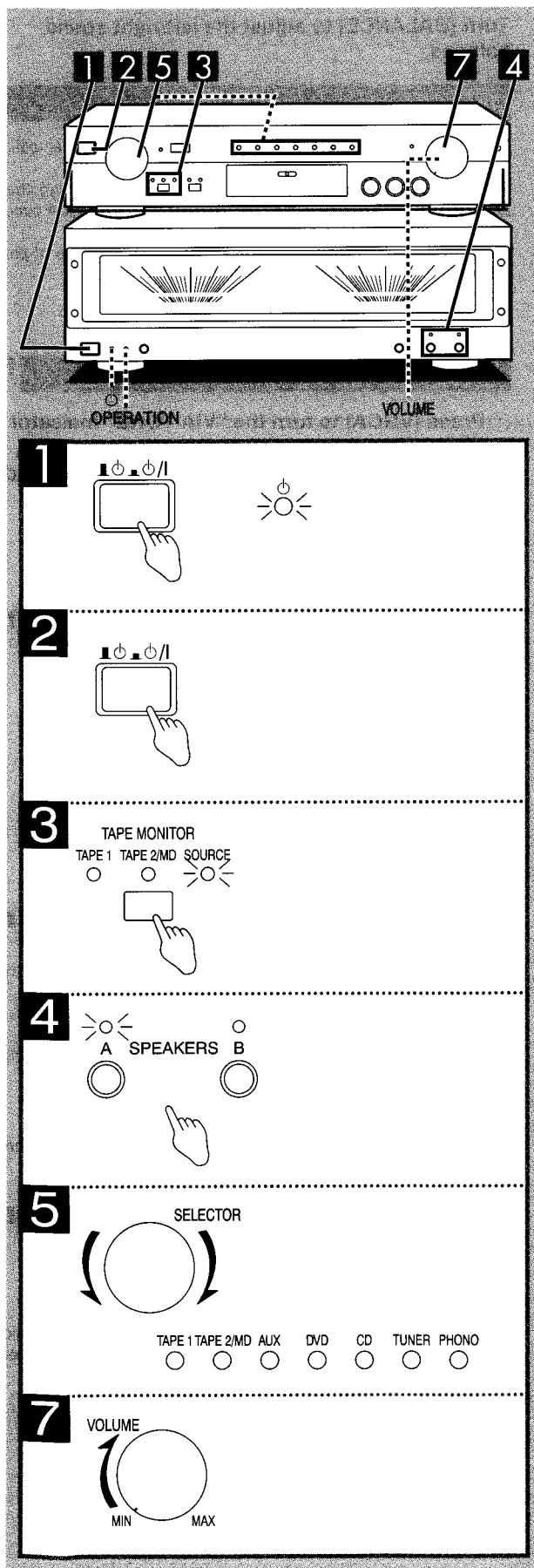


To use as left/right monaural amplifiers

Left and right channel separation will be better and sound orientation improved.



■ Listening



Preparation

Before operation, set [VOLUME] to the "MIN" position.

- 1 Press [] of the power amplifier to the " /I" position.

" " indicator will light up.

- 2 Press [] of the control amplifier. Both amps will turn ON and, about 4 seconds later, the "OPERATION" indicator on the power amplifier will light up. Once the control amplifier has been turned on, both amplifiers can then be turned ON or OFF simultaneously. Use [] on the control amplifier when turning the system on or off.

- 3 Press [TAPE MONITOR] so that the "SOURCE" indicator lights up.

Each time the button is pressed, the indicator will change as follows.

TAPE 1 → TAPE 2/MD → SOURCE

- 4 Select the speakers to be used.

The corresponding speaker indicator will illuminate.

- 5 Turn [SELECTOR] to select the desired source.

The indicator which corresponds to the selected input source will light up.

TAPE 1: Tape deck

TAPE 2/MD: Second tape deck or MD deck

AUX: Component connected to the "AUX" terminals

DVD: DVD player

CD: CD player (or CD changer)

TUNER: Tuner

PHONO: Turntable

- 6 Start the desired source.

Refer to the appropriate operating instructions for details.

- 7 Adjust the volume.

Operation indicator (OPERATION)

This indicator illuminates when the power amplifier is in the normal operating condition.

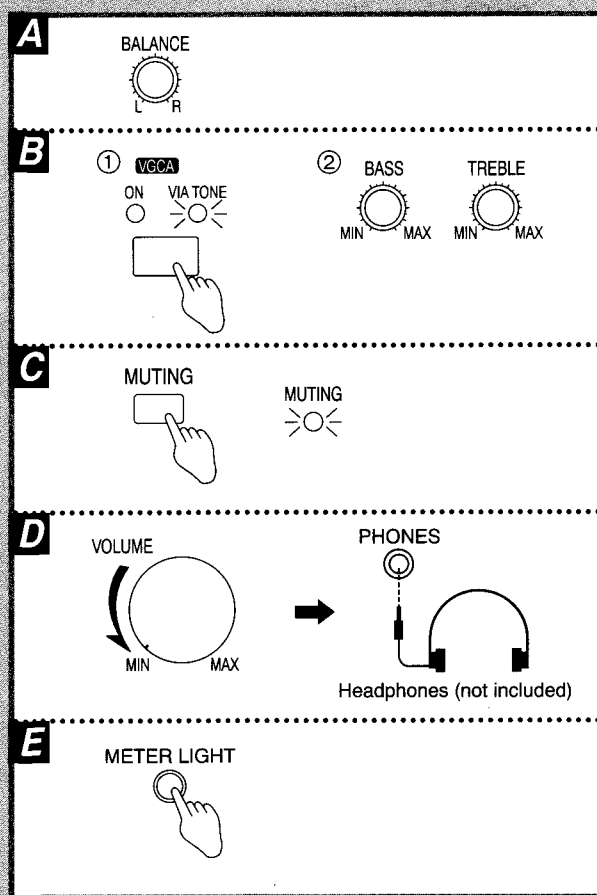
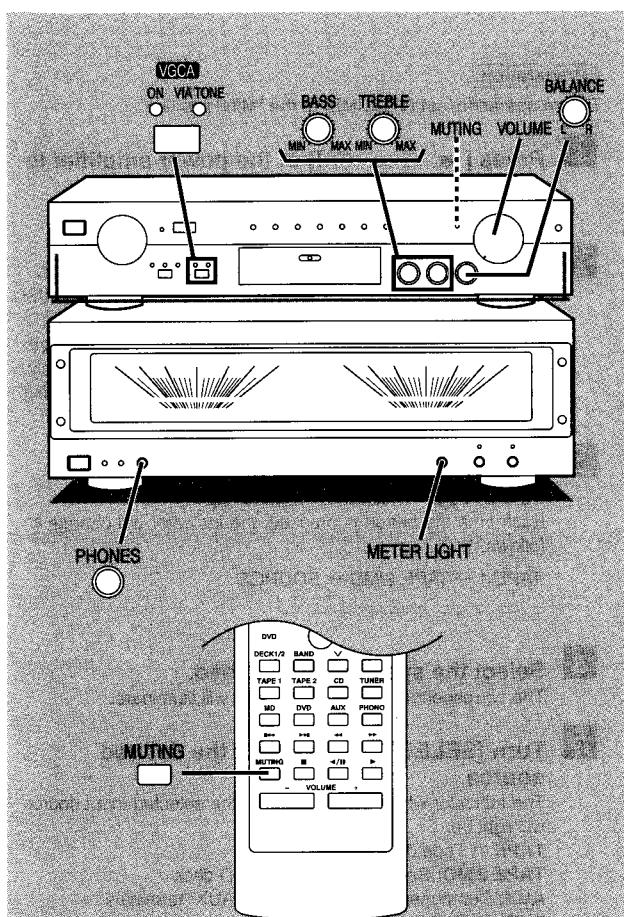
If the (+) and (−) wires of the speaker cables are shorted, or if a circuit abnormality such as DC voltage in the power output to the speakers is detected, the protection circuit will operate and the "OPERATION" indicator will turn off.

Using this system with SE-A1010

If an SE-A1010 power amplifier is connected as described in the connections section, it will also be switched between on and standby the same as this system's SE-A909S when power operations are done on the control amplifier (step 2).

Note

This system's amplifiers will both be turned off if the power amplifier is turned off, but you will not be able to turn them on again with the remote control when in this condition, and further, if an SE-A1010 is connected, it will remain on (use its power button to turn it off).



To adjust the sound balance A

Turn [BALANCE] to adjust the left/right sound balance.

The VGCA circuit

This unit features a state-of-the-art variable gain control amplifier (VGCA).

Rather than reducing the volume of the input signal and then amplifying it as was done in the past, this unit uses the VGCA circuit to change the gain of the amplifier itself.

This has resulted in a 10 dB improvement on the S/N ratio of past models.

Leave VGCA on during normal use.

VGCA is switched on at the time of purchase.

To adjust the tone quality B

- ① Press [VGCA] to turn the "VIA TONE" indicator on.
- ② Turn [BASS] to adjust the low-frequency sound. Turn [TREBLE] to adjust the high-frequency sound.

Press again to turn VGCA on again. Sound is heard unadjusted.

To mute the sound level C

Remote control only

Press [MUTING].

The "MUTING" indicator on this unit will light up.

Press once again to return to the previous volume level. The "MUTING" indicator will turn off.

Note

Muting is also canceled when the unit is turned off.

To listen through headphones D

Decrease the volume at the control amplifier, and connect the headphones.

Plug type: 6.3 mm stereo

If sound from speakers is not wanted, press SPEAKER [A] and/or [B] to turn off the speaker indicators.

Note

Avoid listening for prolonged periods of time to prevent hearing damage.

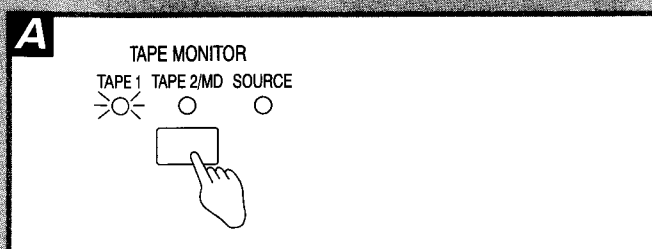
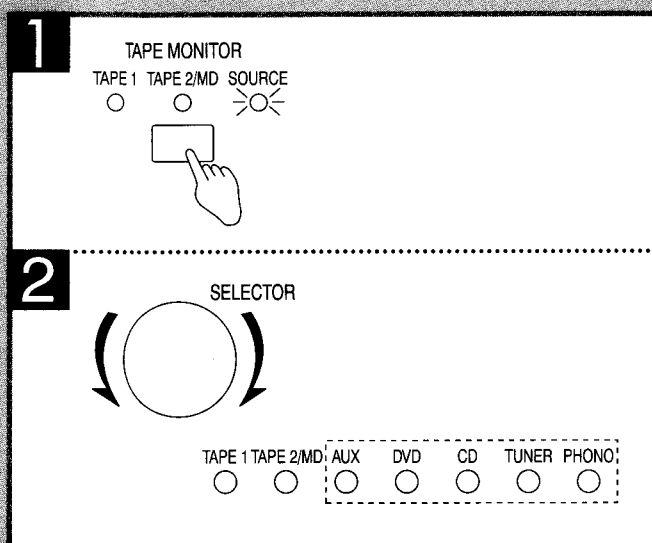
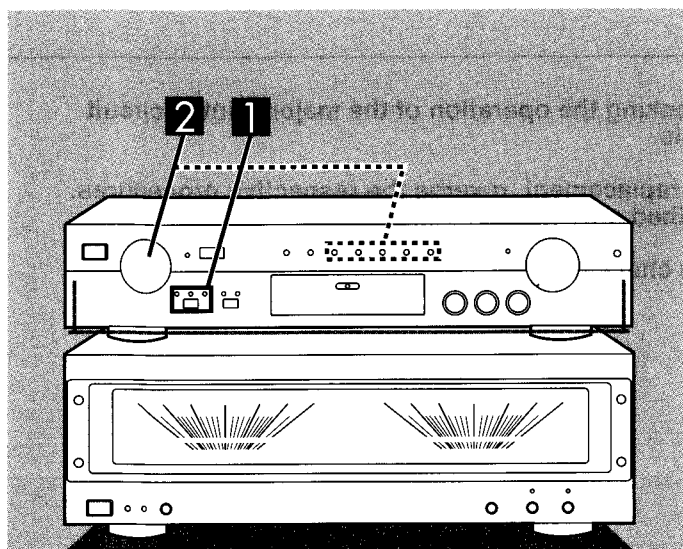
Turning the power meter light on/off E

Press [METER LIGHT].

Note

If the unit is turned off while the power meter light is on, a small click will be heard a few seconds later. This is an automatic adjustment by the internal mechanism, not an indication of malfunction.

■ Recording



Connect the tape deck or MD deck to either of the "REC (OUT) (TAPE 1 or TAPE 2/MD)" terminals on the back of the unit.

- 1** Press [TAPE MONITOR] so that the "SOURCE" indicator lights up.
- 2** Turn [SELECTOR] to select the source to be recorded.
AUX: Equipment connected to the AUX terminal
DVD: DVD player
CD: CD player (or CD changer)
TUNER: Tuner
PHONO: Turntable
- 3** Begin recording on tape deck or MD deck.
 Follow your equipment's operating instructions.
- 4** Begin the source to be recorded.

Note

Some DVD players need special settings before recording. See the DVD player's operating instructions for details.

Recording between TAPE 1 and TAPE 2/MD

You can record from TAPE 1 to TAPE 2/MD and vice versa.

From TAPE 1 to TAPE 2/MD

- ① Press [TAPE MONITOR] so "SOURCE" lights.
- ② Turn [SELECTOR] so "TAPE 1" lights.
- ③ Start recording on the recording deck and playback on the playback deck.

From TAPE 2/MD to TAPE 1

In step ②, turn [SELECTOR] so "TAPE 2/MD" lights.

To check a recording

A

With a tape deck with 3 heads, it is possible to monitor the sound recorded.

Press [TAPE MONITOR] to select "TAPE 1" or "TAPE 2/MD" and set the monitor switch on the tape deck to "TAPE".

TAPE 1: To monitor the deck connected to the TAPE 1 terminals.

