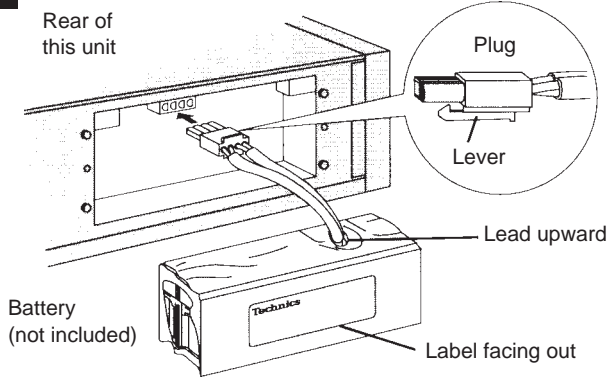
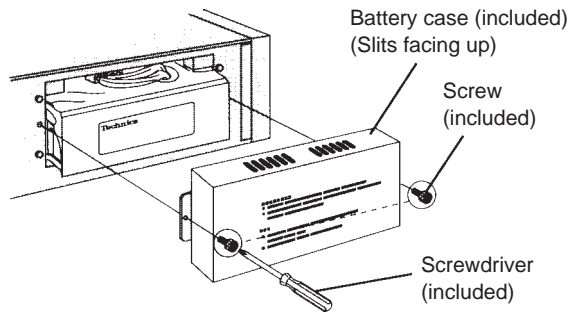
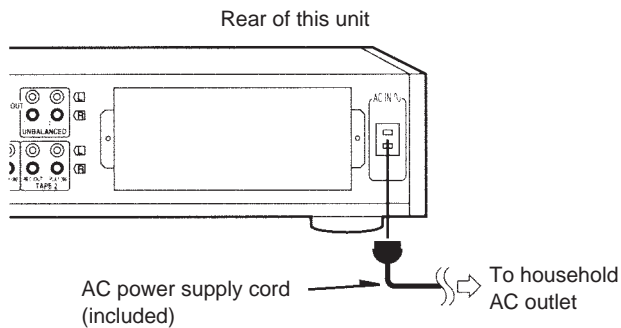
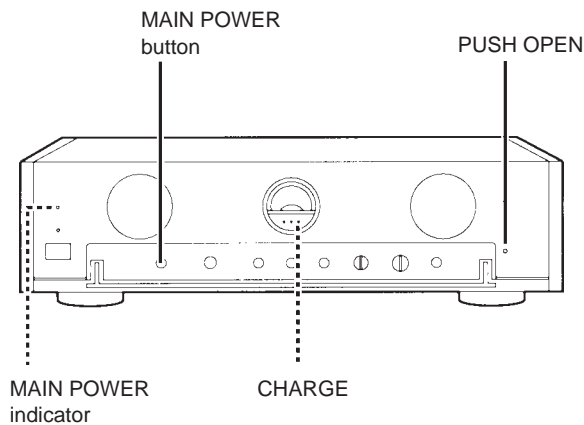


1**2****3****4**

(For United Kingdom only)
BE SURE TO READ THE CAUTION FOR THE AC MAINS LEAD ON PAGE 3 BEFORE CONNECTION.

The battery takes 12 hours to fully charge. Before connection to other components, follow steps **1** to **4** so that the battery starts charging immediately.

Ensure [MAIN POWER] is off when installing or removing the battery.

1 Insert the plug of the battery into the jack inside the battery compartment.

To disconnect the plug

Lift the lever and pull.

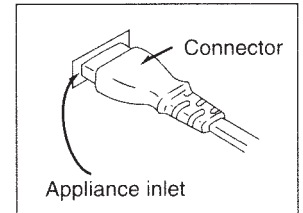
2 Put the battery into the compartment and attach the case with the two screws.

3 Connect the AC power cord.

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.



4 Turn the MAIN POWER on.

- ① Press [PUSH OPEN] to open the cover panel.
- ② Press [MAIN POWER] button to select **ON**.
( → )

MAIN POWER indicator lights up.

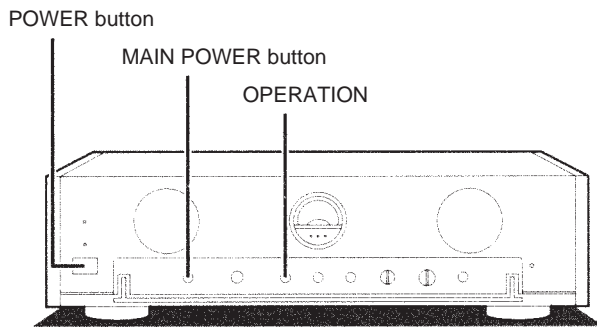
Charging of the battery starts.

The CHARGE indicator lights while the battery is charging and goes out when fully charged.

Now carry out the connections and operations on the following pages, leaving MAIN POWER ON to charge the battery.

Note

For your safety, POWER should be left standby until all other connections are complete.



Battery power and this unit's power system

Recently, audio makers have been looking at the polarity of the power cords used with systems in an effort to reduce noise caused by power sources as much as possible. Batteries are independent from AC power sources and so noise caused by power transfer is cut, making them the ideal source for audio equipment.

This unit uses a 2×12 V 2.2 Ah sealed lead-acid battery for better sound quality.

Features

The battery is charging whenever MAIN POWER is on and DC is not selected as the power source. This means recharging takes no extra trouble.

Normal on/standby operation is done with the POWER button, and switching between AC and DC operation is done with OPERATION.

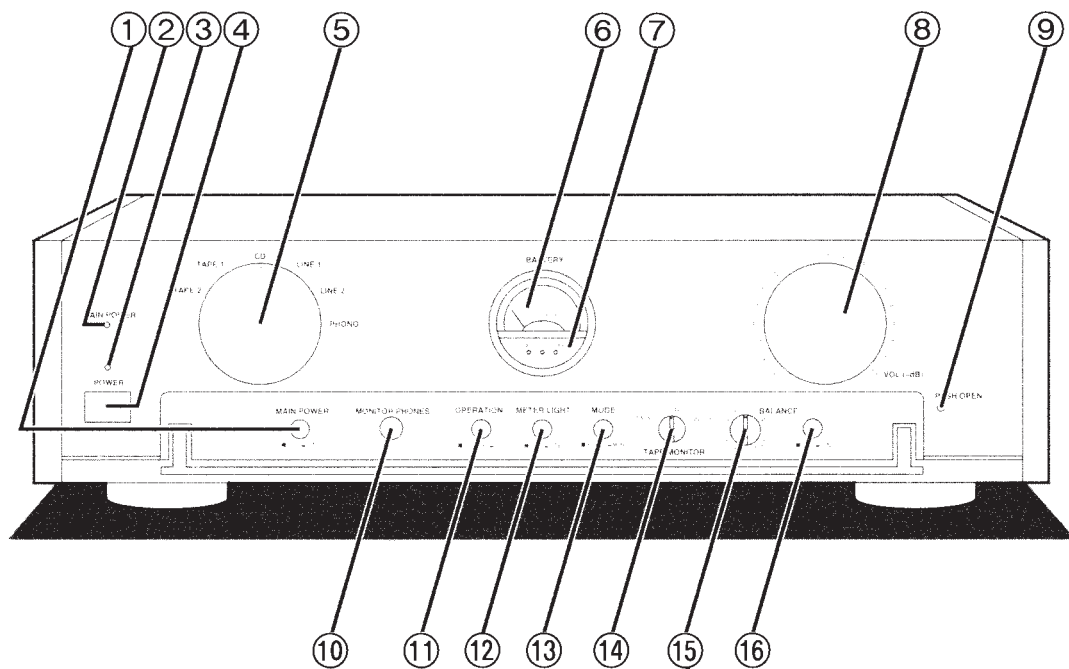
Note

Observe the following points for your safety and to keep the battery performing well for as long as possible.

- The battery used is a lead acid battery. It differs from regular Ni-Cd rechargeable batteries in that if it is fully discharged, recharging may be impossible. Ensure that the battery is recharging whenever it is not being used, leave MAIN POWER ON and switch to AC power after finishing with the battery. There is no danger of over-charging the battery.
- Avoid overheating.
If the unit is to be used in a rack, leave the rear of the rack open, leave some space between the unit and the wall, and allow sufficient ventilation.
- If you decide not to use the battery, fully recharge it, remove it from the unit, and store it in a cool, dry place. The battery still naturally discharges in this condition, so every 6 months reconnect to the unit and recharge it.
- If the unit itself is not to be used for a long period, fully recharge the battery, switch MAIN POWER off, and unplug the power cord from the outlet (recharging is unnecessary for a month if this is done). Recharge the battery again before use.

Replacing the battery

If effective life of the battery reduces to about 3–4 hours even after being fully recharged, the battery is approaching the end of its serviceable life.

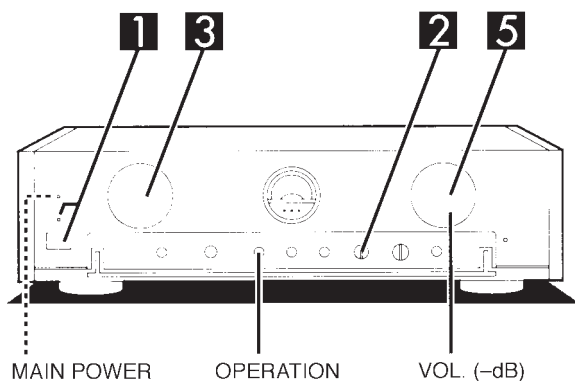


No.	Name
-----	------

- ① **Main power switch**
[MAIN POWER, OFF ON]
- ② **Main power indicator [MAIN POWER]**
Lights when [MAIN POWER] is on (), indicating the unit is in standby mode. Recharging begins if the rechargeable battery is connected and its voltage is low. While this indicator is lit, pressing [POWER] switches the unit between on and standby.
- ③ **Power indicator [POWER]**
- ④ **Power “ STANDBY ON ” switch**
[POWER, STANDBY ON]
Press to switch the unit from on to standby mode and vice versa when [MAIN POWER] is on. In standby mode, the unit is still consuming a small amount of power.
- ⑤ **Input selector**
- ⑥ **Voltage meter [BATTERY]**

No.	Name
-----	------

- ⑦ **Operation indicators [AC, DC, CHARGE]**
AC: Lights when operating on AC power.
DC: Lights when operating on the battery.
CHARGE: Lights when battery is charging.
- ⑧ **Volume control [VOL. (-dB)]**
- ⑨ **Panel open button [PUSH OPEN]**
Press to open the panel.
Close by hand.
- ⑩ **Headphone jack [MONITOR PHONES]**
- ⑪ **AC/DC operation button [OPERATION]**
- ⑫ **Voltage meter light button [METER LIGHT]**
- ⑬ **Mode selector [MODE]**
- ⑭ **Tape-monitor selector [TAPE MONITOR]**
- ⑮ **Balance control [BALANCE]**
- ⑯ **Balance control ON-OFF button**
[OFF ON]



Preparations:

- Check the MAIN POWER indicator is illuminated.
- Set the volume control [VOL. (-dB)] to the "∞" position.

1 Press [POWER] button to select **ON**.
POWER indicator lights up.
Next, switch on the power of the power amplifier.

2 Turn [TAPE MONITOR] to select **SOURCE**.

3 Turn the selector to select the desired **source**.

TAPE 2: Set to this position to listen to tapes from the tape deck connected to the TAPE 2 terminals.

TAPE 1: Set to this position to listen to tapes from the tape deck connected to the TAPE 1 terminals.

CD: Set to this position to listen to compact discs from the CD player (or CD changer) connected to the CD terminals.

LINE 1: Set to this position to listen to equipment connected to the LINE 1 terminals.

LINE 2: Set to this position to listen to equipment connected to the LINE 2 terminals.

PHONO: Set to this position to listen to phono discs from the turntable connected to the PHONO terminals.

4 **Start the desired source.**
Refer to the appropriate operating instructions for details.