TAPE 2/MD: To monitor the deck connected to the TAPE 2/MD terminals.

Note

When finished using the tape monitor, press [TAPE MONITOR] again to select "SOURCE".

6 Operation Checks and 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 item from the following index when checks or replacement are required.

● Contents

■ Checking Procedures for each P.C.B.

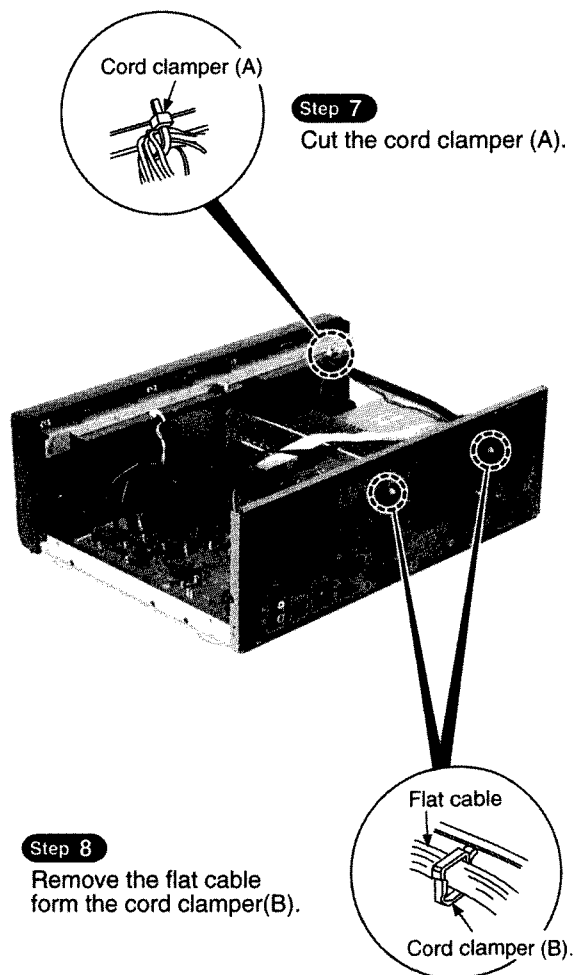
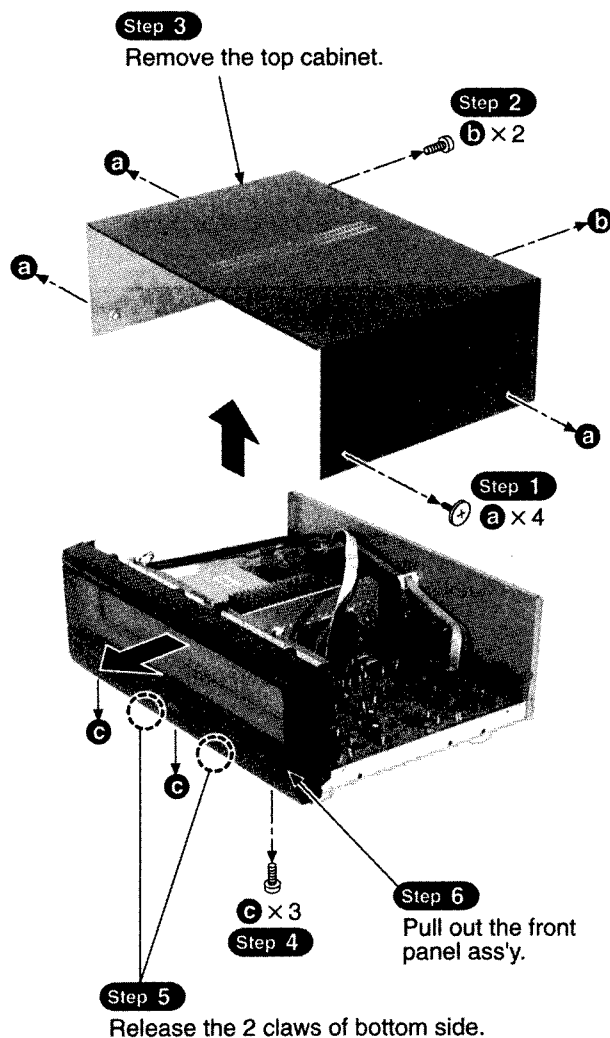
1. Checking for the main P.C.B..

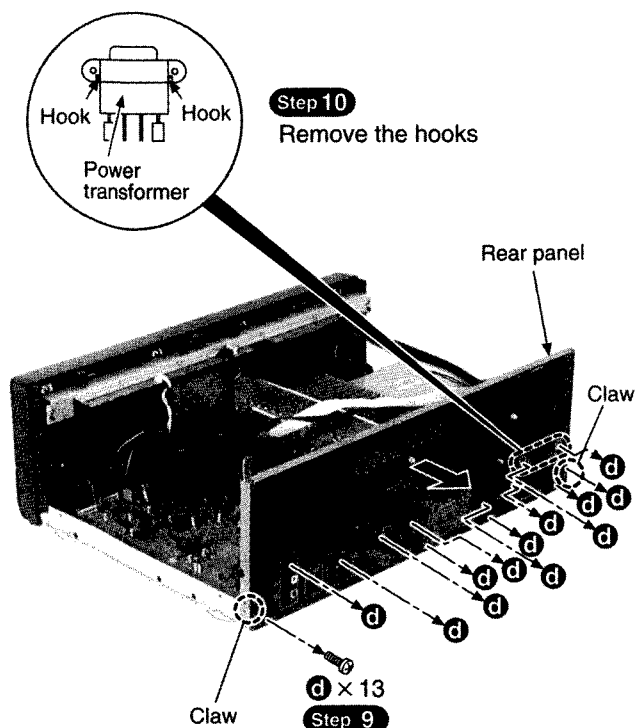
■ Main Component Replacement Procedures

1. Replacement for the meter ass'y.
2. Replacement for the power IC and regulator transistor.
3. Replacement for the fan motor.

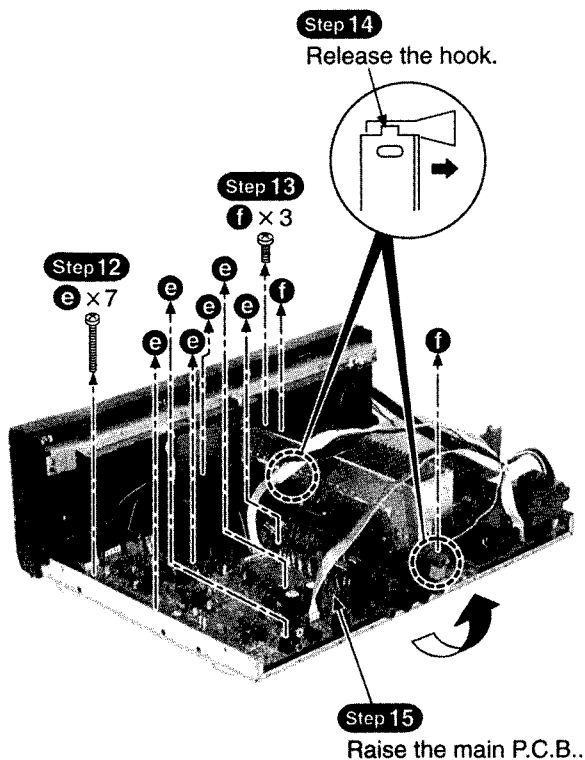
■ Checking Procedures for each P.C.B.

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

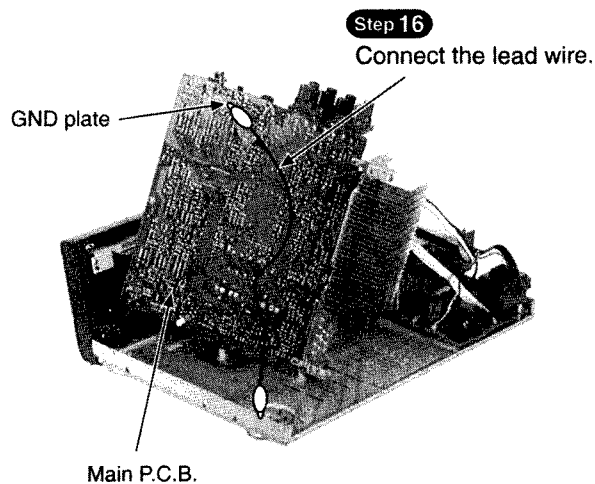


**Step 11**

Release the 2 claws, and then remove the rear panel.



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



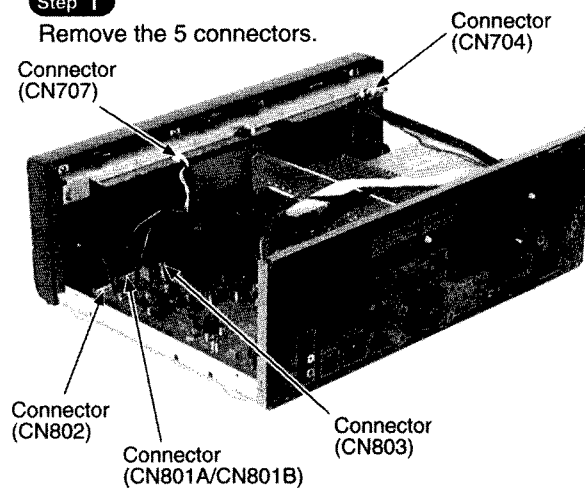
■ Main Component Replacement Procedures

1. Replacement for the meter ass'y

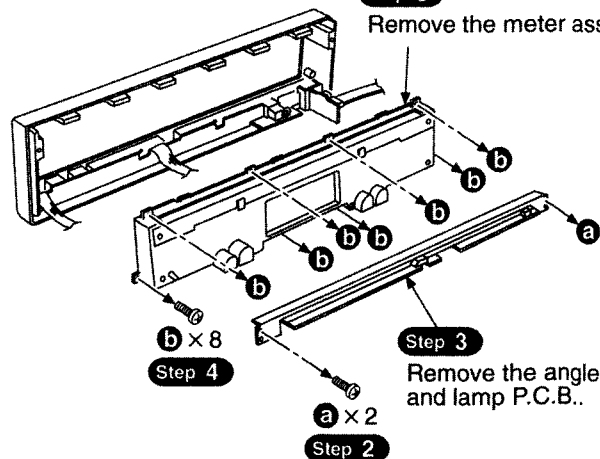
• Follow the **Step 1** ~ **Step 7** of the item 1 in checking procedure for each P.C.B..

Step 1

Remove the 5 connectors.

**Step 5**

Remove the meter ass'y.

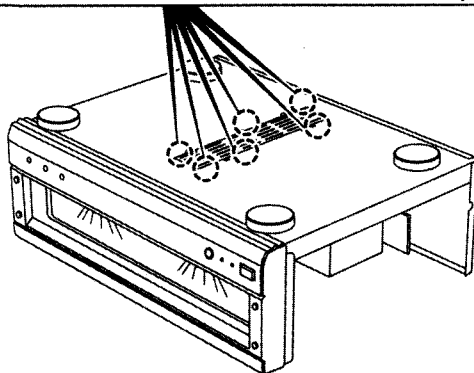
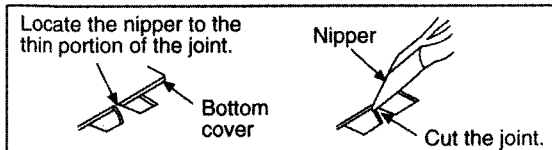


2. Replacement for the power IC and regulator transistor

- Follow the **Step 1** ~ **Step 3** of the item 1 in checking procedure for each P.C.B..

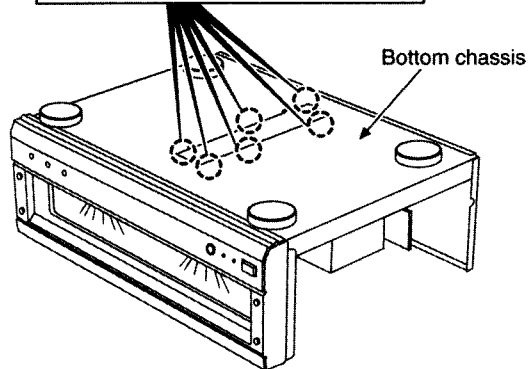
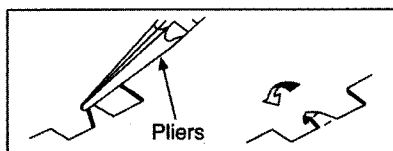
Step 1

Cut the joints as shown below. (6 portions)



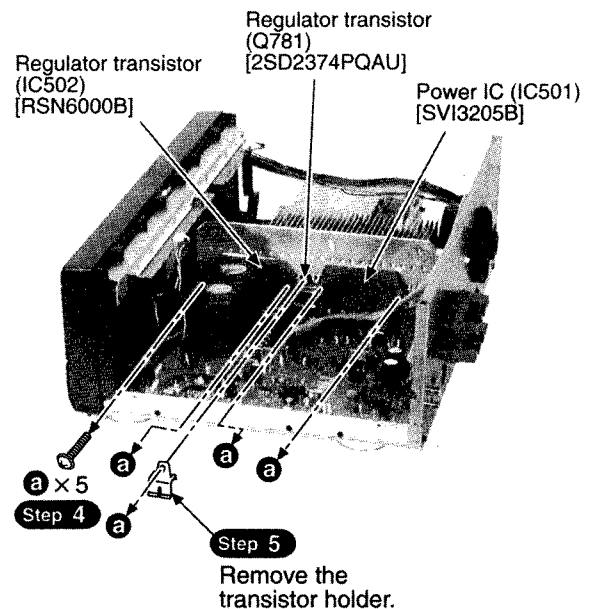
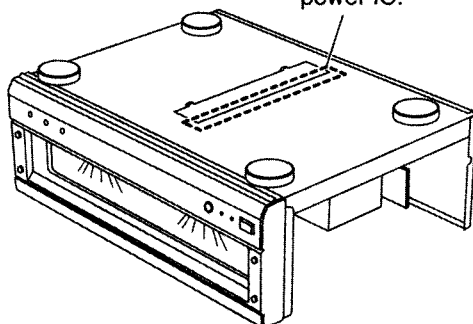
Step 2

Fold the joints. (6 portions)



Step 3

Unsolder the terminals of power IC.

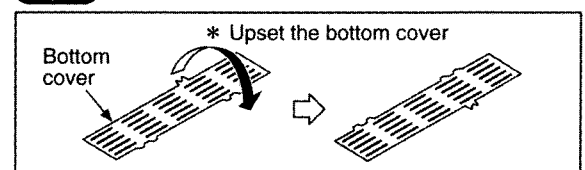


NOTE

- After replacing the power IC or regulator transistor, apply a sufficient quantity of compound grease (RFKX0002) between the heat sink and the power IC or regulator transistor (Radiation of power IC and regulator transistor).
- Tighten enough the screws (a) after replacing the power IC and regulator transistor. Otherwise, the heat radiation works little.

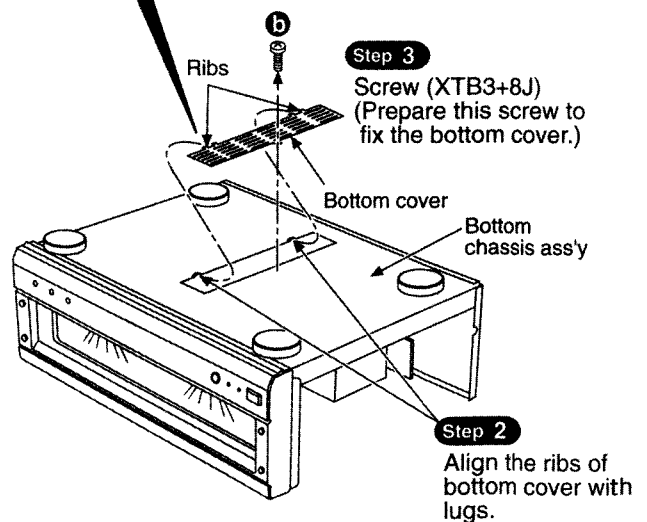
Installation of the bottom cover after replacement

Step 1



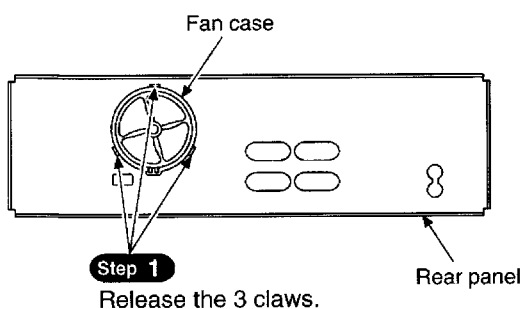
Step 3

Screw (XTB3+8J)
(Prepare this screw to fix the bottom cover.)



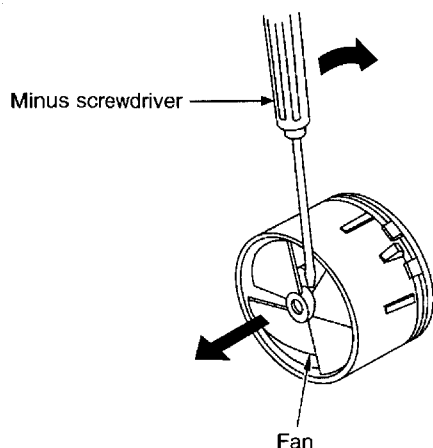
3. Replacement for the fan motor

- Follow the **Step 1** ~ **Step 3** , **Step 8** ~ **Step 11** of the item 1 in checking procedure for each P.C.B..



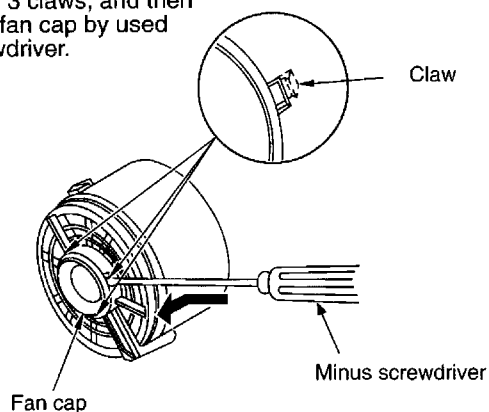
Step 2

Insert a minus screwdriver at the foot of the fan.



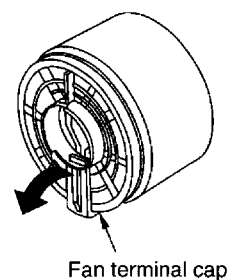
Step 3

Release the 3 claws, and then remove the fan cap by used minus screwdriver.



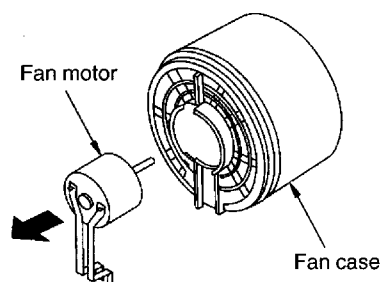
Step 4

Remove the fan terminal cap in the direction of arrow.



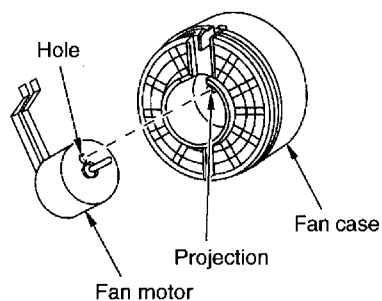
Step 5

Remove the fan motor from the fan case.

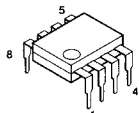
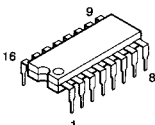
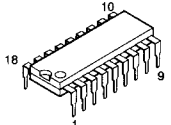
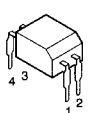
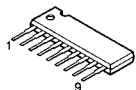
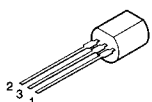
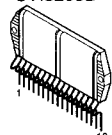
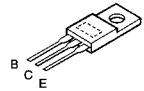
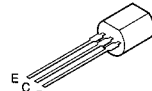
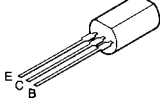
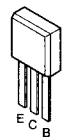
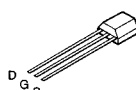
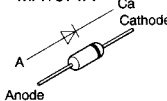
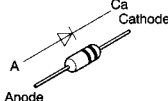
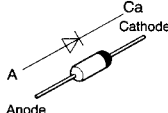
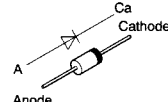
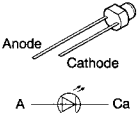
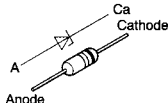
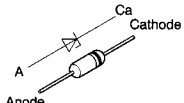


Installation of the fan motor after replacement

- When mounting the motor, align the fan casing's projection with the hole of the fan motor.



7 Type Illustration of ICs, Transistors and Diodes

M5218AP NJM4580DD 	UPD4027BC 	AN7062N 	ON3131R 	BA6138 	AN78L05TA 
RSN6000B SVI3205B 	2SD2374PQAU 	2SA992EFPTA 2SA1123RSTTA 2SC2631RSTTA 	2SC3940AQSTA 2SA1534AQRTA 	2SA1309ARTA 2SC3311ARTA UN4111TA UN4215TA 	
2SJ105GRYTA 2SK330GRYTA 	MA165TA MA29WATA MA167TA 	MA167ATA 1SS291TA 	1SR35200TB 	P300DLF 	SLR-305VC 
 MA4036MTA MA4056MTA MA4068LTA		 MA4100MTA MA4140MTA MA4160MTA MA4220MTA			

8 Schematic Diagram

8.1. Schematic Diagram Notes

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

Notes:

S801:	Unit on/off switch (    /I)
S802:	Speaker select switch (SPEAKER A)
S803:	Speaker select switch (SPEAKER B)
S804:	Power meter light switch (METER LIGHT)
VR909:	Power meter adjustment VR (L ch)
VR910:	Power meter adjustment VR (R ch)

- 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 manufacturers 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.