5 **Adjust the volume.**

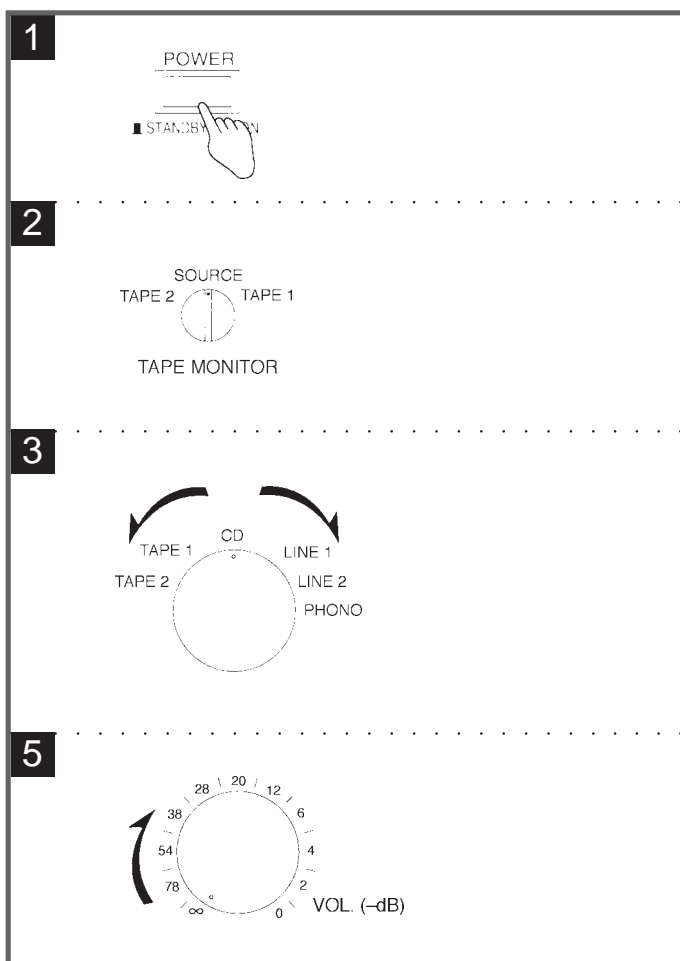
After you are finished

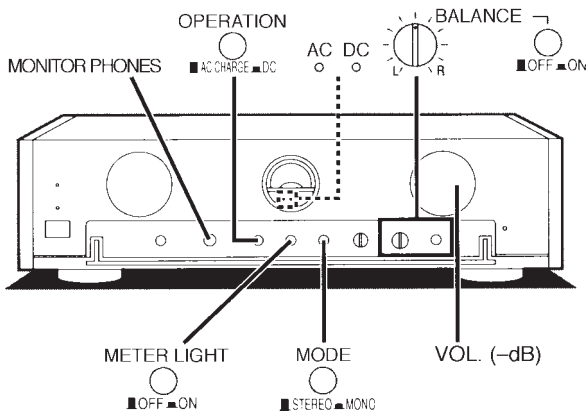
1. Set the volume control [VOL. (-dB)] to the "∞" position.
2. Turn off the power of the power amplifier.
3. Turn the POWER to this and the other units off.

When using a timer, OPERATION should be left in the **AC/CHARGE** position.

Note

MAIN POWER should normally be left on when POWER is turned off.





Switching between AC and DC operation A

AC operates the unit on regular household power, DC operates the unit by the battery.

To change to DC

Press [OPERATION] to select DC.
DC indicator illuminates.

To change to AC

Press [OPERATION] to select AC/CHARGE.
AC indicator illuminates.

Ensure AC/CHARGE is selected if the battery is not installed.

Sound is interrupted for about 3 seconds when the power source is changed.

A fully charged battery can operate the unit for a maximum of 6 hours.

The unit automatically switches to AC when battery voltage falls below about 10.5 V.

To adjust the sound balance B

- ① Press [BALANCE] button to select ON.
- ② Turn [BALANCE] control to adjust the left/right sound balance.

When balance adjustments are unneeded

Press [BALANCE] button to select OFF.

To listen in the monaural mode C

Press [MODE] to select MONO.

The left and right sounds will be mixed, and the same sounds will be heard from both speakers.

Leave [MODE] in the STEREO position for normal operation.

To listen through headphones D

- ① Set the volume control [VOL. (-dB)] to the "∞" position.
- ② Connect the headphones.
Plug type: 6.3 mm stereo
- ③ Adjust the volume.

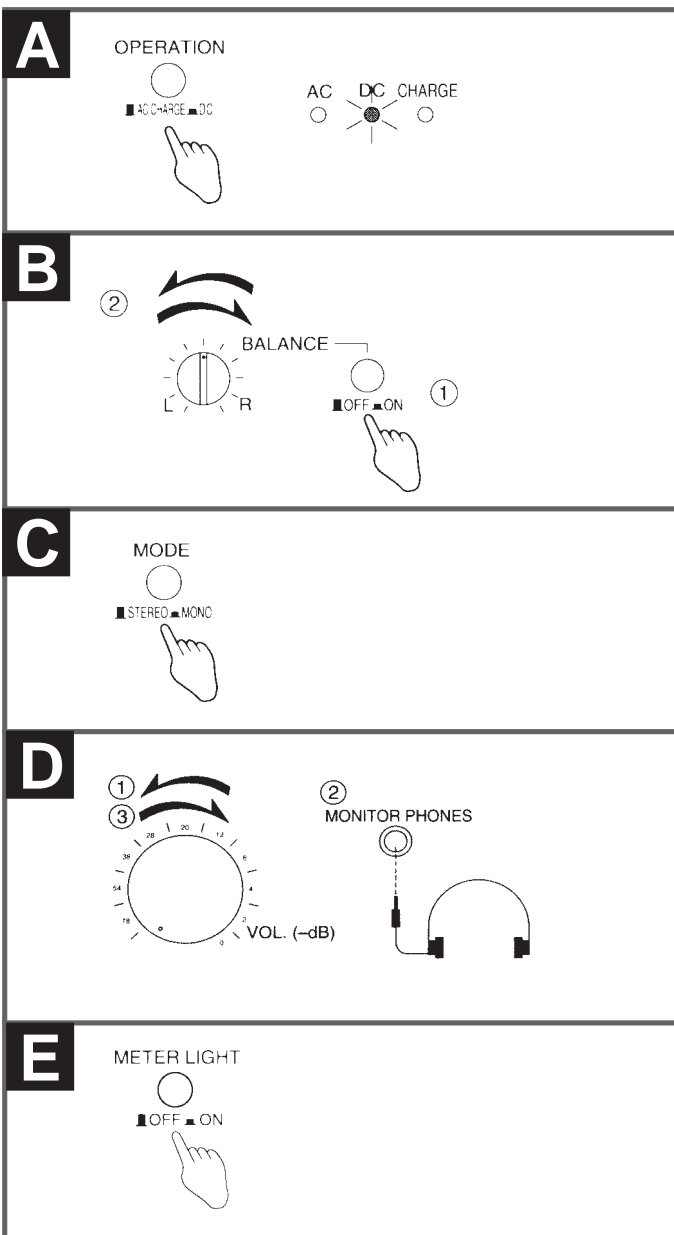
Note

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

To turn on the meter light E

Press [METER LIGHT].

Press again to turn off.



To check the power source and charging condition

The voltage meter and operation indicators allow you to check the power source being used and the charging condition of the battery.

The following apply when MAIN POWER is ON.



Charging ①

POWER is standby and the battery is recharging.
The needle remains still.

AC source, charging ②

The unit is operating on AC power and the needle indicates the charge in the battery.

This occurs in the following two situations.

- OPERATION is in the  AC/CHARGE position.
- OPERATION is in the  DC position but the unit switched to recharging because the battery charge fell below 10.5 V.

Operating on AC ③

The unit is operating on AC and the battery is fully charged.
(No volts are being used for charging so the needle remains still.)

The same condition occurs if the battery is not installed.

Operating on DC ④

The unit is operating by battery.

The needle is in the green zone, indicating the charge in the battery.

The unit switches to AC source, charging ② when the voltage falls below 10.5 V. See "When battery voltage falls below 10.5 V" below.

Not operating or charging ⑤

POWER is standby and the battery is fully charged.

When battery voltage falls below 10.5 V

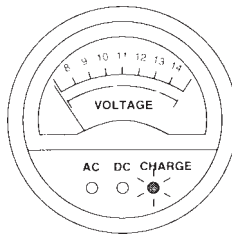
- There is some variation in the needle indication. For this reason, the needle may not exactly indicate 10.5 V when the unit automatically switches from DC to AC.
- It takes approximately 12 hours for the battery to fully charge. The unit cannot be operated on DC during this time. The indicators change to ③ or ⑤ when charging is complete.

For your reference

- The battery takes approximately 12 hours to charge irrespective of the charge left in the battery when charging starts. If you begin charging before the battery falls below 10.5 V, then you can use DC power before the battery has completely charged.
- When the battery is approaching full charge, the needle fluctuates in the area between 13.5 V and the upper limit (when POWER is ON). This occurs because charging is nearly finished and does not indicate a malfunction.