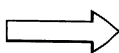
- Voltage and signal line



: Positive voltage line

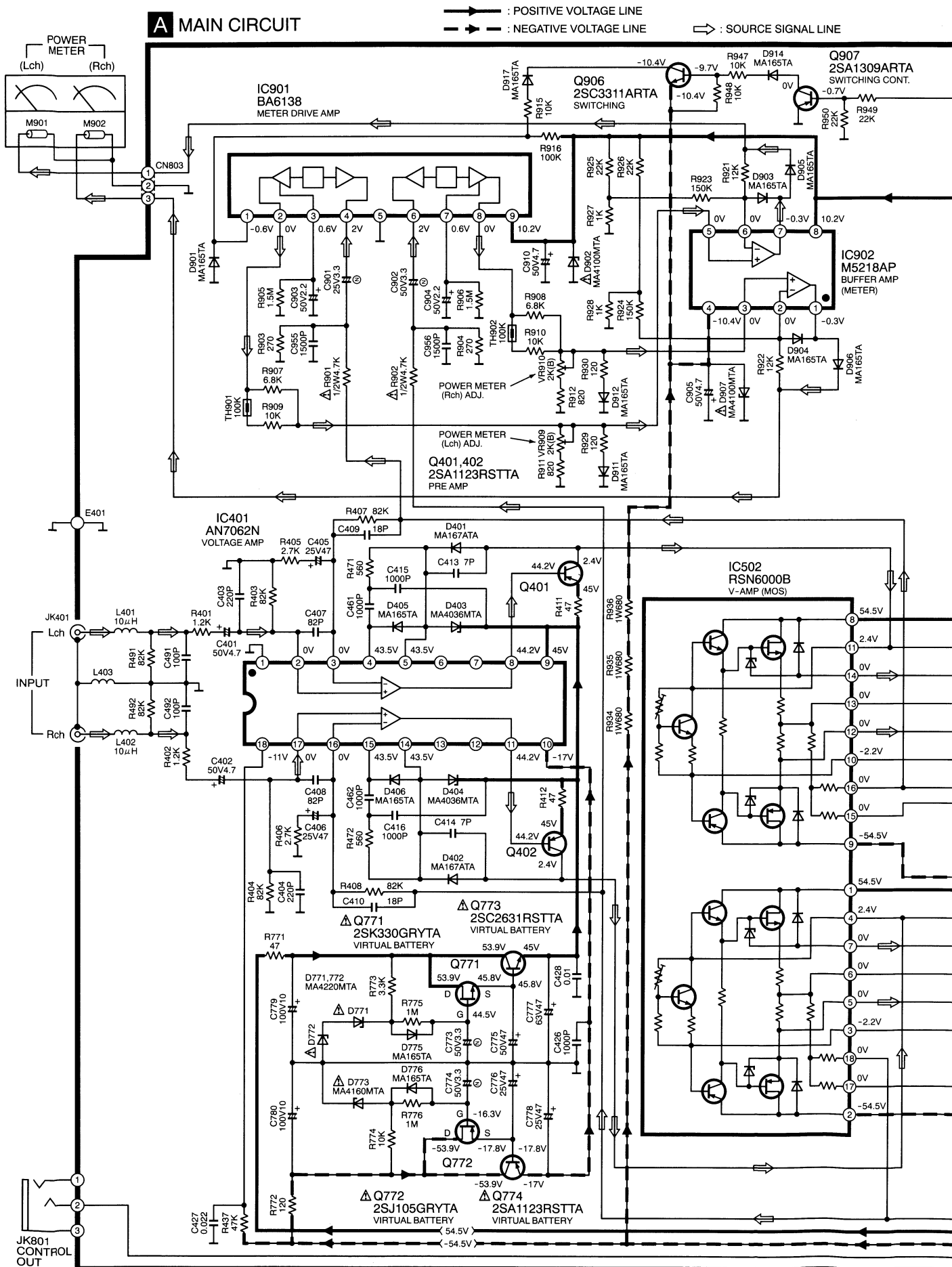


: Negative voltage line

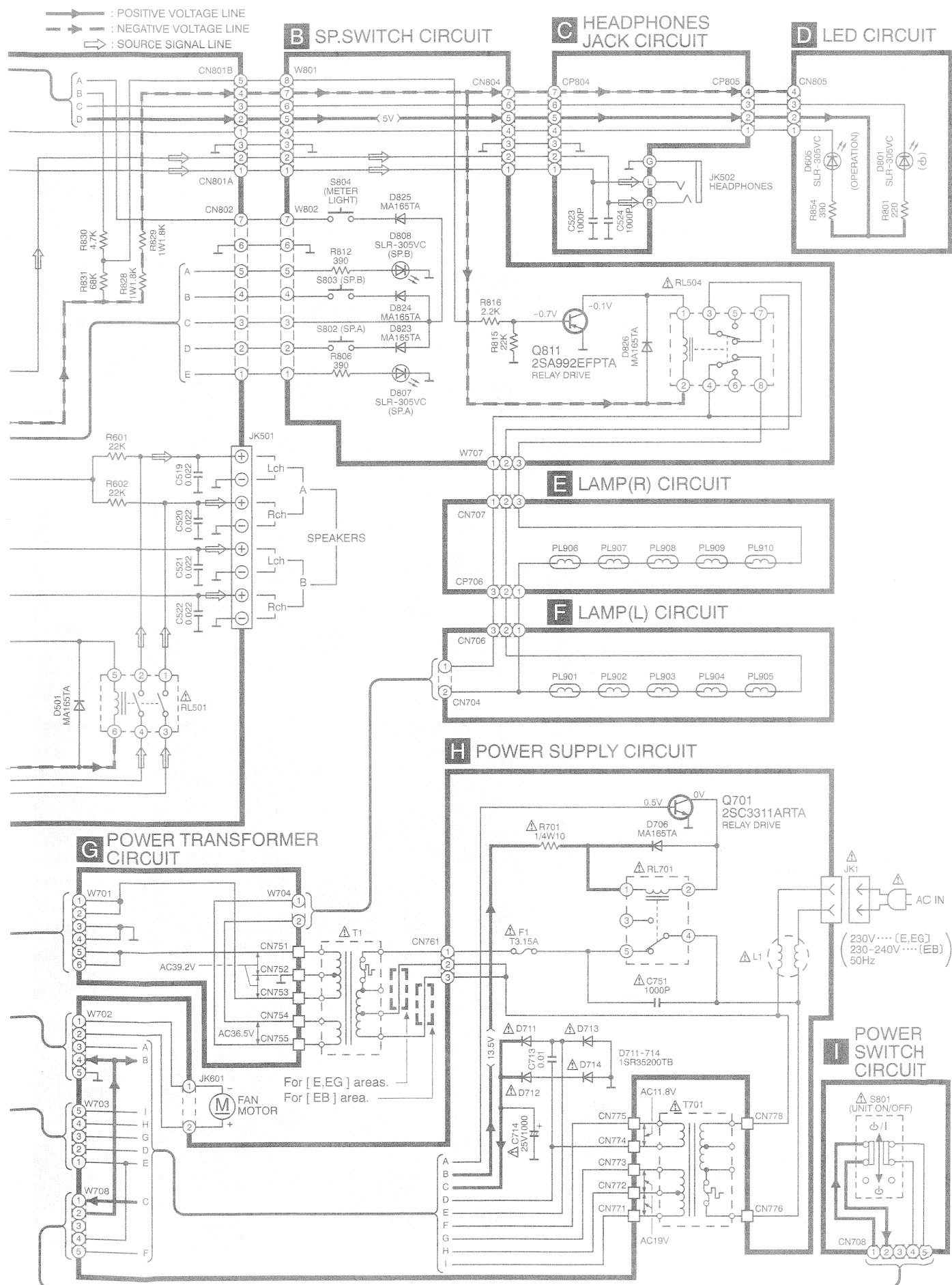


: Source signal line

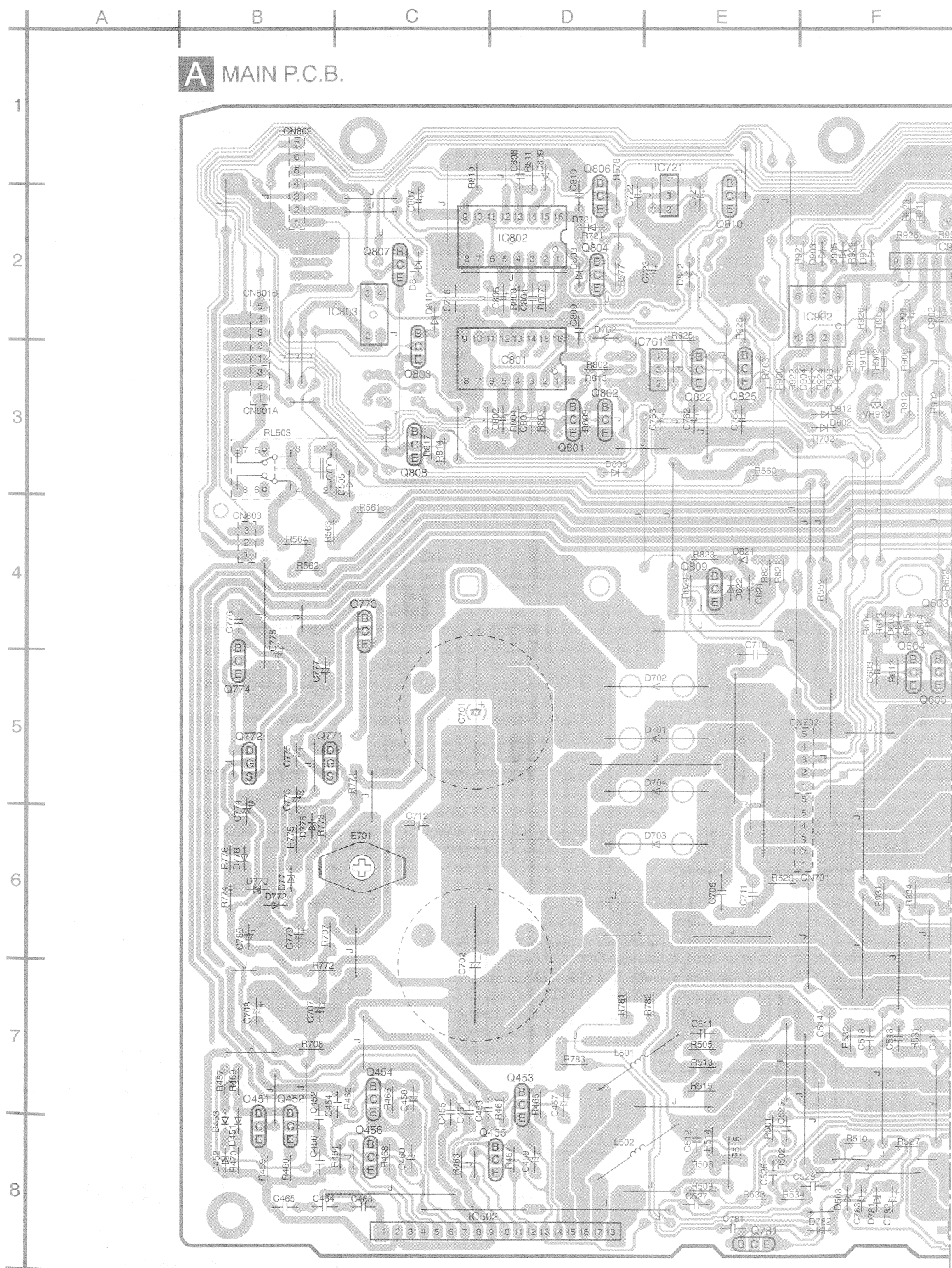
8.2. Schematic Diagram







9 Printed Circuit Board Diagram



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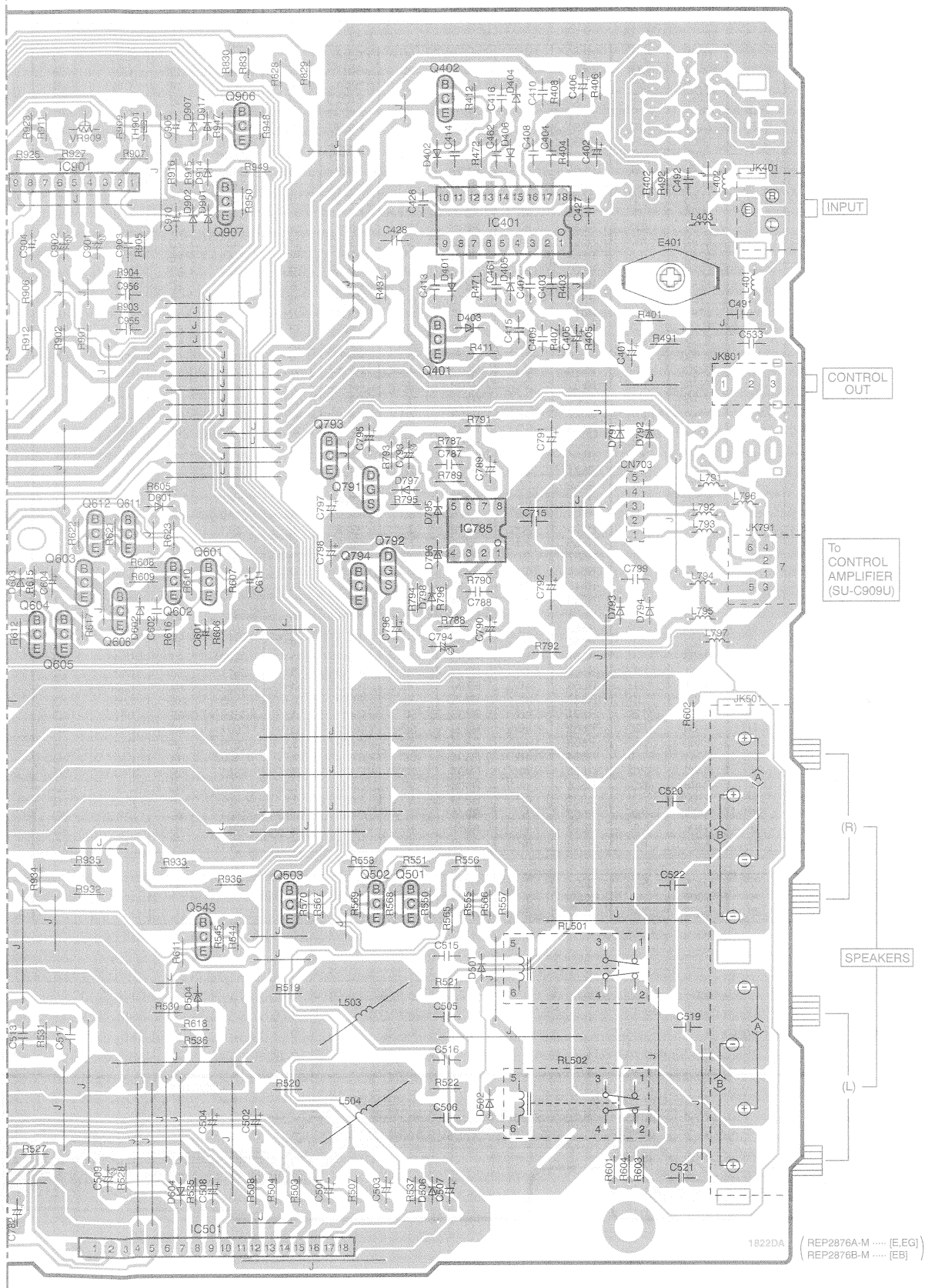
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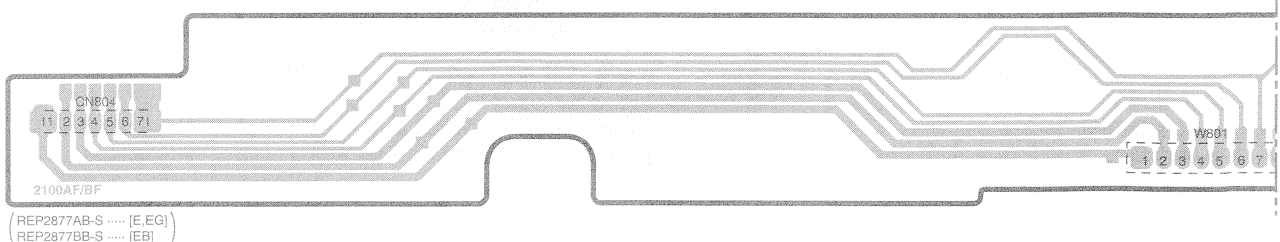
K

L



	A		B		C		D		E		F					
	■ ELECTRICAL PARTS LOCATION															
1	Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.		
	A MAIN P.C.B.															
	IC401	2I	D404	2I	D917	2H	R768	8C	R577	2D	R814	3C	C413	3I	C702	7C
	IC501	8H	D405	3I	VR909	2G	R469	7B	R578	2D	R817	3C	C414	2I	C707	7B
	IC502	8D	D406	2I	VR910	3F	R470	8B	R601	8J	R821	4E	C415	3I	C708	7B
	IC721	2E	D451	8B	TH901	2G	R471	3I	R602	5J	R822	4E	C416	2I	C709	6E
	IC761	3E	D452	8B	TH902	3F	R472	2I	R603	8J	R823	4E	C426	2I	C710	5E
	IC785	4I	D453	8B	L401	3K	R491	3J	R604	8J	R824	4E	C427	2J	C711	6E
	IC801	3D	D501	7I	L402	2K	R492	2J	R605	4G	R825	2E	C428	2I	C712	6C
	IC802	2D	D502	7I	L403	2K	R501	8E	R606	5H	R826	2E	C451	7C	C715	4J
	IC803	2C	D503	8F	L501	7D	R502	8E	R607	4H	R828	1H	C452	8B	C716	2C
2	IC901	2G	D504	7H	L502	8D	R503	8H	R608	4G	R829	1H	C453	7C	C721	2E
	IC902	2F	D505	3C	L503	7I	R504	8H	R609	4G	R830	1H	C454	7C	C722	2D
	Q401	3I	D506	8I	L504	7I	R505	7E	R610	4H	R831	1H	C455	7C	C723	2E
	Q402	2I	D601	4G	L791	4K	R506	8E	R611	7G	R901	3G	C456	8B	C762	3E
	Q451	8B	D602	5G	L792	4K	R507	8I	R612	5G	R902	3G	C457	7D	C763	3E
	Q452	8B	D603	4G	L793	4K	R508	8H	R613	4F	R903	3G	C458	7C	C764	3E
	Q453	7D	D604	8G	L794	4K	R509	8E	R614	4F	R904	3G	C459	8D	C773	5B
	Q454	7C	D701	5E	L795	5K	R510	8F	R615	4G	R905	2G	C460	8C	C774	6B
	Q455	8D	D702	5E	L796	4K	R513	7E	R616	5G	R906	3G	C461	3I	C775	5B
	Q456	8C	D703	6E	L797	5K	R514	8E	R617	5G	R907	2G	C462	2I	C776	4B
	Q501	6I	D704	5E	RL501	7J	R515	7E	R618	7H	R908	2F	C463	8C	C777	5B
3	Q502	6I	D721	2D	RL502	7J	R516	8E	R621	4G	R909	2G	C464	8B	C778	5B
	Q503	6H	D762	2D	RL503	3B	R519	7H	R622	4G	R910	3F	C465	8B	C779	6B
	Q543	6H	D771	6B	CN701	6F	R520	7H	R623	4G	R911	2G	C491	3K	C780	6B
	Q601	4H	D772	6B	CN702	5F	R521	7I	R702	3F	R912	3G	C492	2J	C781	8E
	Q602	4G	D773	6B	CN703	4J	R522	7I	R707	6B	R915	2H	C501	8H	C782	8F
	Q603	4G	D775	6B	CN801A	3B	R527	8F	R708	7B	R916	2G	C502	8H	C783	8F
	Q604	5G	D776	6B	CN801B	2B	R528	8G	R721	2D	R921	2F	C503	8I	C787	4I
	Q605	5G	D781	8F	CN802	1B	R529	6E	R763	3E	R922	3E	C504	8H	C788	4I
	Q606	5G	D782	8F	CN803	4B	R530	7G	R771	5C	R923	2G	C505	7I	C789	4I
	Q611	4G	D791	4J	JK401	2K	R531	7F	R772	7B	R924	3F	C506	7I	C790	5I
	Q612	4G	D792	4J	JK501	5K	R532	7F	R773	6B	R925	2G	C507	8I	C791	4J
	Q771	5B	D793	5J	JK791	4K	R533	8E	R774	6B	R926	2F	C508	8H	C792	4J
4	Q772	5B	D794	5J	JK801	3K	R534	8E	R775	6B	R927	2G	C509	8G	C793	4I
	Q773	4C	D795	4I	E401	3J	R535	8H	R776	6B	R928	3F	C511	7E	C794	5I
	Q774	5B	D796	4I	E701	6C	R536	7H	R781	7D	R929	2F	C512	8E	C795	4I
	Q781	8E	D797	4I	R401	3J	R537	8I	R782	7E	R930	3E	C513	7F	C796	5I
	Q791	4I	D798	4I	R402	2J	R544	6H	R783	7D	R931	6F	C514	7F	C797	4H
	Q792	4I	D802	3F	R403	3J	R545	6H	R787	4I	R932	6G	C515	7I	C798	4H
	Q793	4H	D803	2D	R404	2J	R550	6I	R788	5I	R933	6G	C516	7I	C799	4J
	Q794	4I	D806	3D	R405	3J	R551	6I	R789	4I	R934	6F	C517	7F	C801	3D
	Q801	3D	D809	1D	R406	1J	R555	6I	R790	4I	R935	6G	C518	7F	C802	3D
	Q802	3D	D810	2C	R407	3J	R556	6I	R791	3I	R936	6H	C519	7J	C804	2D
	Q803	3C	D811	2C	R408	1J	R557	6I	R792	5J	R947	2H	C520	6J	C805	2D
	Q804	2D	D812	2E	R411	3I	R558	6I	R793	4I	R948	2H	C521	8J	C807	2C
5	Q806	2D	D821	4E	R412	2I	R559	4F	R794	4I	R949	2H	C522	6J	C808	1D
	Q807	2C	D822	4E	R437	3I	R560	3E	R795	4I	R950	2H	C525	8E	C809	2D
	Q808	3C	D901	2H	R457	7B	R561	4C	R796	4I	C401	3J	C526	8E	C810	2D
	Q809	4E	D902	2H	R459	8B	R562	4B	R802	3D	C402	2J	C527	8E	C821	4E
	Q810	2E	D903	2F	R460	8B	R563	4B	R803	3D	C403	3J	C528	8F	C901	2G
	Q822	3E	D904	3F	R461	7D	R564	4B	R804	3D	C404	2J	C533	3K	C902	2G
	Q825	3E	D905	2F	R462	7C	R565	6I	R807	2D	C405	3J	C601	5H	C903	2G
	Q906	2H	D906	3F	R463	8C	R566	6I	R808	2D	C406	1J	C602	5G	C904	2G
	Q907	2H	D907	2H	R464	8C	R567	6H	R809	3D	C407	3J	C603	5F	C905	2G
	D401	3I	D911	2F	R465	7D	R568	6I	R810	1C	C408	2J	C604	4G	C910	2G
	D402	2I	D912	3F	R466	7C	R569	6I	R811	1D	C409	3J	C611	4H	C955	3G
6	D403	3I	D914	2H	R467	8D	R570	6H	R813	3D	C410	1J	C701	5C	C956	3G
	B SP. SWITCH P.C.B.															
	Q811	8G	D823	8I	D826	8H	S804	7I	W707	8H	R806	8J	R816	8G		
	D807	8J	D824	7I	S802	7J	RL504	8H	W801	8F	R812	8K				
	D808	8K	D825	8I	S803	7K	CN804	8A	W802	8L	R815	8G				