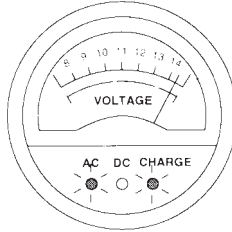
①

BATTERY



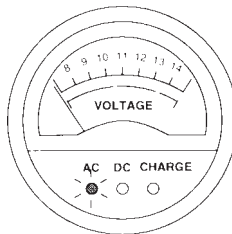
②

BATTERY



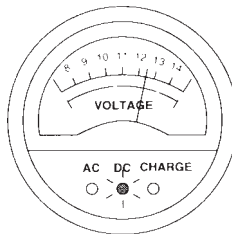
③

BATTERY



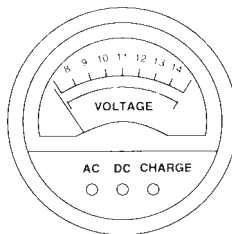
④

BATTERY



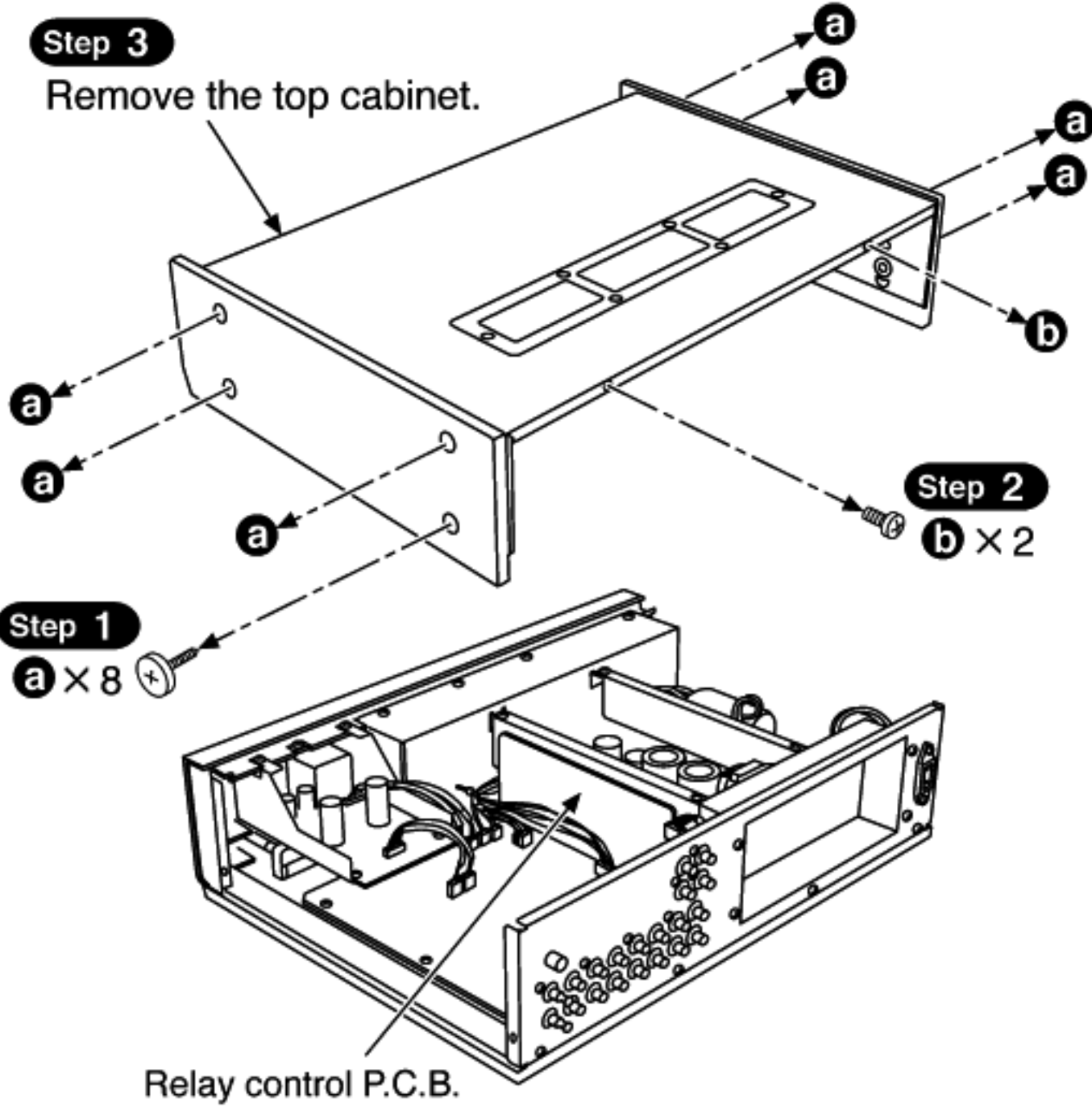
⑤

BATTERY

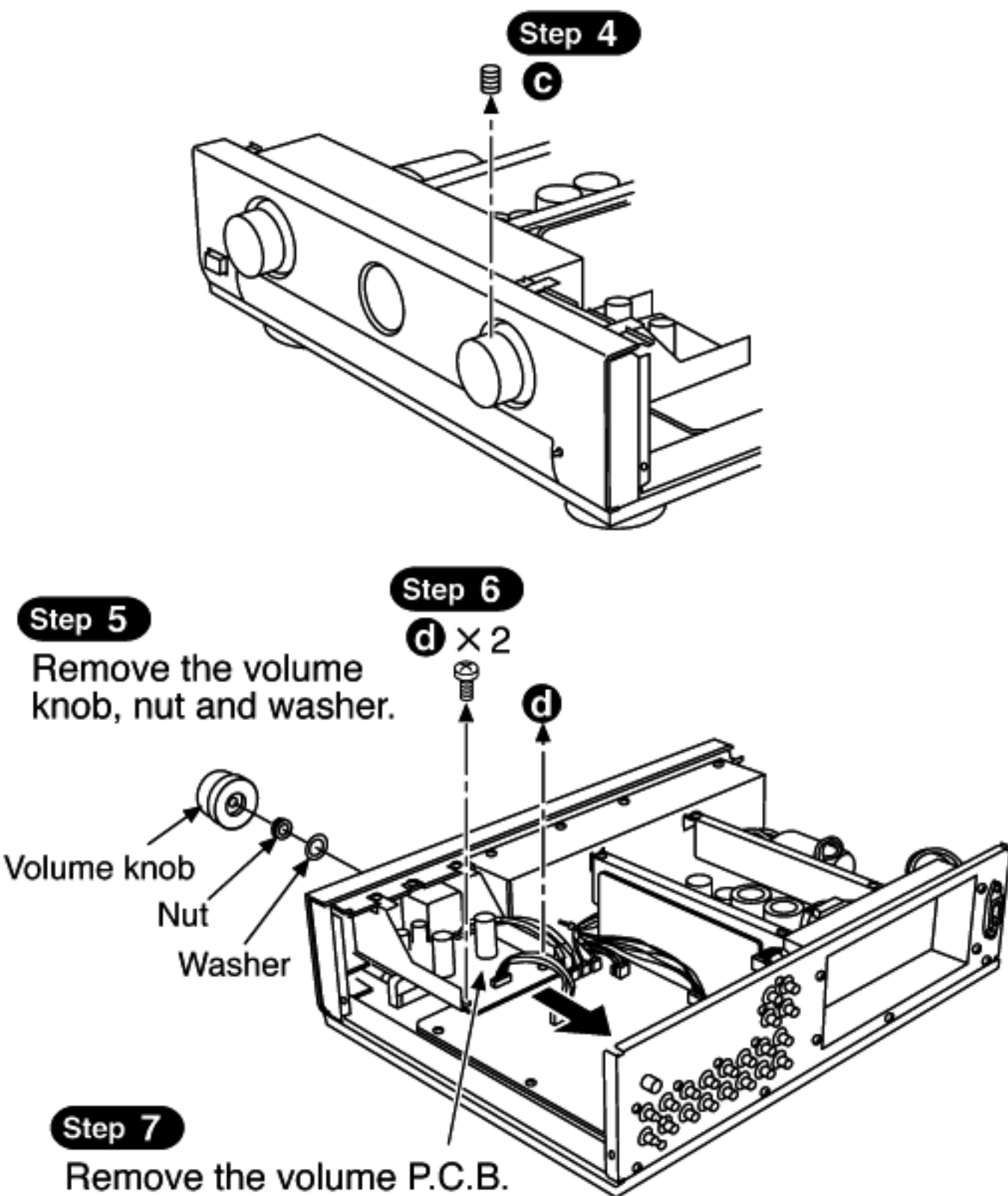


- NOTE** 1. This section describes procedures for checking the operation of the major printed circuit boards and replacing the main components.
2. For reassembly after operation checks or replacement, reverse the respective procedures. Special reassembly procedures are described only when required.

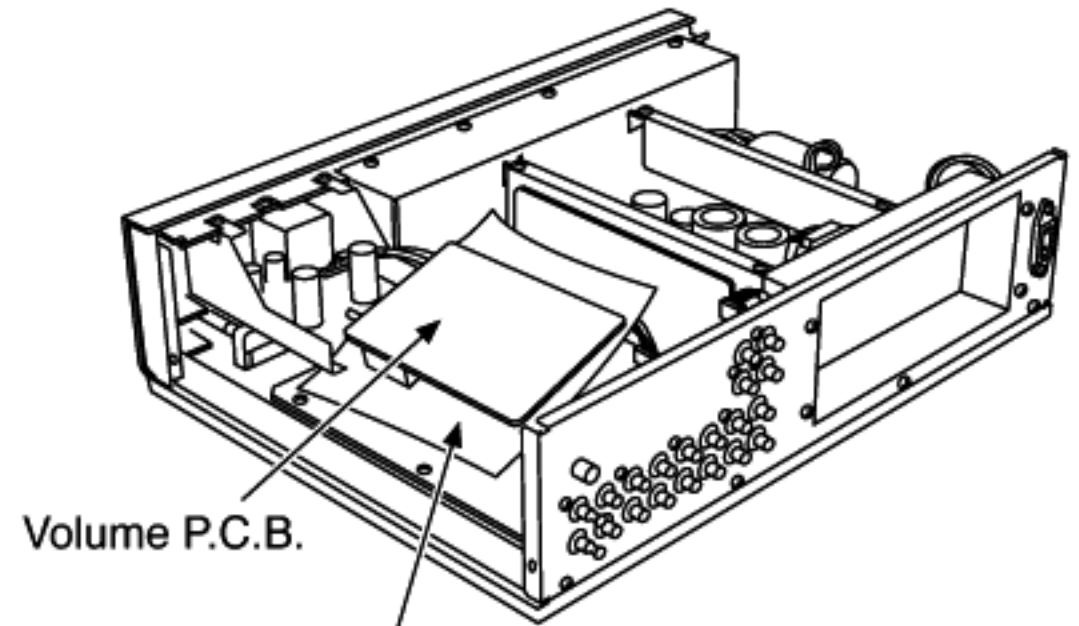
1. Checking for the relay control P.C.B., volume P.C.B. and main P.C.B.



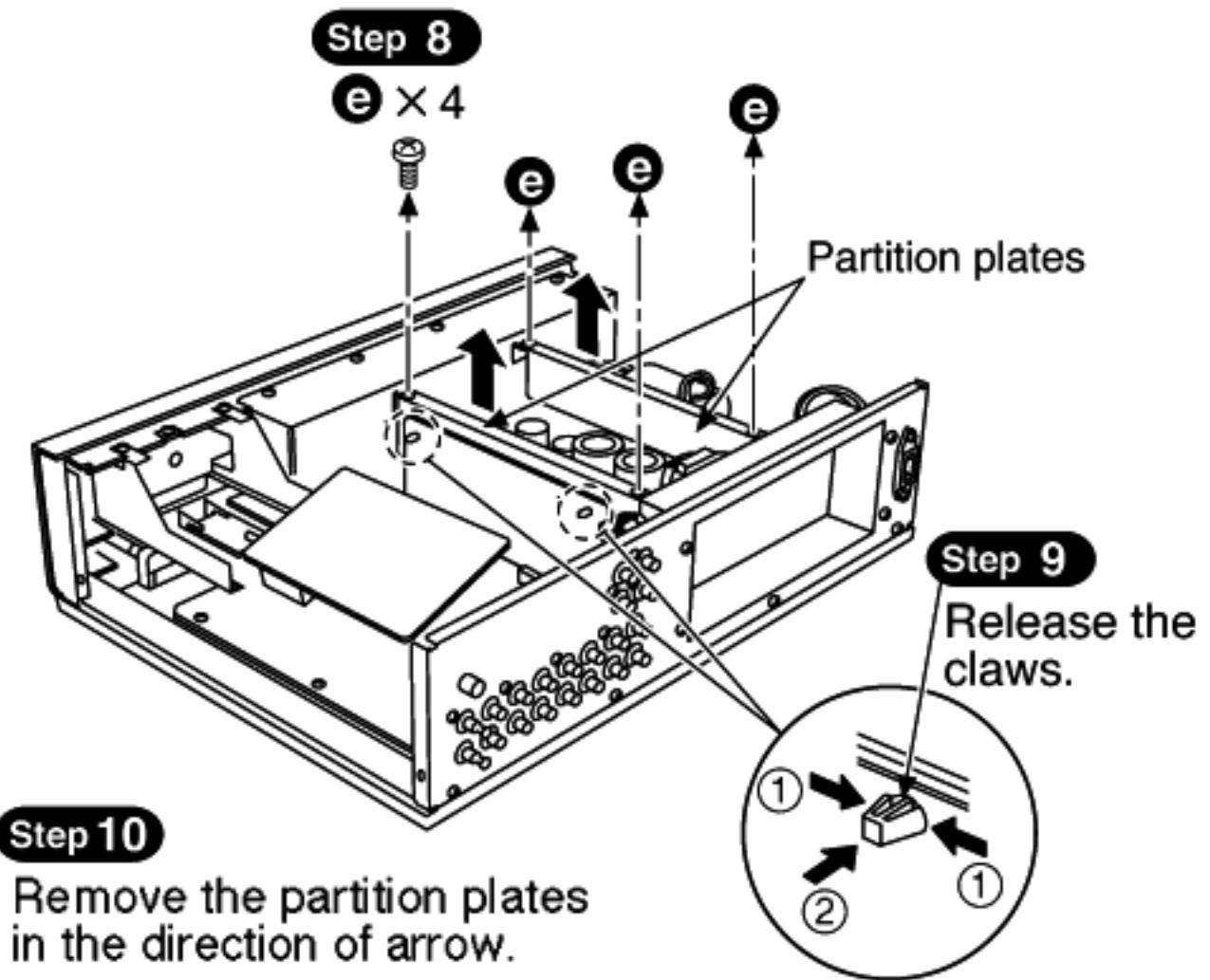
· Check the relay control P.C.B. as shown above.



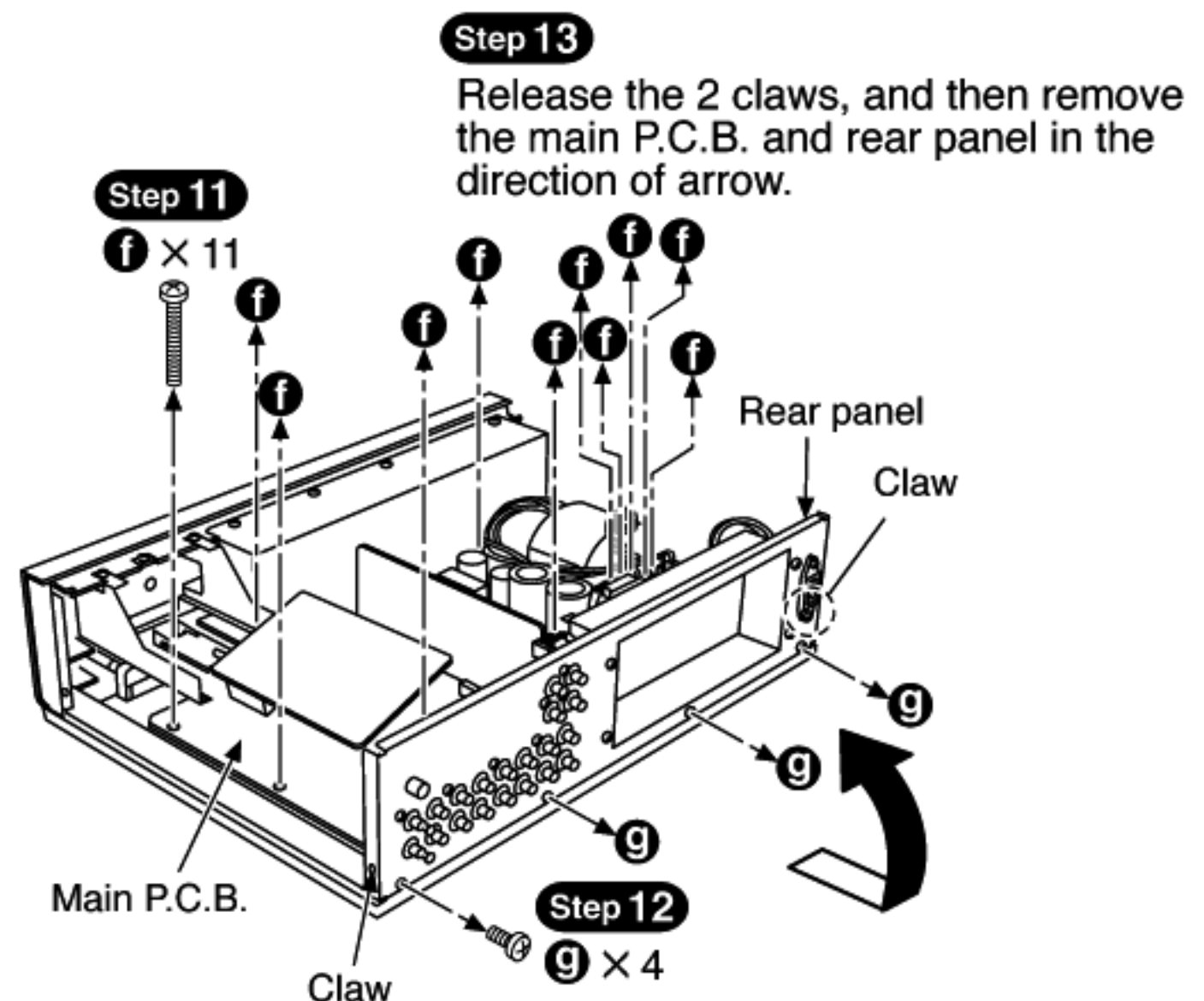
· Check the volume P.C.B. as shown below.



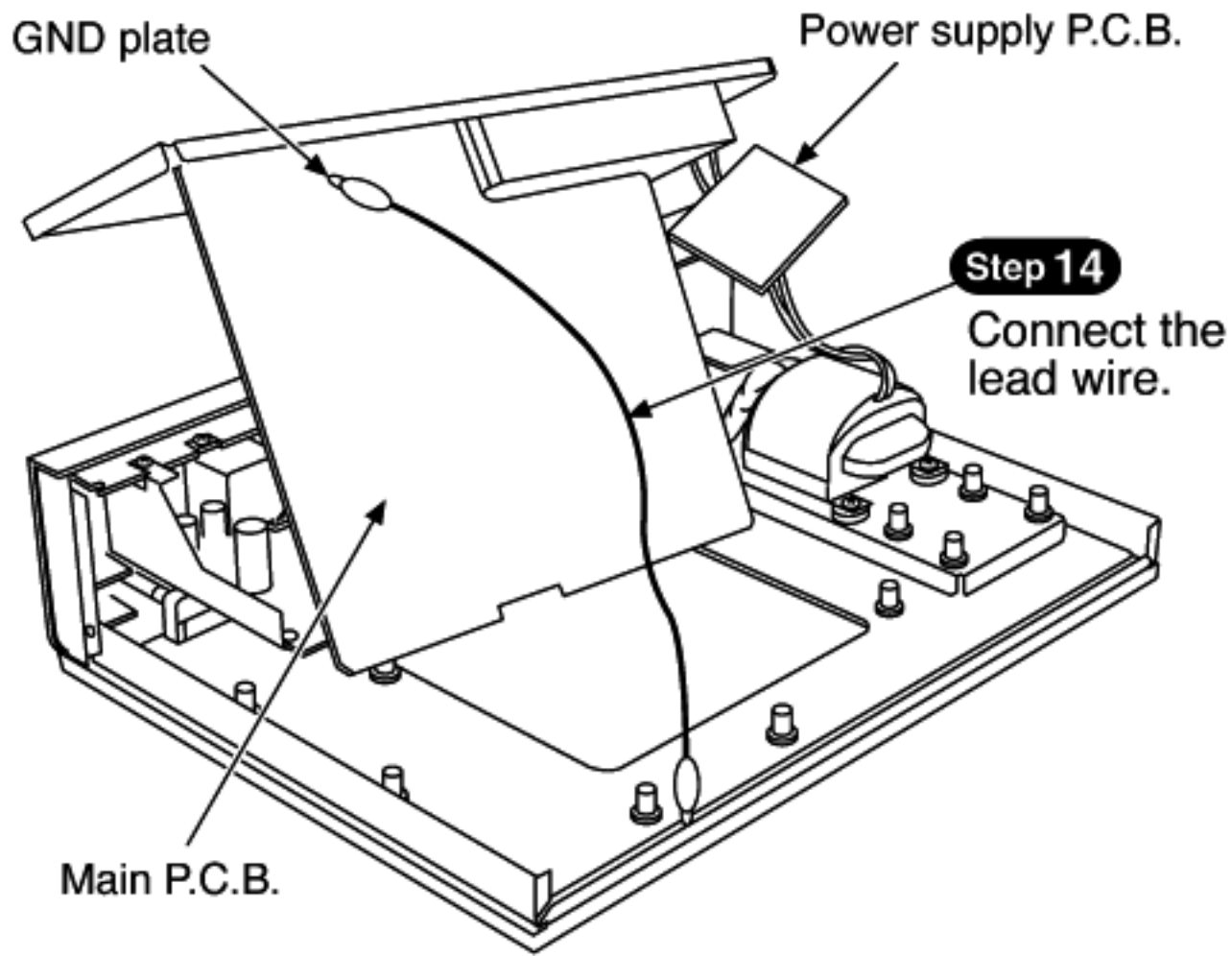
NOTE
Insulate volume P.C.B. with insulation material to avoid short-circuit.



Step 10
Remove the partition plates in the direction of arrow.

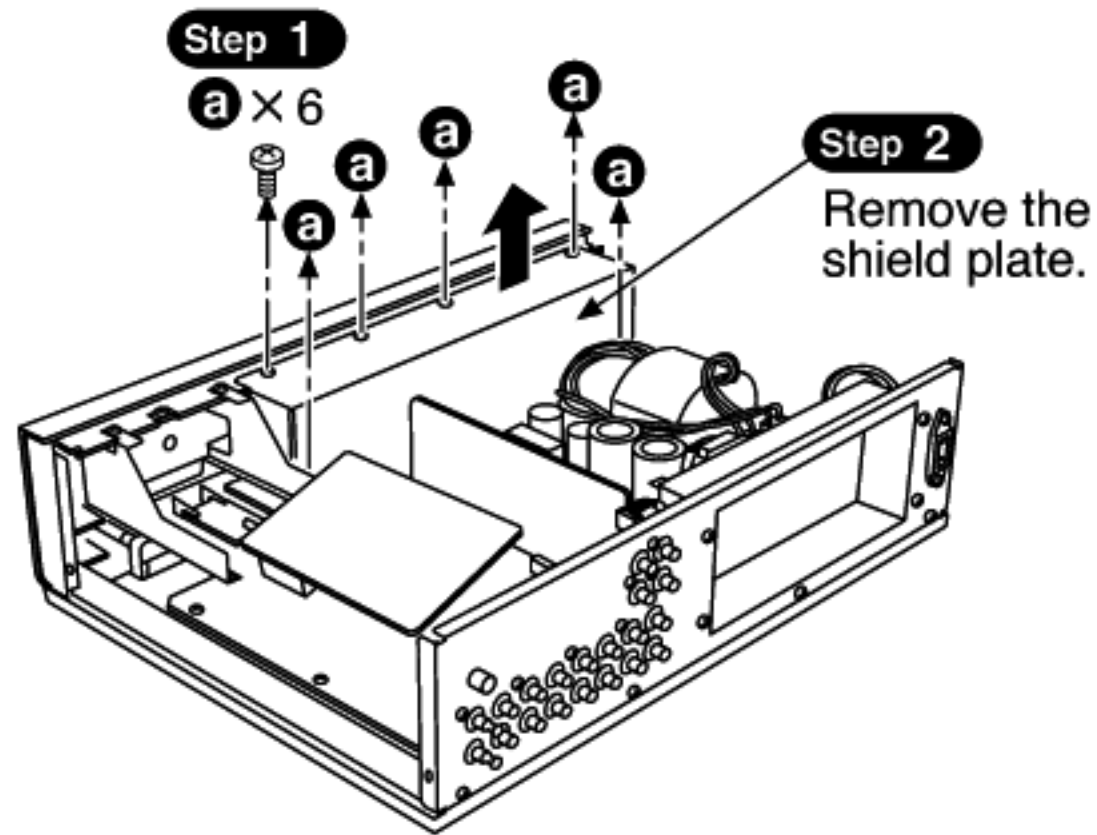


· Check the main P.C.B. as shown below.

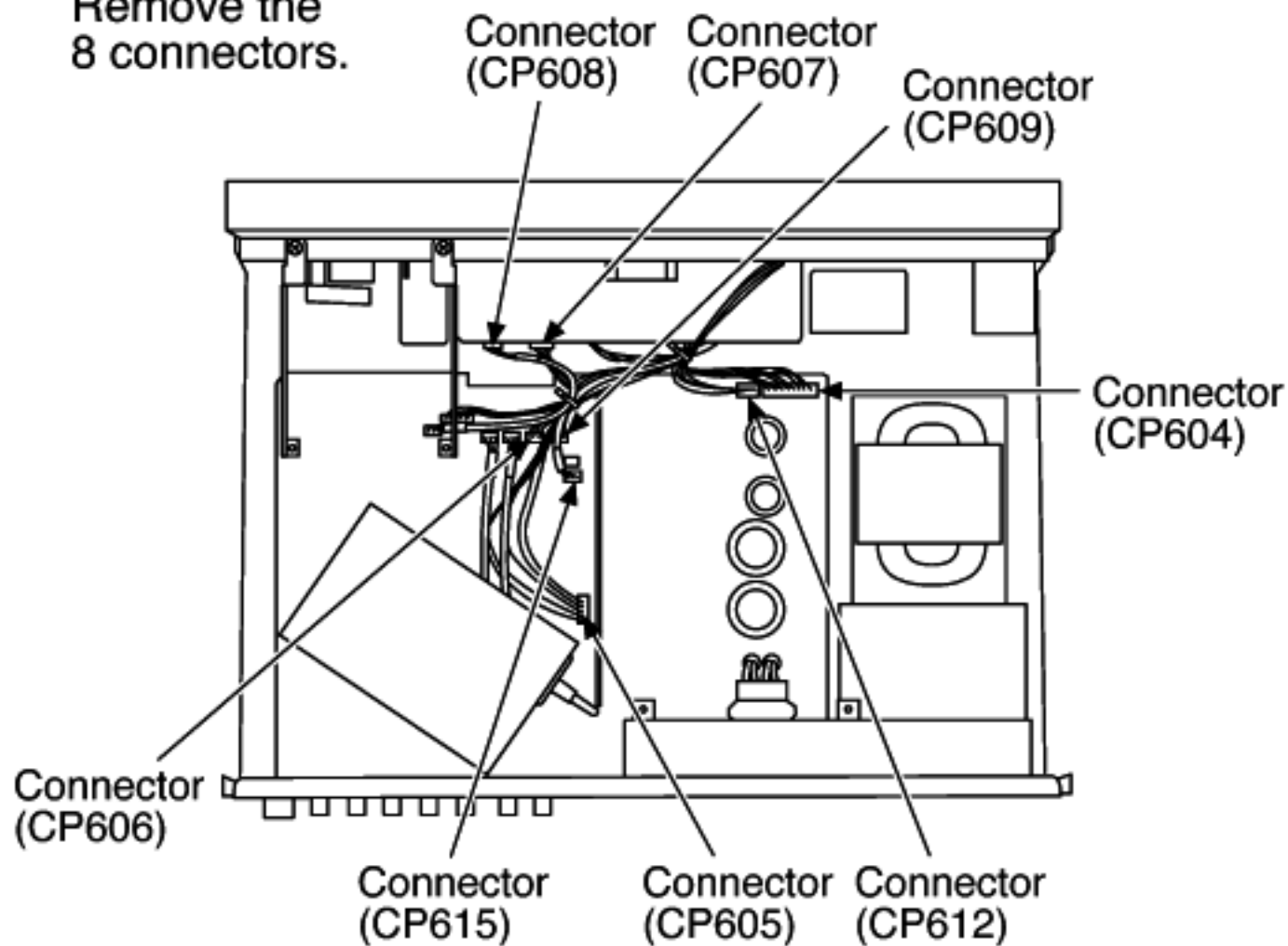


2. Removal of the operation P.C.B.

· Follow the **Step 1** ~ **Step 10** of the item 1 on page 13.