B SP. SWITCH P.C.B.



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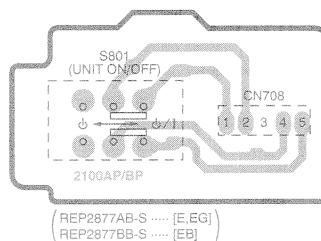
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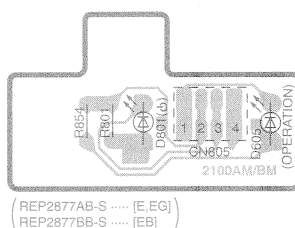
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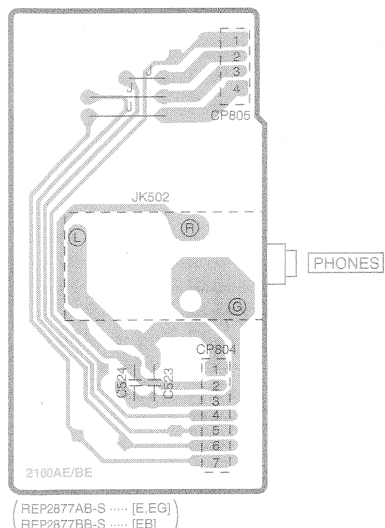
I POWER SWITCH P.C.B.



D LED P.C.B.

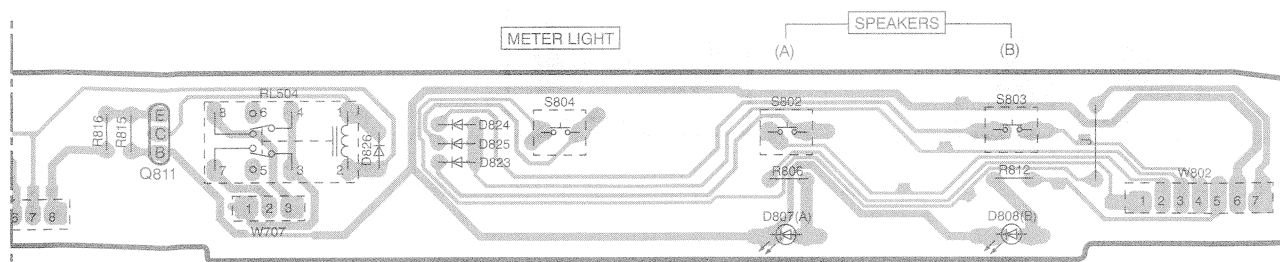


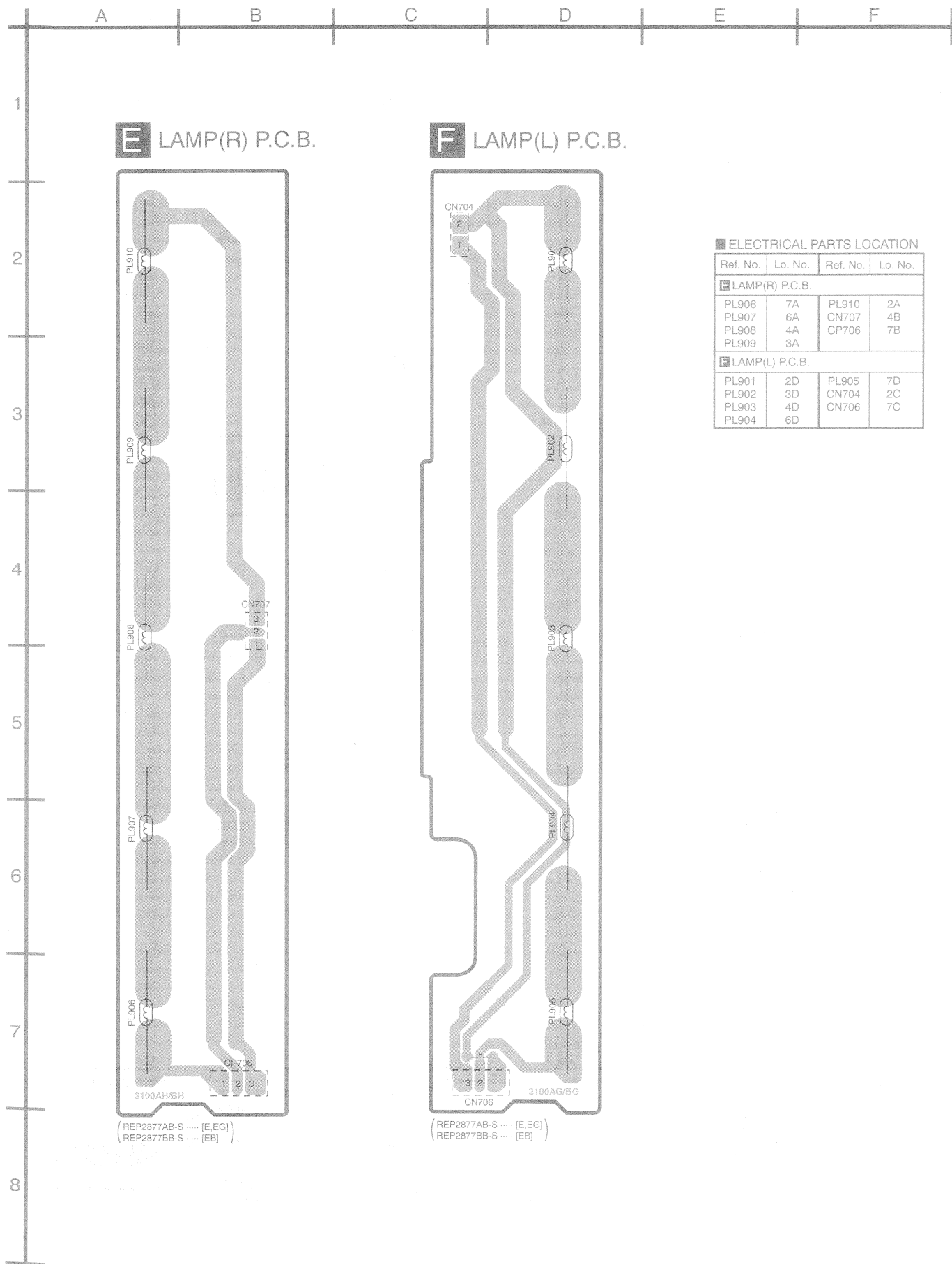
C HEADPHONES JACK P.C.B.



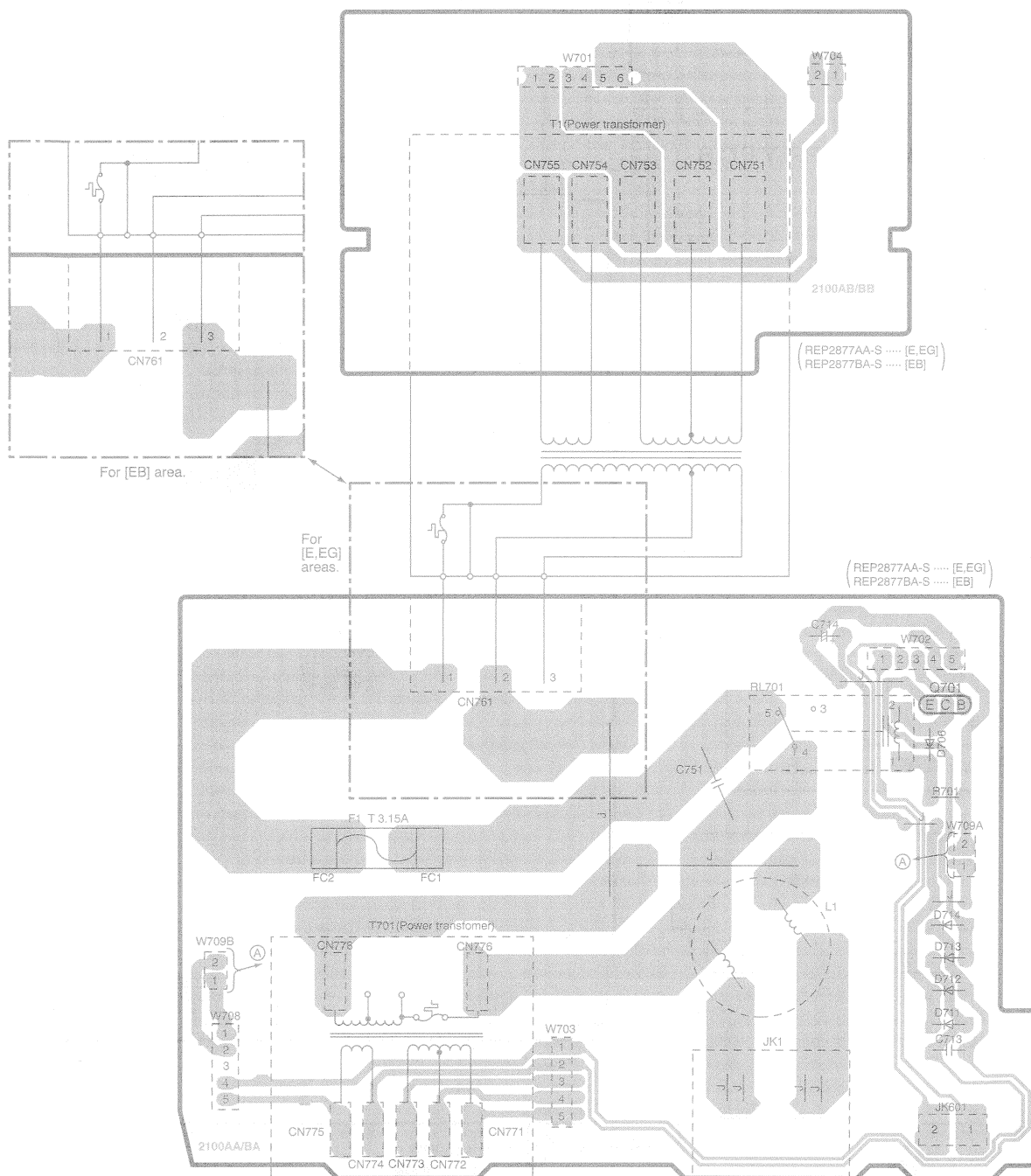
ELECTRICAL PARTS LOCATION

Ref. No.	Lo. No.	Ref. No.	Lo. No.
C HEADPHONES JACK P.C.B.			
JK502	5H	C523	6H
CP804	6H	C524	6H
CP805	4H		
D LED P.C.B.			
D605	3K	R801	3J
D801	3K	R854	3J
CN805	3K		
I POWER SWITCH P.C.B.			
S801	2J	CN708	2K