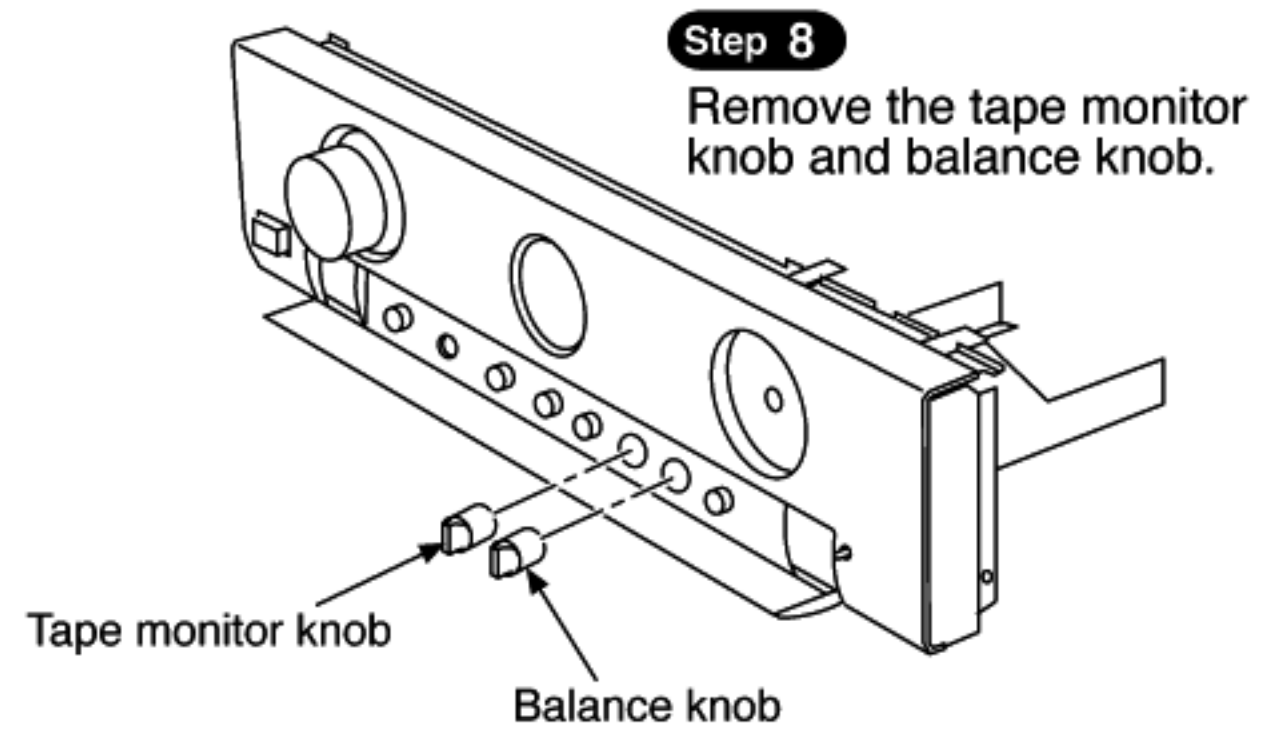
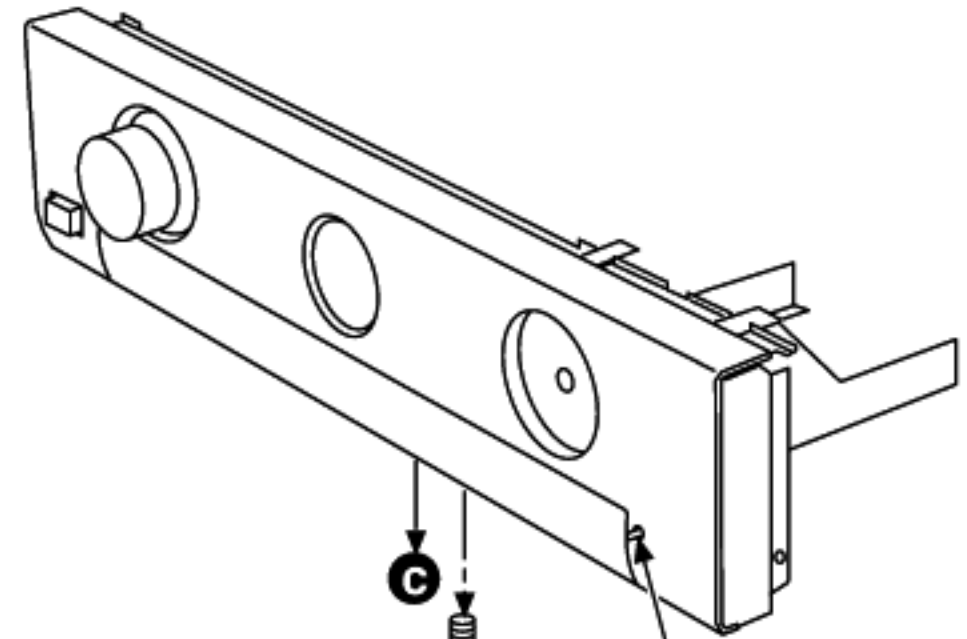
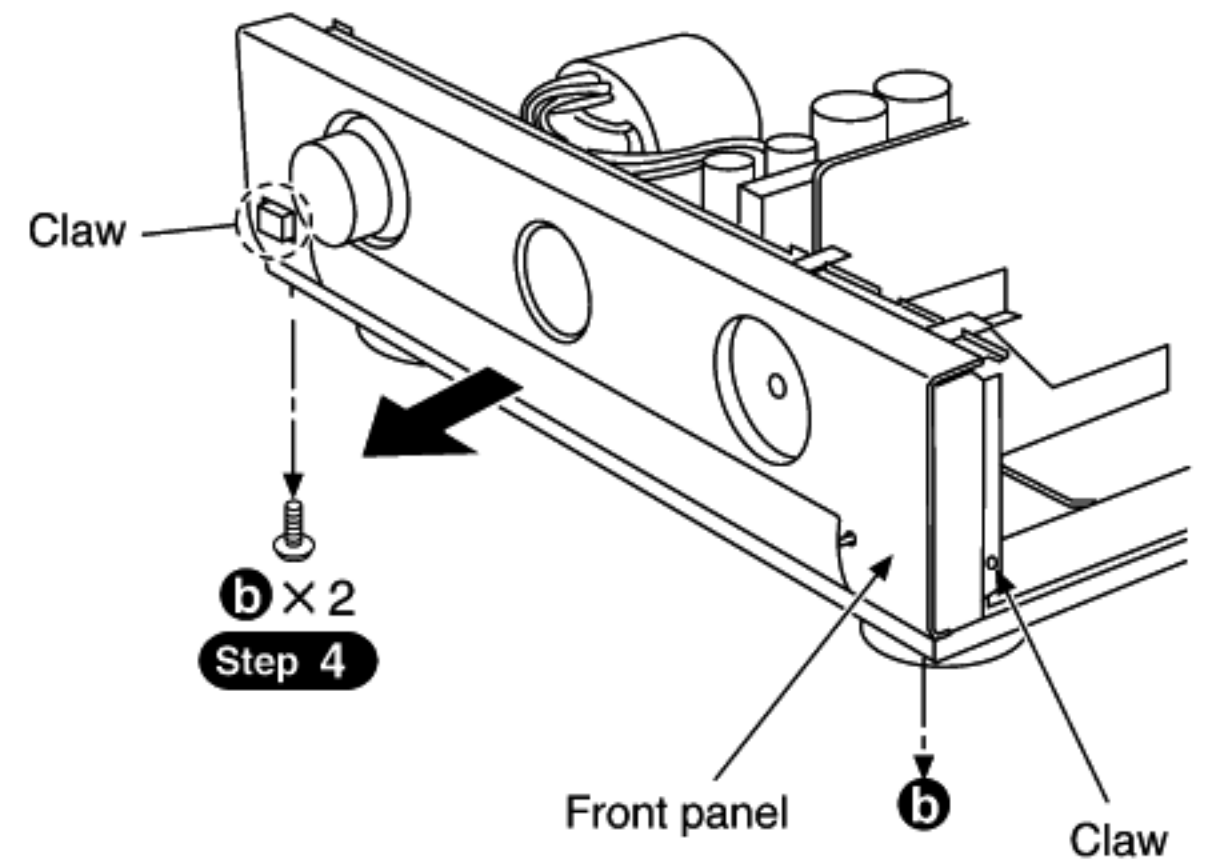


Step 3
Remove the 8 connectors.



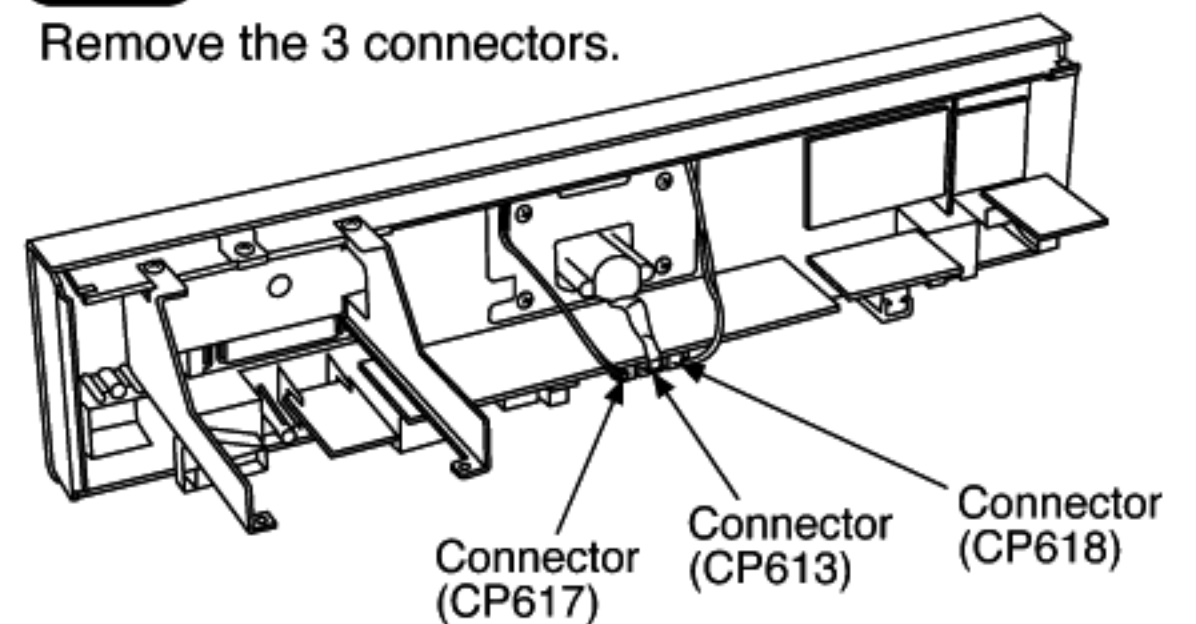
Step 5

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



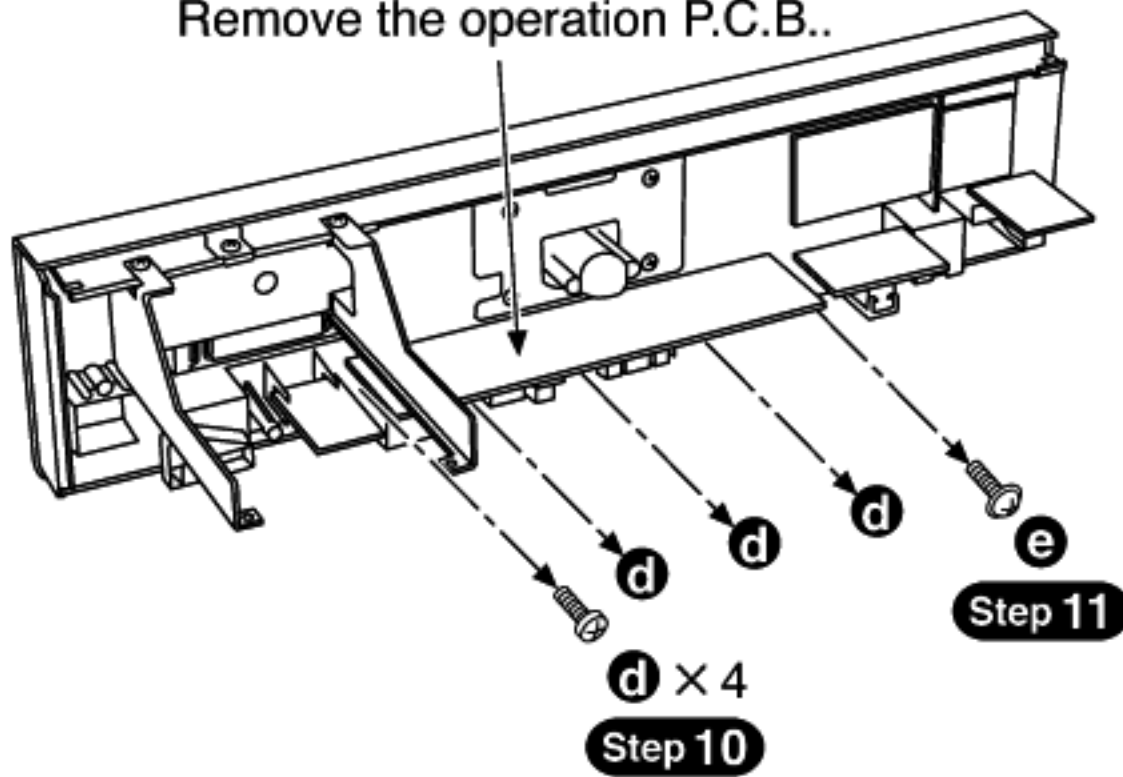
Step 9

Remove the 3 connectors.

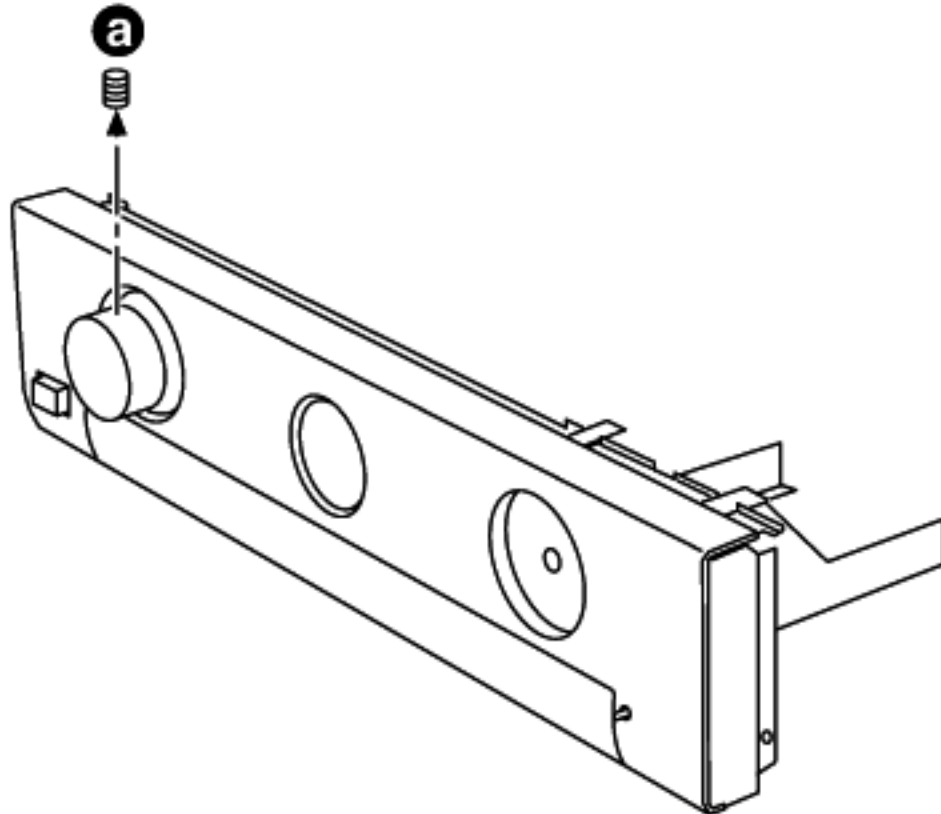


Step 12

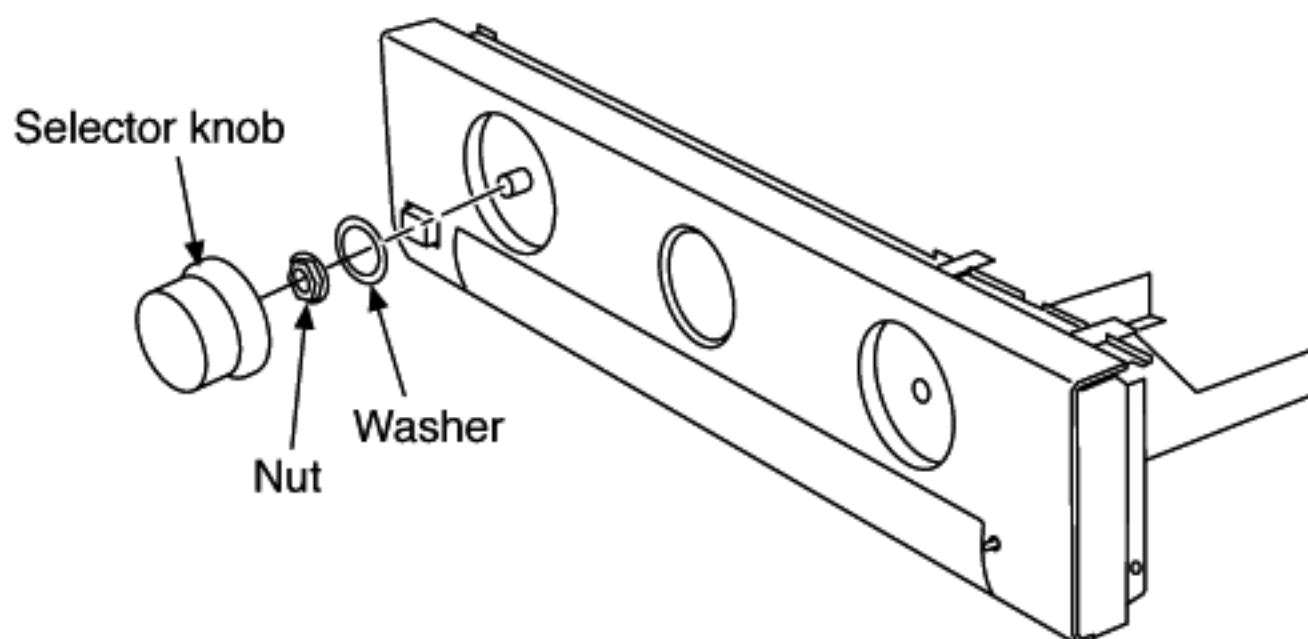
Remove the operation P.C.B..

**3. Removal of the selector P.C.B.**

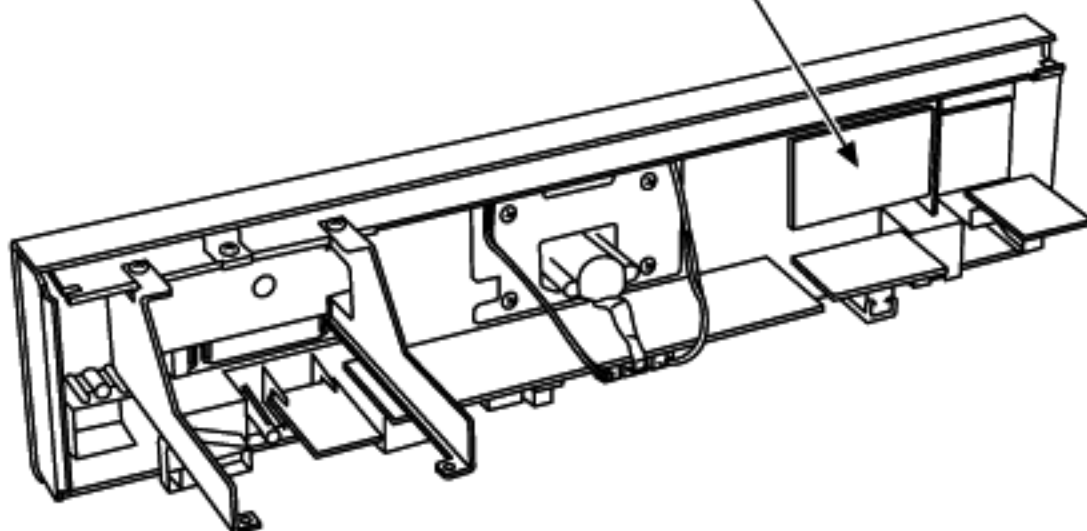
- Follow the **Step 1** ~ **Step 10** of the item 1 on page 13.
- Follow the **Step 1** ~ **Step 5** of the item 2 on page 14.

Step 1**Step 2**

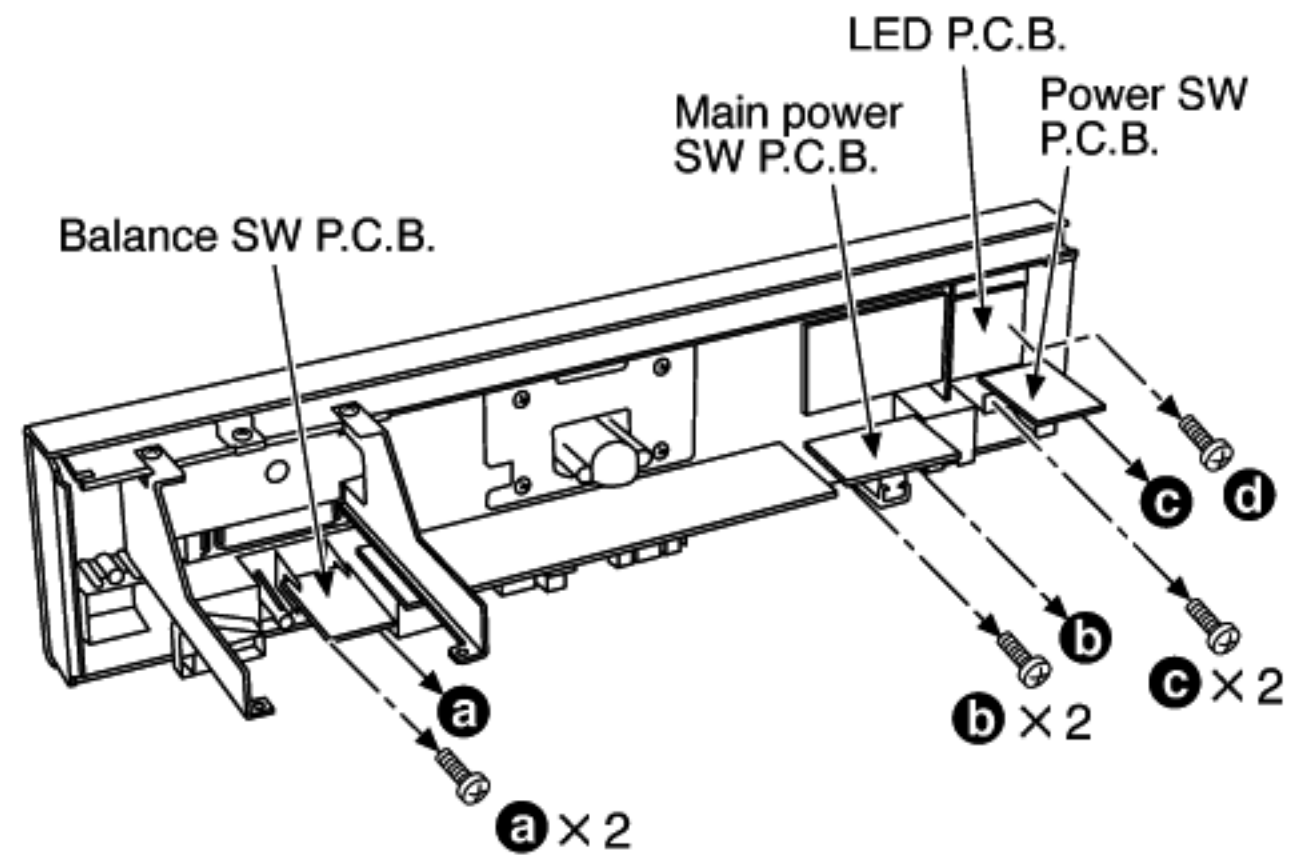
Remove the selector knob, nut and washer.