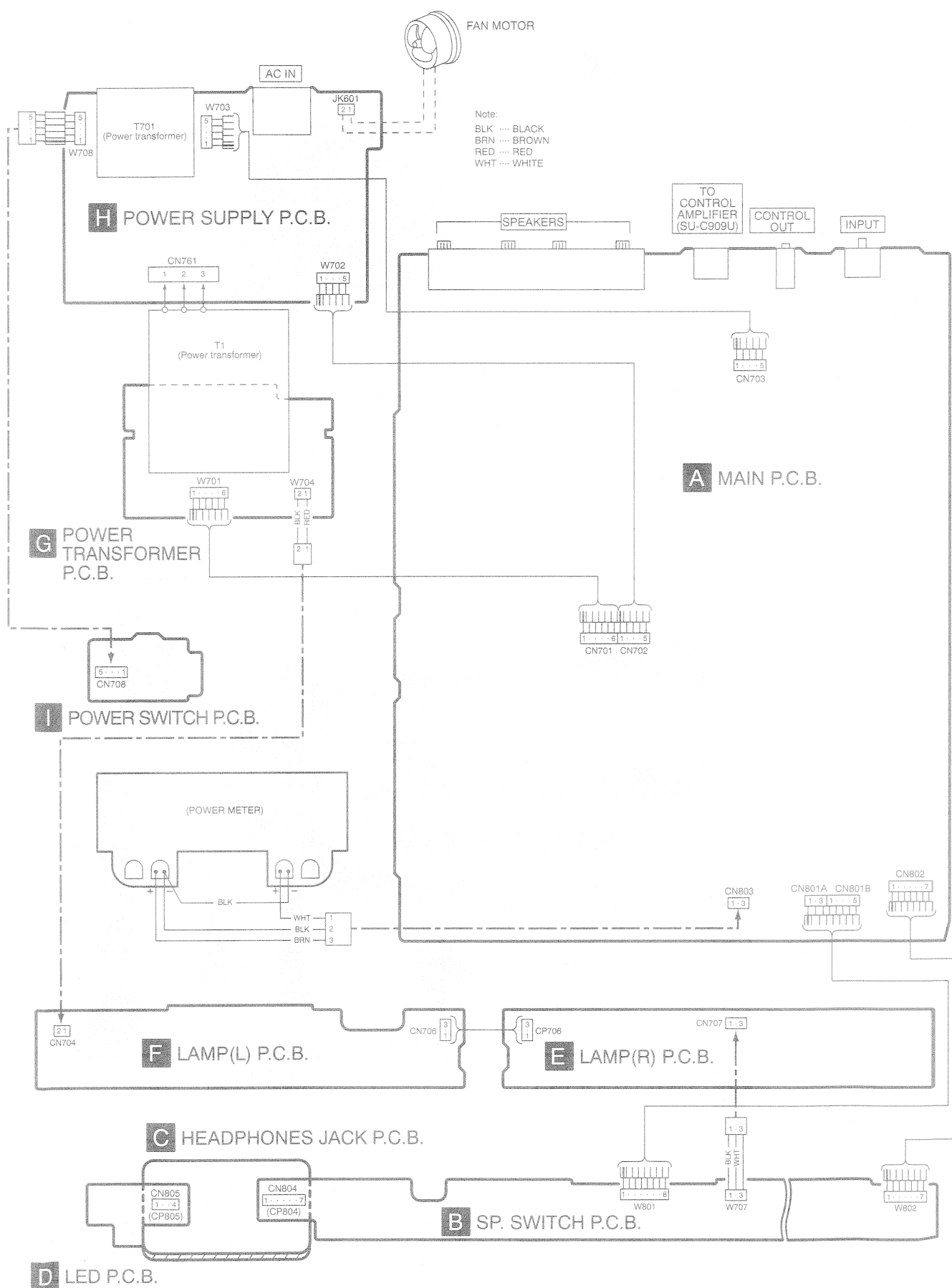


A B C D E F

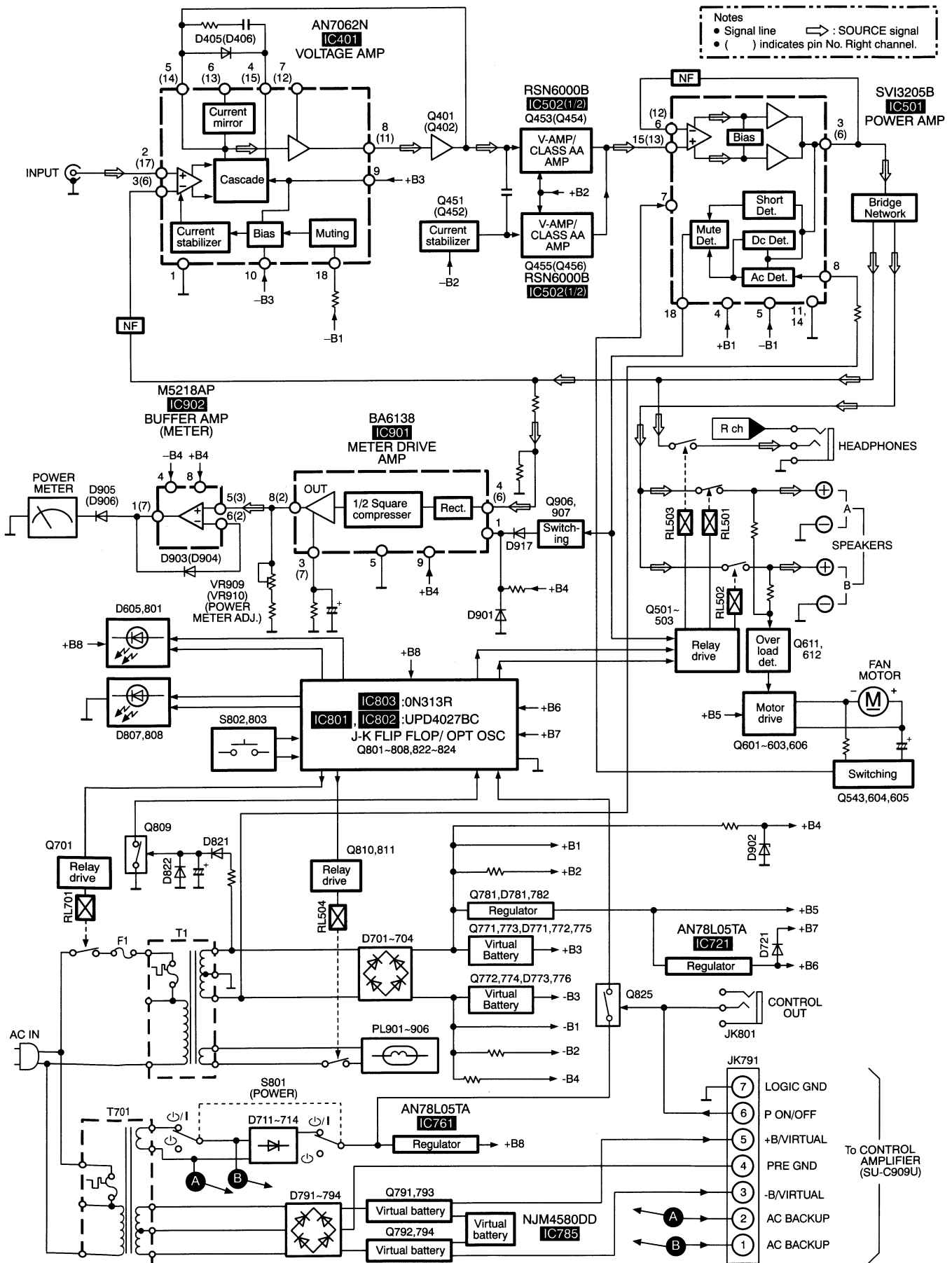
G POWER TRANSFORMER P.C.B.**H** POWER SUPPLY P.C.B.**ELECTRICAL PARTS LOCATION**

Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.
G POWER TRANSFORMER P.C.B.															
T1	2D	CN751	2E	CN752	2D	CN753	2D	CN754	2D	CN755	2D	W701	1D	W704	1E
H POWER SUPPLY P.C.B.															
Q701	5F	D713	6F	L1	6E	CN772	7C	CN776	6C	FC1	5C	W708	6B	C713	6F
D706	5F	D714	6F	RL701	5E	CN773	7C	CN778	6C	FC2	5B	W709A	5F	C714	4E
D711	6F	T701	6C	CN761	4C	CN774	7C	JK1	7E	W702	4F	W709B	6B	C751	5E
D712	6F	F1	5C	CN771	7C	CN775	7C	JK601	7F	W703	6D	R701	5F		

10 Wiring Connection Diagram



11 Block Diagram



12 Measurements and Adjustments

12.1. Measuring Instruments and Special Tools

• AC electronic voltmeter (AC EVM)

• AF oscillator

12.2. Power Meter Adjustment

1. Test equipment connection is shown in Fig.1
2. Before turning **ON** the set, adjust **VR909 (L ch)** and **VR910 (R ch)** to mechanical center position. Shown in Fig.2
3. Turn the power **ON**, make sure that the power meter is mechanically adjusted to **0** point. Shown in Fig.3
4. Apply a **1 kHz** signal to the input terminal so that the output voltage of speaker terminal is **8.9 - 9.0 V**. (Adjust the signal level with the attenuator of AF oscillator.)
5. Adjust **VR909 (L ch)** and **VR910 (R ch)** so that the power meter indicates **10 W**. Shown in Fig.4

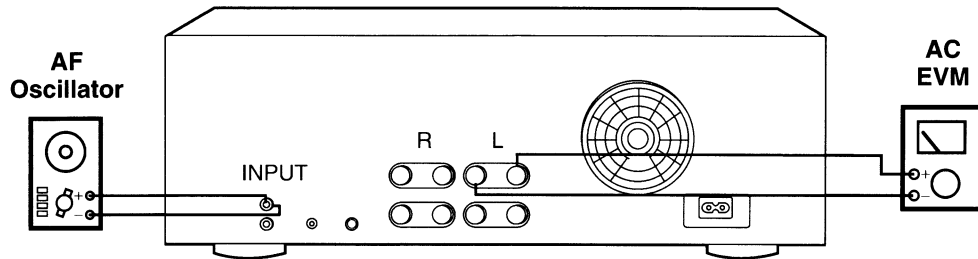


Fig.1

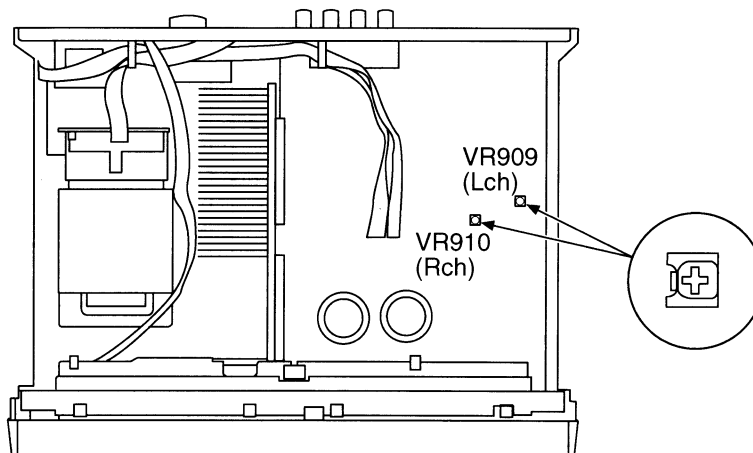


Fig.2

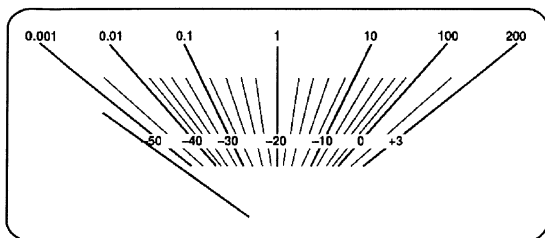


Fig.3

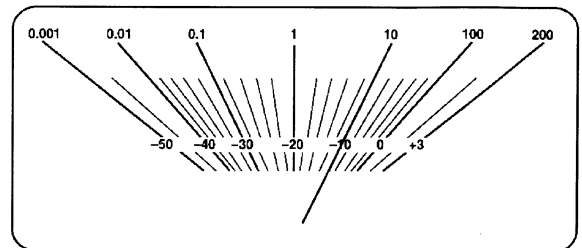


Fig.4

13 Replacement Parts List

Notes:

- 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 manufactures specified parts shown in the parts list.

- The <IA> <IB> <IC> <ID> marks in Remarks indicate language of instruction manual.

<IA> : English, Spanish, Swedish, Russian, Polish, Czech

<IB> : English

<IC> : German, Italian, French

<ID> : Netherlandish, 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	RKM0041A-K2	TOP COVER	1	
2	SNE2129-3	SCREW	4	
3	XTBS3+8JFZ1	SCREW	2	
4	REM0020-1	FAN UNIT	1	
4-1	MDN-4RB4MRC	FAN MOTOR	1	
4-2	RMQ0208-K	COVER	1	
4-3	RMQ0209-K	CASE	1	
4-4	RMQ0212-K	FAN TERMINAL	1	
4-5	SHE232-1	FAN	1	
4-6	SUS271	SPRING	1	
5	RKA0053-A	FOOT	4	
5-1	RMG0270-K	RUBBER	4	
6	RMG0332-K	RUBBER	2	
7	RMN0217-1	PCB HOLDER	1	
8	REX0741	WIRE ASS'Y	1	
9	RGB0031-A	TECHNICS BADGE	1	
10	RGG0166A-K	PANEL	1	
11	RGG0167C-K1	PANEL	1	
12	RGL0301-Q	PANEL LIGHT A	1	
13	RGL0302-Q	PANEL LIGHT B	1	
14	RGP0720-K	PANEL	1	
15	RGU0890-1K	BUTTON, POWER	1	
16	RGU1271-1K	BUTTON, SPEAKER	3	
17	RHD26016	SCREW	1	
18	RHD26033	SCREW	4	
19	RKW0584-Q	WINDOW	1	
20	RMG0509-K	CAP	4	
21	RSE0006D	POWER METER	1	
22	XTBS26+8J	SCREW	21	
23	XTBS3+8JFZ1	SCREW	16	
24	XTB3+20JFZ	SCREW	9	
25	XTB3+6G	SCREW	4	
26	XTB3+8JFZ	SCREW	9	
27	XTW3+15T	SCREW	5	

Ref. No.	Part No.	Part Name & Description	Pcs.	Remarks
28	REZ1232	WIRE ASS'Y	1	
29	REZ1263	WIRE ASS'Y	1	
30	REZ1233	WIRE ASS'Y	1	
31	RMR1110-K	TERMINAL COVER	8	
A1	RAK-SUA11WH	REMOTE CONT. TRANSMITTER	1	
A1-1	RKK0123-K	BATTERY COVER	1	
A2	RJA0019-X	AC POWER SUPPLY CORD	1	(E, EG)
$\triangle$				
A2	RJA0053-2X	AC POWER SUPPLY CORD	1	(EB)
$\triangle$				
A3	RJL6D001B10	DIN CORD	1	
A4	SJP2276	PIN CORD	1	
A5	RQCB0169	SERVICE CENTER LIST	1	
A6	RQA0117	WARRANTY CARD	1	
A7	RQT5167-E	OPERATING INSTRUCTIONS	1	(E) <IA>
A8	RQT5170-B	OPERATING INSTRUCTIONS	1	(EB) <IB>
A9	RQT5168-D	OPERATING INSTRUCTIONS	1	(EG) <IC>
A10	RQT5169-H	OPERATING INSTRUCTIONS	1	(EG) <ID>
C401,02	ECA1HPXS4R7B	50V 4.7U	2	
C403,04	ECKT1H221KB	50V 220P	2	
C405,06	ECA1EPXS470B	25V 47U	2	
C407,08	ECBT1H820KB5	50V 82P	2	
C409,10	ECCR2H180JC5	500V 18P	2	
C413,14	ECCV2H070D	500V 7P	2	
C415,16	ECBT1H102KB5	50V 1000P	2	
C426	ECQB1H102JF3	50V 1000P	1	
C427	ECQB1H223JF3	50V 0.022U	1	
C428	ECHR1H103JZ3	50V 0.01U	1	
C451,52	ECKR1H333ZF5	50V 0.033U	2	
C453-56	ECCV2H680K	500V 68P	4	
C457-60	RCE1HKA3R3BG	50V 3.3U	4	
C461,62	ECBT1H102KB5	50V 1000P	2	
C463-65	ECBT1H104ZF5	50V 0.1U	3	
C491,92	ECKT1H101KB	50V 100P	2	
C501-04	ECA0JPXS101	6.3V 100U	4	
C505,06	ECQV1H473JM3	50V 0.047U	2	
C507	ECA1EM101	25V 100U	1	
C508	ECA1HM470	50V 47U	1	
C509	ECEA1HN100SB	50V 10U	1	
C511,12	ECBT1H560J5	50V 56P	2	
C513-18	ECQV1H473JM3	50V 0.047U	6	
C519-22	ECQB1H223JF3	50V 0.022U	4	
C523,24	ECBT1H102KB5	50V 1000P	2	
C525,26	ECBT1C272KR5	16V 2700P	2	
C527,28	ECBT1H181KB5	50V 180P	2	
C533	ECBT1C103NS5	16V 0.01U	1	
C601	ECEA1HKS2R2	50V 2.2U	1	
C602	ECBT1E223ZF	25V 0.022U	1	
C603	ECEA1AKS221	6.3V 220U	1	
C604	RCE1CKA100BG	16V 10U	1	
C611	ECEA1AKS221	6.3V 220U	1	
C701,02	ECETX1J103WZ	63V 10000U	2	
$\triangle$				
C707,08	ECA1JPXH560E	63V 56U	2	
C709,10	ECQE2334KFW	250V 0.33U	2	
C711	ECQE2104KF3	250V 0.1U	1	
C712	ECBT1H104ZF5	50V 0.1U	1	
C713	ECKR1H103ZF5	50V 0.01U	1	
C714	ECA1EM102	25V 1000U	1	
$\triangle$				
C715,16	ECBT1C103NS5	16V 0.01U	2	
C721	ECEA1EKS100	25V 10U	1	
C722	RCE1CKA100BG	16V 10U	1	
C723	ECA0JM222	6.3V 2200U	1	
C751	ECKWRS102MBC	125V 1000P	1	
$\triangle$				
C762	ECEA1EKS100	25V 10U	1	
C763	RCE1CKA100BG	16V 10U	1	

SE-A909S

Ref. No.	Part No.	Part Name & Description	Pcs.	Remarks
C764	ECA0JM222	6.3V 2200U	1	
C773,74	ECA1HBX3R3B	50V 3.3U	2	
C775	ECA1HPXS470B	50V 47U	1	
C776	ECA1EPXS470B	25V 47U	1	
C777	ECA1JFX470TB	63V 47U	1	
C778	ECA1EPX470TB	25V 47U	1	
C779,80	ECA2APXS100B	100V 10U	2	
C781	ECBT1H102KB5	50V 1000P	1	
C782,83	ECEA1EKS100	25V 10U	2	
C787,88	ECCRIH221J5	50V 220P	2	
C789,90	ECA1HPXS100B	50V 10U	2	
C791,92 △	ECA1VPT102ZE	35V 1000U	2	
C793,94	ECA1HBX3R3B	50V 3.3U	2	
C795-98	ECA1EPXS470B	25V 47U	4	
C799	ECKR2H103ZU	500V 0.01U	1	
C801	ECBT1H104ZF5	50V 0.1U	1	
C802	RCE1CKA100BG	16V 10U	1	
C804	ECBT1H104ZF5	50V 0.1U	1	
C805	RCE1CKA100BG	16V 10U	1	
C807	RCE1CKA100BG	16V 10U	1	
C808-10	ECBT1H104ZF5	50V 0.1U	3	
C821	ECEA1EKS100	25V 10U	1	
C901,02	ECEA1EKN3R3B	25V 3.3U	2	
C903,04	ECEA1HKS2R2	50V 2.2U	2	
C905	RCE1HKA4R7BG	50V 4.7U	1	
C910	RCE1HKA4R7BG	50V 4.7U	1	
C955,56	ECBT1C152JR5	16V 1500P	2	
CN701	RJS1A6606	CONNECTOR (6P)	1	
CN702,03	RJS1A6605	CONNECTOR (5P)	2	
CN704	RJP2G17ZA	CONNECTOR (2P)	1	
CN706	SJS50382JQH	CONNECTOR (3P)	1	
CN707	RJP3G17ZA	CONNECTOR (3P)	1	
CN708	RJS1A6605	CONNECTOR (5P)	1	
CN751-55	RJS1A1101T1	CONNECTOR (1P)	5	
CN761	SJS305-1	CONNECTOR (3P)	1	
CN771-76	RJS1A1101T1	CONNECTOR (1P)	6	
CN778	RJS1A1101T1	CONNECTOR (1P)	1	
CN801A	RJS1A6603	CONNECTOR (3P)	1	
CN801B	RJS1A6605	CONNECTOR (5P)	1	
CN802	RJS1A6607T1	CONNECTOR (7P)	1	
CN803	RJP3G18ZA	CONNECTOR (3P)	1	
CN804	RJU057W007	CONNECTOR (7P)	1	
CN805	RJU057W004	CONNECTOR (4P)	1	
CP706	SJT30345JQ	CONNECTOR (3P)	1	
CP804	RJT057W007-1	CONNECTOR (7P)	1	
CP805	RJT057W004-1	CONNECTOR (4P)	1	
D401,02	MA167	DIODE	2	
D403,04	MA4036M	DIODE	2	
D405,06	MA165	DIODE	2	
D451	MA165	DIODE	1	
D452	MA4056M	DIODE	1	
D453	MA29WA	DIODE	1	
D501,02	MA165	DIODE	2	
D503,04 △	MA4160M	DIODE	2	
D505	MA165	DIODE	1	
D506	1SS291TA	DIODE	1	
D601	MA165	DIODE	1	
D602	MA4068L	DIODE	1	
D603,04	MA165	DIODE	2	
D605	SLR-305VC	LED	1	
D701-04 △	P300DLF	DIODE	4	
D706	MA165	DIODE	1	
D711-14 △	1SR35200TB	DIODE	4	
D721	MA165	DIODE	1	
D762	MA165	DIODE	1	
D771,72 △	MA4220M	DIODE	2	

Ref. No.	Part No.	Part Name & Description	Pcs.	Remarks
D773 △	MA4160M	DIODE	1	
D775,76	MA165	DIODE	2	
D781 △	MA4160M	DIODE	1	
D782	MA165	DIODE	1	
D791-94 △	1SR35200TB	DIODE	4	
D795,96 △	MA4140M	DIODE	2	
D797,98	MA165	DIODE	2	
D801	SLR-305VC	LED	1	
D802,03	MA165	DIODE	2	
D806	MA165	DIODE	1	
D807,08	SLR-305VC	LED	2	
D809-12	MA165	DIODE	4	
D821	MA167	DIODE	1	
D822-26	MA165	DIODE	5	
D901	MA165	DIODE	1	
D902 △	MA4100M	DIODE	1	
D903-06	MA165	DIODE	4	
D907 △	MA4100M	DIODE	1	
D911,12	MA165	DIODE	2	
D914	MA165	DIODE	1	
D917	MA165	DIODE	1	
F1 △	XBA2C31TB0	FUSE	1	
IC401	AN7062N	IC	1	
IC501 △	SVI3205B	IC	1	
IC502	RSN6000B	IC	1	
IC721 △	AN78L05TA	IC	1	
IC761 △	AN78L05TA	IC	1	
IC785	NJM4580DD	IC	1	
IC801,02	UPD4027BC	IC	2	
IC803	ON3131R	IC	1	
IC901	BA6138	IC	1	
IC902	M5218AP	IC	1	
JK1 △	SJS9236	JACK, AC INLET	1	
JK401	SJF3068-7N	JACK, INPUT	1	
JK501	RJH4801M-2	JACK, SPEAKERS	1	
JK502	RJJ63TA01	JACK, HEADPHONES	1	
JK601	RJS1A7402-1	JACK, FAN MOTOR	1	
JK791	RJS1D0706	JACK, CONTROL	1	
JK801	RJJ33T01	JACK, CONTROL OUT	1	
L1 △	RLQZ371	COIL	1	
L401,02	RLQA100JT-Y	COIL	2	
L403	BL02RN1R62T2	COIL	1	
L501-04	SLQY18G-10	COIL	4	
L791-97	ELEXT1R0KA9	COIL	7	
P1	RPQ0164	PAD	1	
P2	RPF0139	PROTECTION COVER	1	
P3	RPG4513	PACKING CASE	1	
P4	RPN1205	PAD	1	
P5	SPP730	PROTECTION COVER	1	
P6	RPH0032	MIRROR SHEET	1	(EB)
PCB1	REP2876A-M	MAIN PCB	1	(RTL)
PCB2	REP2877AA-S	BATTERY PCB	1	(E, EG) (RTL)
PCB2	REP2877BA-S	POWER SUPPLY PCB	1	(EB) (RTL)
PCB3 △	REP2877AB-S	CONT ASSEM PCB	1	(E, EG) (RTL)
PCB3 △	REP2877BB-S	CONT ASSEM PCB	1	(EB) (RTL)

Ref. No.	Part No.	Part Name & Description	Pcs.	Remarks
PL901-10	XAMR131	LUMP	10	
Q401,02	2SA992F	TRANSISTOR	2	
Q451,52	2SC1845F	TRANSISTOR	2	
Q453,54	2SC3311AR	TRANSISTOR	2	
Q455,56	2SA1309AR	TRANSISTOR	2	
Q501-03	2SA992F	TRANSISTOR	3	
Q543	2SA1309AR	TRANSISTOR	1	
Q601,02	2SC3311AR	TRANSISTOR	2	
Q603	2SC3940AQSTA	TRANSISTOR	1	
Q604-06	2SC3311AR	TRANSISTOR	3	
Q611,12	2SC3311AR	TRANSISTOR	2	
Q701	2SC3311AR	TRANSISTOR	1	
Q771 △	2SK330GRYTA	TRANSISTOR	1	
Q772 △	2SJ105GRYTA	TRANSISTOR	1	
Q773 △	2SC1845F	TRANSISTOR	1	
Q774 △	2SA992F	TRANSISTOR	1	
Q781 △	2SD2374PQAU	TRANSISTOR	1	
Q791 △	2SK330GRYTA	TRANSISTOR	1	
Q792 △	2SJ105GRYTA	TRANSISTOR	1	
Q793 △	2SC3940AQSTA	TRANSISTOR	1	
Q794 △	2SA1534AQRTA	TRANSISTOR	1	
Q801,02	UN4215	TRANSISTOR	2	
Q803,04	UN4111	TRANSISTOR	2	
Q806,07	UN4111	TRANSISTOR	2	
Q808	2SA1309AR	TRANSISTOR	1	
Q809	2SC3311AR	TRANSISTOR	1	
Q810	UN4111	TRANSISTOR	1	
Q811	2SA992F	TRANSISTOR	1	
Q822	UN4215	TRANSISTOR	1	
Q825	UN4111	TRANSISTOR	1	
Q906	2SC3311AR	TRANSISTOR	1	
Q907	2SA1309AR	TRANSISTOR	1	
R401,02	ERDS2FJ122	1/4W 1.2K	2	
R403,04	ERDS2FJ823	1/4W 82K	2	
R405,06	ERDS2FJ272	1/4W 2.7K	2	
R407,08	ERDS2FJ823	1/4W 82K	2	
R411,12	ERDS2FJ470	1/4W 47	2	
R437	ERDS2FJ473	1/4W 47K	1	
R457	ERDS2FJ183	1/4W 18K	1	
R459,60	ERDS2FJ101	1/4W 100	2	
R461-64	ERDS2FJ333	1/4W 33K	4	
R465-68	ERDS2FJ101	1/4W 100	4	
R469	ERDS2FJ103	1/4W 10K	1	
R470	ERDS2FJ102	1/4W 1K	1	
R471,72	ERDS2FJ561	1/4W 560	2	
R491,92	ERDS2FJ823	1/4W 82K	2	
R501,02	ERDS2FJ362	1/4W 3.6K	2	
R503,04	ERDS2FJ121	1/4W 120	2	
R505,06	ERDS2FJ392	1/4W 3.9K	2	
R507,08	ERDS2FJ121	1/4W 120	2	
R509,10	ERDS2FJ101	1/4W 100	2	
R513-16	ERDS2FJ100	1/4W 10	4	
R519,20	ERX1SJ3R3	1W 3.3	2	
R521,22 △	ERDS1FJ100	1/2W 10	2	
R527	ERDS2FJ223	1/4W 22K	1	
R528	ERDS2FJ684	1/4W 680K	1	
R529	ERDS2FJ124	1/4W 120K	1	
R530 △	ERDS1FJ472	1/2W 4.7K	1	
R531,32 △	ERDS1FJ100	1/2W 10	2	
R533,34	ERDS2FJ103	1/4W 10K	2	
R535	ERDS2FJ562	1/4W 5.6K	1	