**Step 3**

Remove the selector P.C.B..

**4. Removal of the each P.C.B.**

- Follow the **Step 1** ~ **Step 10** of the item 1 on page 13.
- Follow the **Step 1** ~ **Step 5** of the item 2 on page 14.

**■ Balance SW P.C.B.**

- Remove the 2 screws (a).

■ Main power SW P.C.B.

- Remove the 2 screws (b).

■ Power SW P.C.B.

- Remove the 2 screws (c).

■ LED P.C.B.

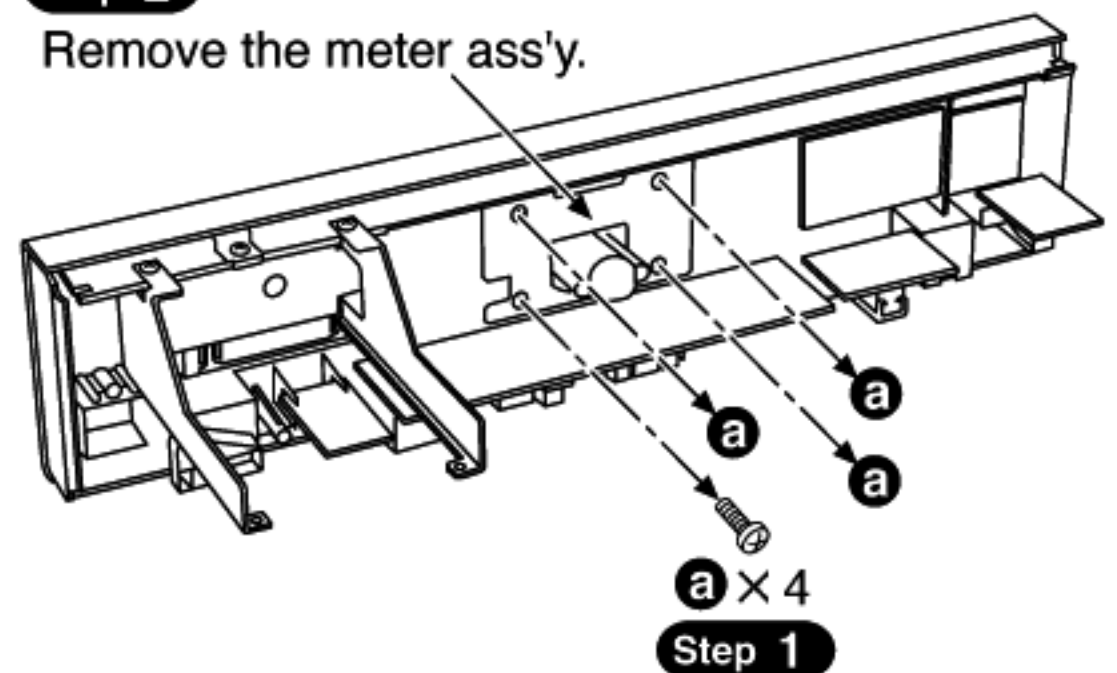
- Remove the screw (d).

5. Replacement for the meter

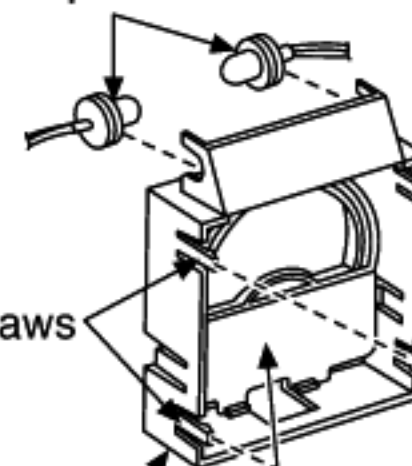
- Follow the **Step 1** ~ **Step 10** of the item 1 on page 13.
- Follow the **Step 1** ~ **Step 5**, **Step 9** of the item 2 on page 14.

Step 2

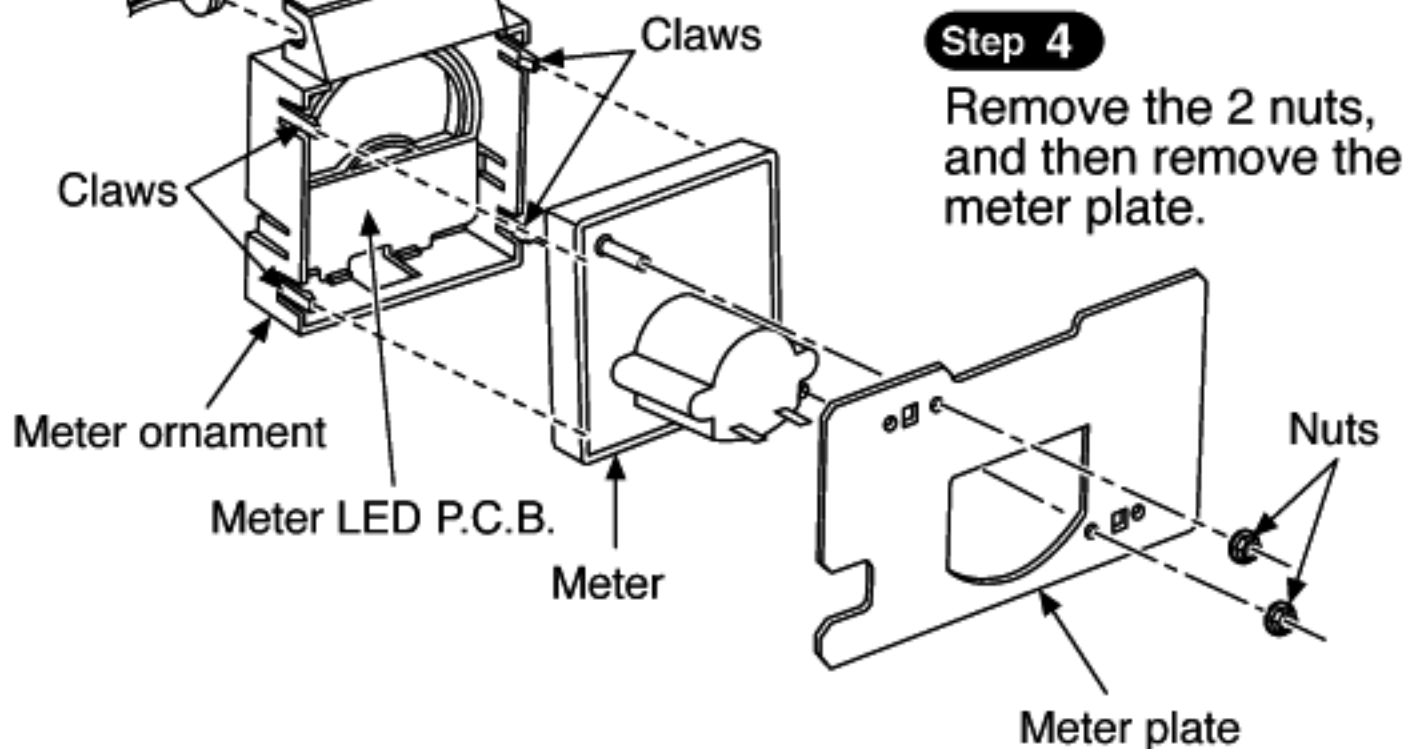
Remove the meter ass'y.

**Step 3**

Remove the lamps.

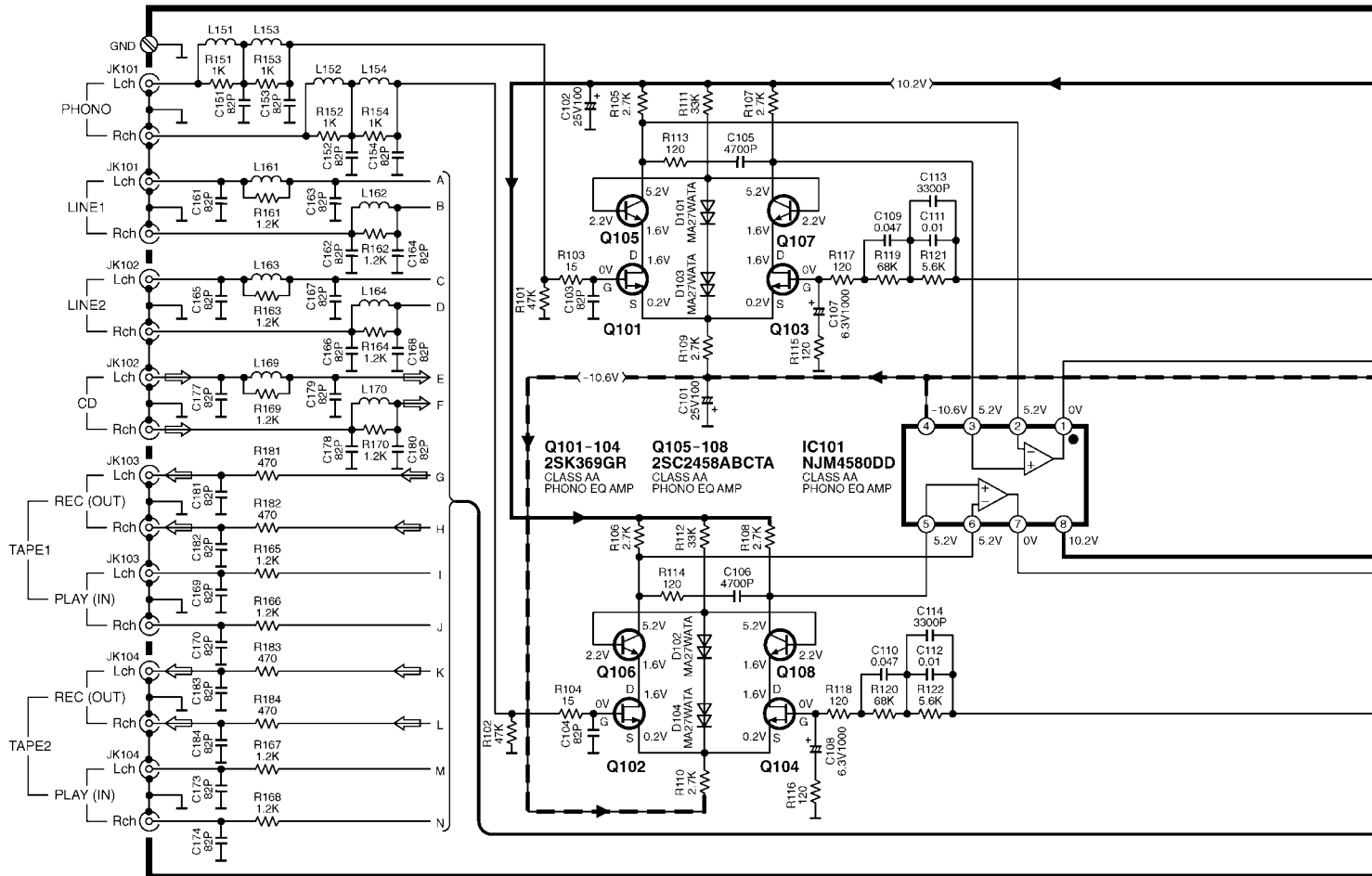
**Step 5**

Release the 4 claw, and then remove the meter ornament.