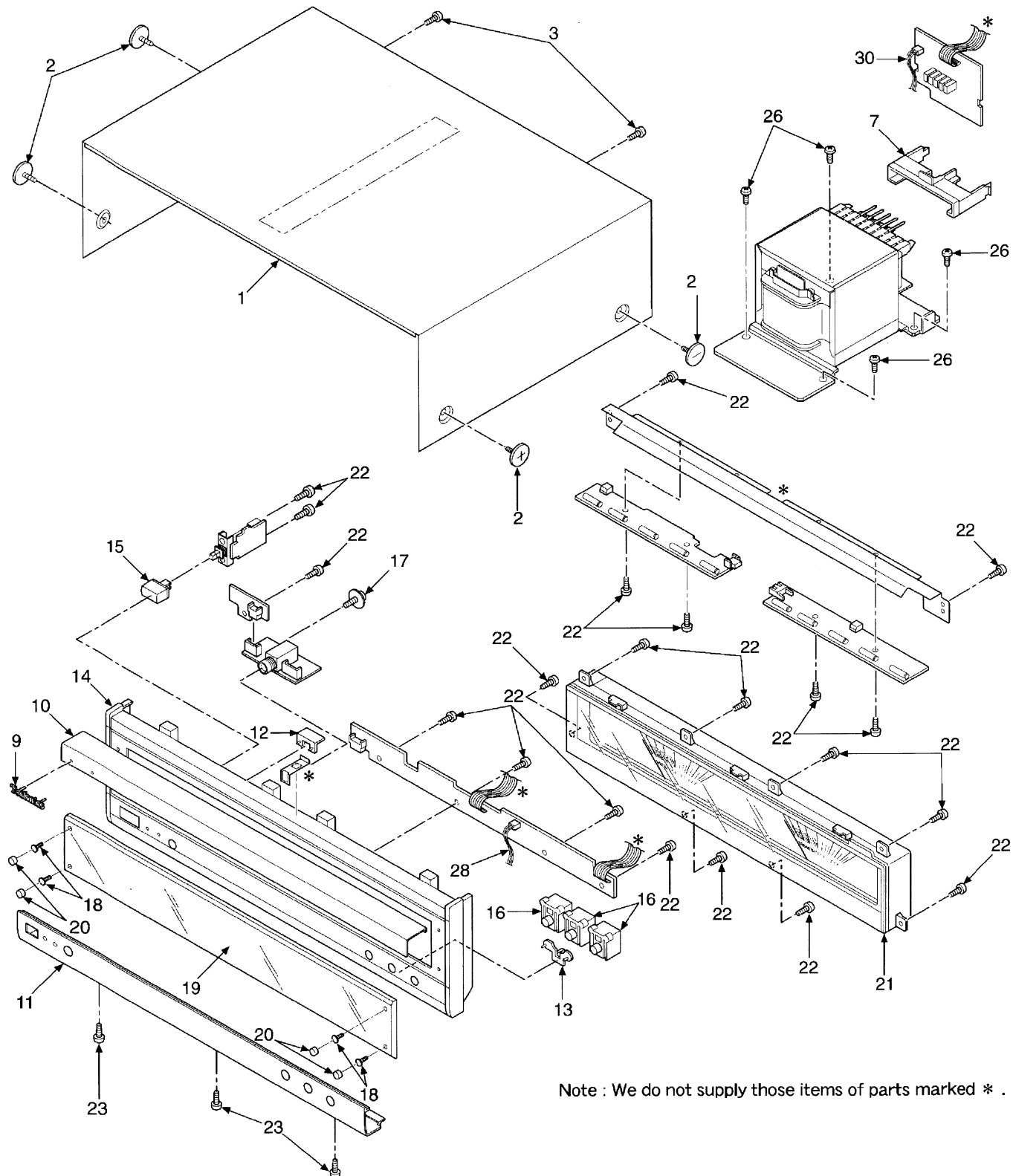
Ref. No.	Part No.	Part Name & Description	Pcs.	Remarks
R536	ERDS2FJ470	1/4W 47	1	
R537	ERDS2FJ101	1/4W 100	1	
R544	ERDS2FJ103	1/4W 10K	1	
R545	ERDS2FJ823	1/4W 82K	1	
R550,51	ERDS2FJ222	1/4W 2.2K	2	
R555-58	ERG1SJ681	1W 680	4	
R559	ERG1SJ152	1W 1.5K	1	
R560	ERG1SJ182	1W 1.8K	1	
R561,62	ERG1SJ151	1W 150	2	
R563,64	ERG1SJ181	1W 180	2	
R565-70	ERDS2FJ223	1/4W 22K	6	
R577,78	ERDS2FJ682	1/4W 6.8K	2	
R601-04	ERDS2FJ223	1/4W 22K	4	
R605	ERDS2FJ473	1/4W 47K	1	
R606	ERDS2FJ104	1/4W 100K	1	
R607	ERDS2FJ103	1/4W 10K	1	
R608	ERDS2FJ223	1/4W 22K	1	
R609	ERDS2FJ332	1/4W 3.3K	1	
R610	ERDS2TJ335T	1/4W 3.3M	1	
R611	ERDS2FJ473	1/4W 47K	1	
R612	ERDS2FJ153	1/4W 15K	1	
R613	ERDS2FJ473	1/4W 47K	1	
R614	ERDS2FJ683	1/4W 68K	1	
R615	ERDS2FJ103	1/4W 10K	1	
R616 △	ERDS1FJ220	1/2W 22	1	
R617	ERDS2FJ222	1/4W 2.2K	1	
R618	ERDS2FJ103	1/4W 10K	1	
R621	ERDS2FJ223	1/4W 22K	1	
R622	ERDS2FJ100	1/4W 10	1	
R623	ERDS2FJ823	1/4W 82K	1	
R701 △	ERDS2FJ100	1/4W 10	1	
R702	ERDS2FJ222	1/4W 2.2K	1	
R707,08	ERDS2FJ688	1/4W 6.8	2	
R721	ERDS2FJ221	1/4W 220	1	
R763	ERDS2FJ221	1/4W 220	1	
R771	ERDS2FJ470	1/4W 47	1	
R772	ERDS2FJ121	1/4W 120	1	
R773	ERDS2FJ332	1/4W 3.3K	1	
R774	ERDS2FJ103	1/4W 10K	1	
R775,76	ERDS2FJ105	1/4W 1M	2	
R781 △	ERDS1FJ472	1/2W 4.7K	1	
R782,83 △	ERDS1FJ560	1/2W 56	2	
R787,88	ERDS2FJ102	1/4W 1K	2	
R789,90	ERDS2FJ333	1/4W 33K	2	
R791,92	ERDS2FJ1R0	1/4W 1	2	
R793,94	ERDS2FJ103	1/4W 10K	2	
R795,96	ERDS2FJ105	1/4W 1M	2	
R801	ERDS2FJ221	1/4W 220	1	
R802	ERDS2FJ562	1/4W 5.6K	1	
R803,04	ERDS2FJ223	1/4W 22K	2	
R806	ERDS2FJ391	1/4W 390	1	
R807,08	ERDS2FJ223	1/4W 22K	2	
R809	ERDS2FJ823	1/4W 82K	1	
R810,11	ERDS2FJ223	1/4W 22K	2	
R812	ERDS2FJ391	1/4W 390	1	
R813-15	ERDS2FJ223	1/4W 22K	3	
R816	ERDS2FJ222	1/4W 2.2K	1	
R817	ERDS2FJ103	1/4W 10K	1	
R821	ERDS2FJ103	1/4W 10K	1	
R822	ERDS2FJ222	1/4W 2.2K	1	
R823	ERDS2FJ562	1/4W 5.6K	1	
R824	ERDS2FJ154	1/4W 150K	1	
R825	ERDS2FJ223	1/4W 22K	1	
R826	ERDS2FJ102	1/4W 1K	1	
R828,29	ERG1SJ182	1W 1.8K	2	
R830	ERDS2FJ472	1/4W 4.7K	1	
R831	ERDS2FJ683	1/4W 68K	1	
R854	ERDS2FJ391	1/4W 390	1	
R901,02 △	ERDS1FJ472	1/2W 4.7K	2	
R903,04	ERDS2FJ271	1/4W 270	2	

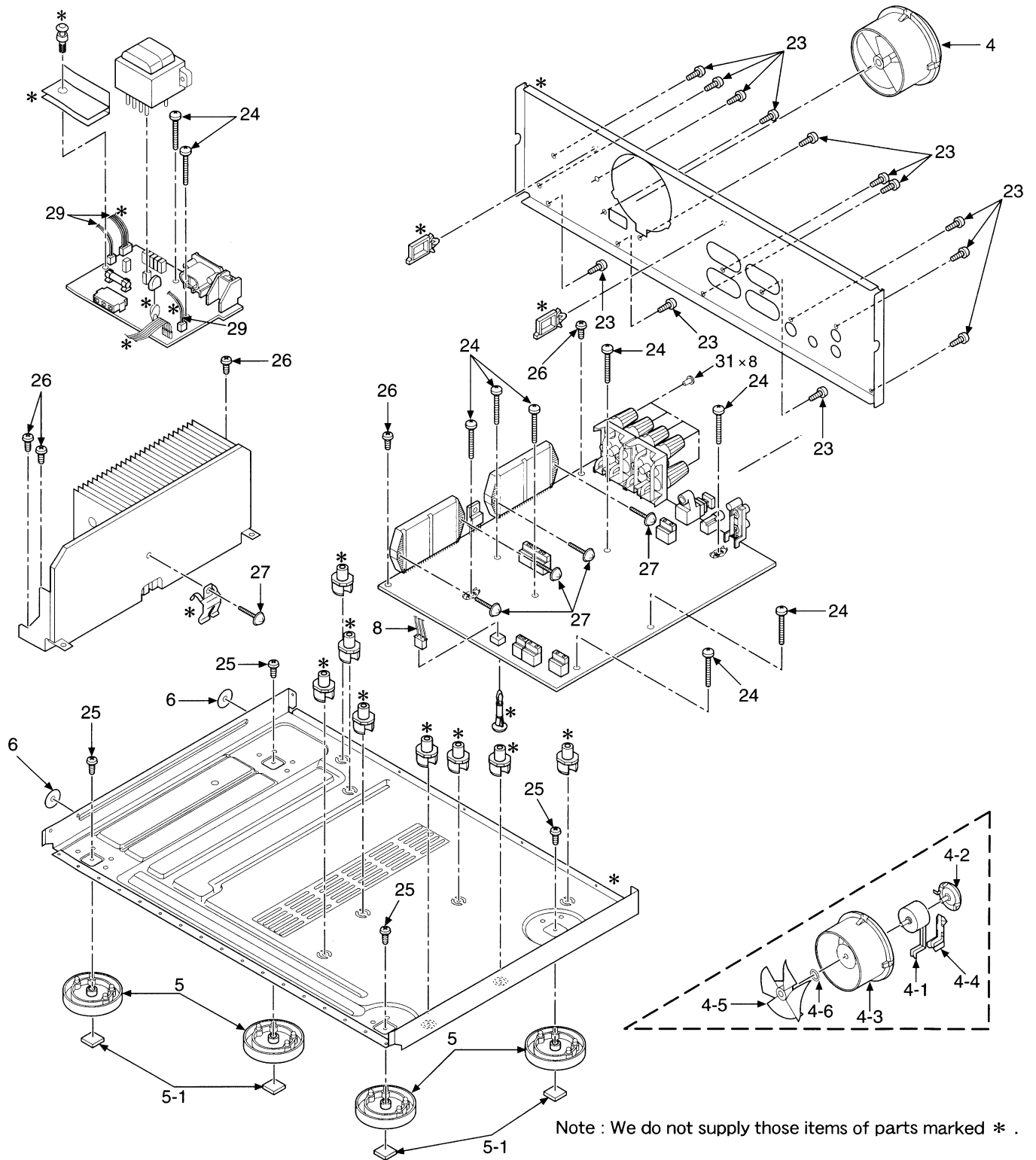
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Ref. No.	Part No.	Part Name & Description	Pcs.	Remarks
R905,06	ERDS2TJ155	1/4W 1.5M	2	
R907,08	ERDS2FJ682	1/4W 6.8K	2	
R909,10	ERDS2FJ103	1/4W 10K	2	
R911,12	ERDS2FJ821	1/4W 820	2	
R915	ERDS2FJ103	1/4W 10K	1	
R916	ERDS2FJ104	1/4W 100K	1	
R921,22	ERDS2FJ123	1/4W 12K	2	
R923,24	ERDS2FJ154	1/4W 150K	2	
R925,26	ERDS2FJ223	1/4W 22K	2	
R927,28	ERDS2FJ102	1/4W 1K	2	
R929,30	ERDS2FJ121	1/4W 120	2	
R931-36	ERG1SJ681	1W 680	6	
R947,48	ERDS2FJ103	1/4W 10K	2	
R949,50	ERDS2FJ223	1/4W 22K	2	
RL503,02 △	RSY0013M-0	RELAY	2	

Ref. No.	Part No.	Part Name & Description	Pcs.	Remarks
RL503,04 △	RSY0031-A	RELAY	2	
RL701 △	RSY0019M-0	RELAY	1	
S801 △	RSP2B023-A	SW, POWER	1	
S802-04	EVQ21405R	SW, PUSH	3	
T1 △	RTP1P5B005	POWER TRANSFORMER	1	
T701 △	RTP1J5B001	POWER TRANSFORMER	1	
TH901,02	ERTD2ZHL104T	THERMISTOR	2	
VR909,10	EVNDXAA00B23	VR, POWER METER ADJ.	2	

14 Cabinet Parts Location





15 Packaging