A MAIN CIRCUIT (P.C.Board: on pages 26,27)

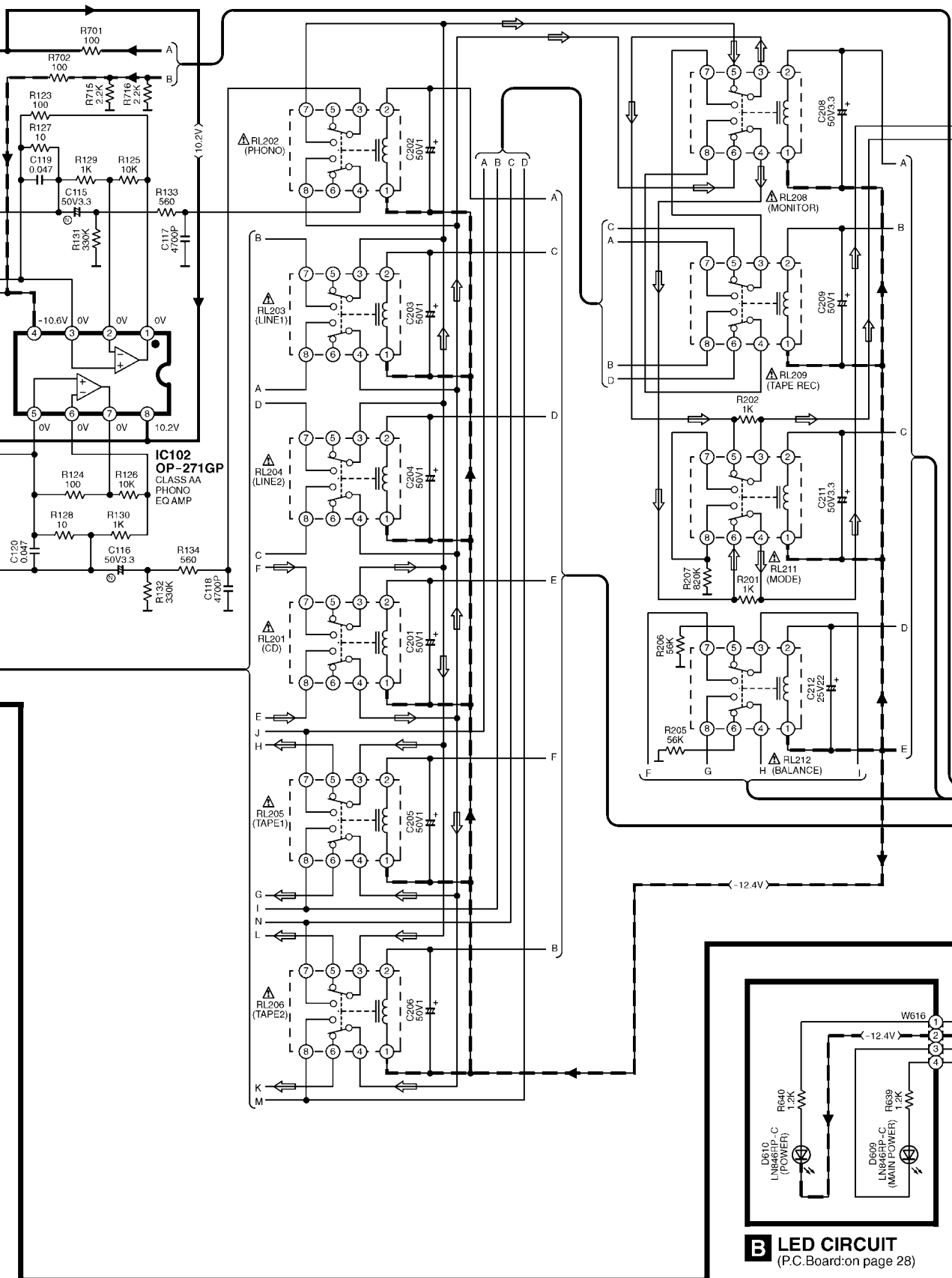
: POSITIVE VOLTAGE LINE
 : NEGATIVE VOLTAGE LINE
 : SOURCE SIGNAL LINE



→ : POSITIVE VOLTAGE LINE

---> : NEGATIVE VOLTAGE LINE

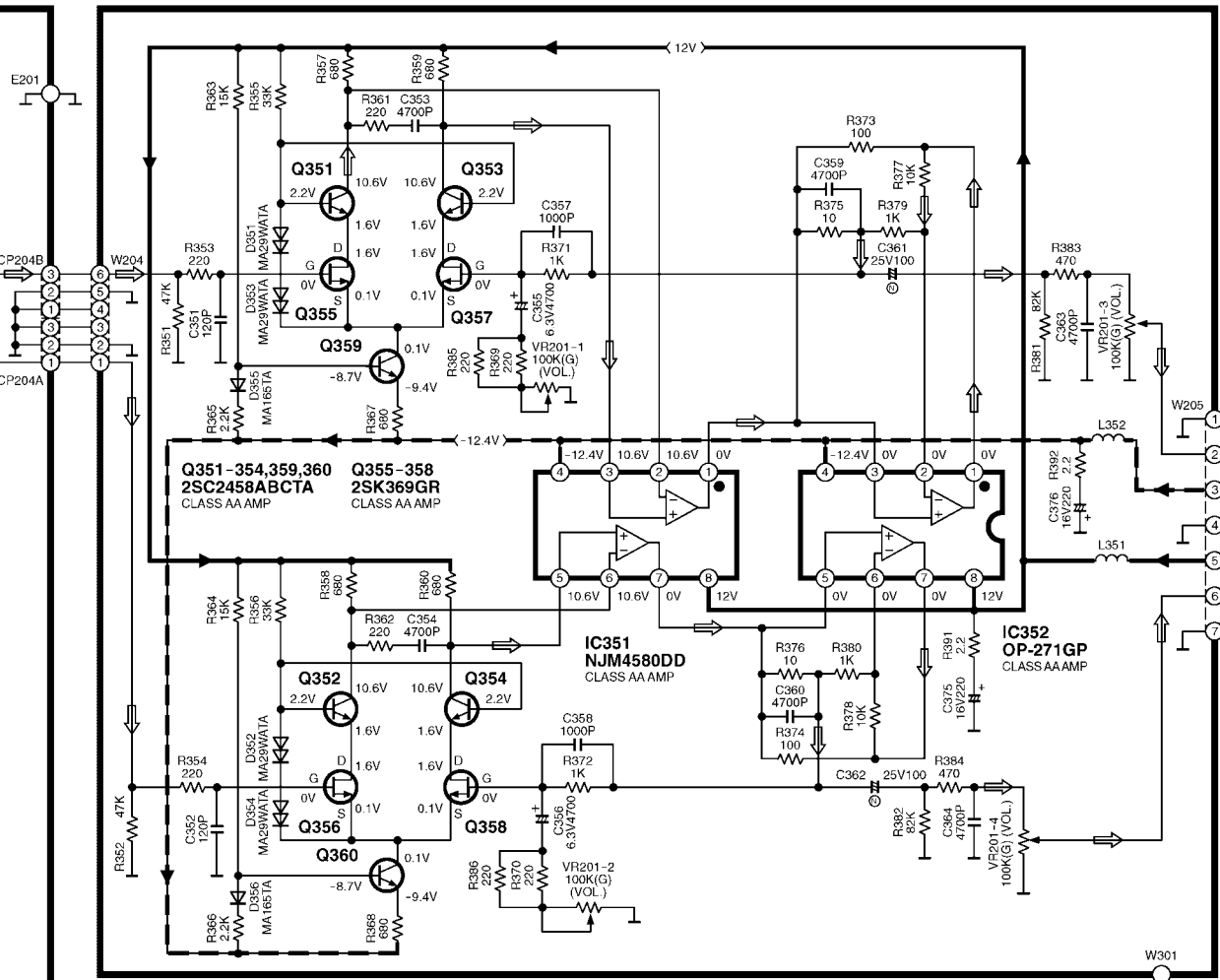
⇨ : SOURCE SIGNAL LINE



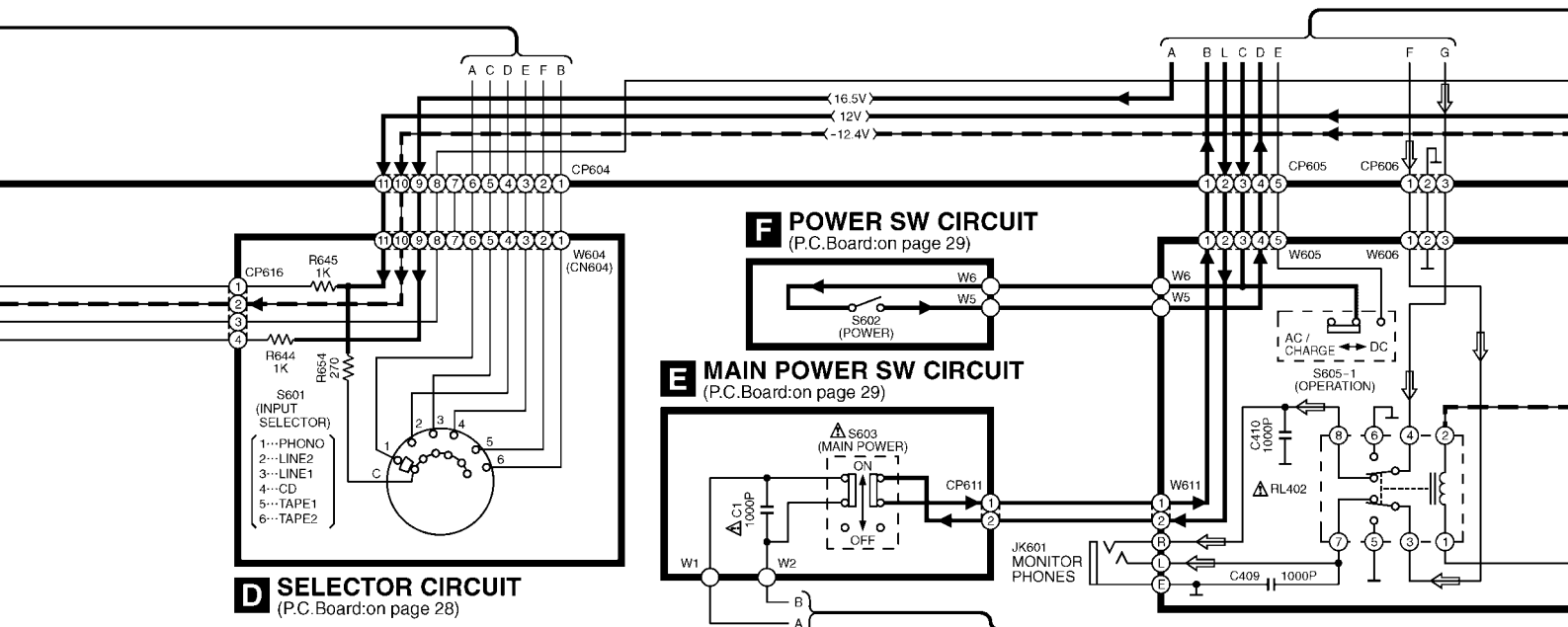
B LED CIRCUIT
(P.C. Board: on page 28)

C VOLUME CIRCUIT (P.C.Board: on page 28)

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



A MAIN CIRCUIT (P.C.Board: on pages 26,27)



D SELECTOR CIRCUIT
 (P.C. Board: on page 28)

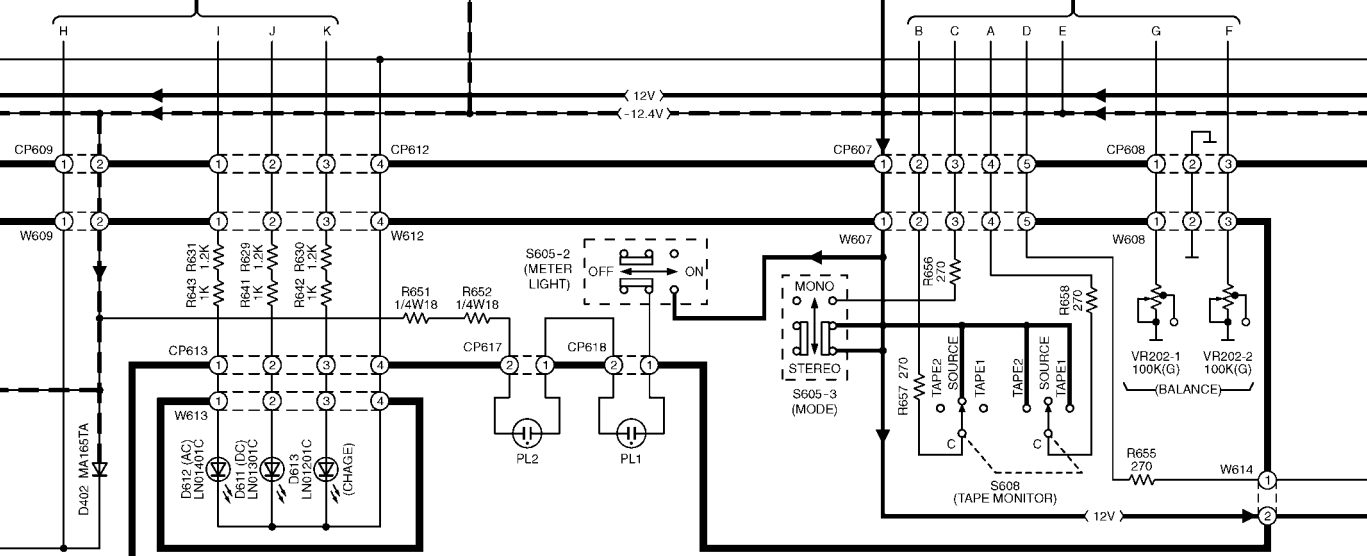
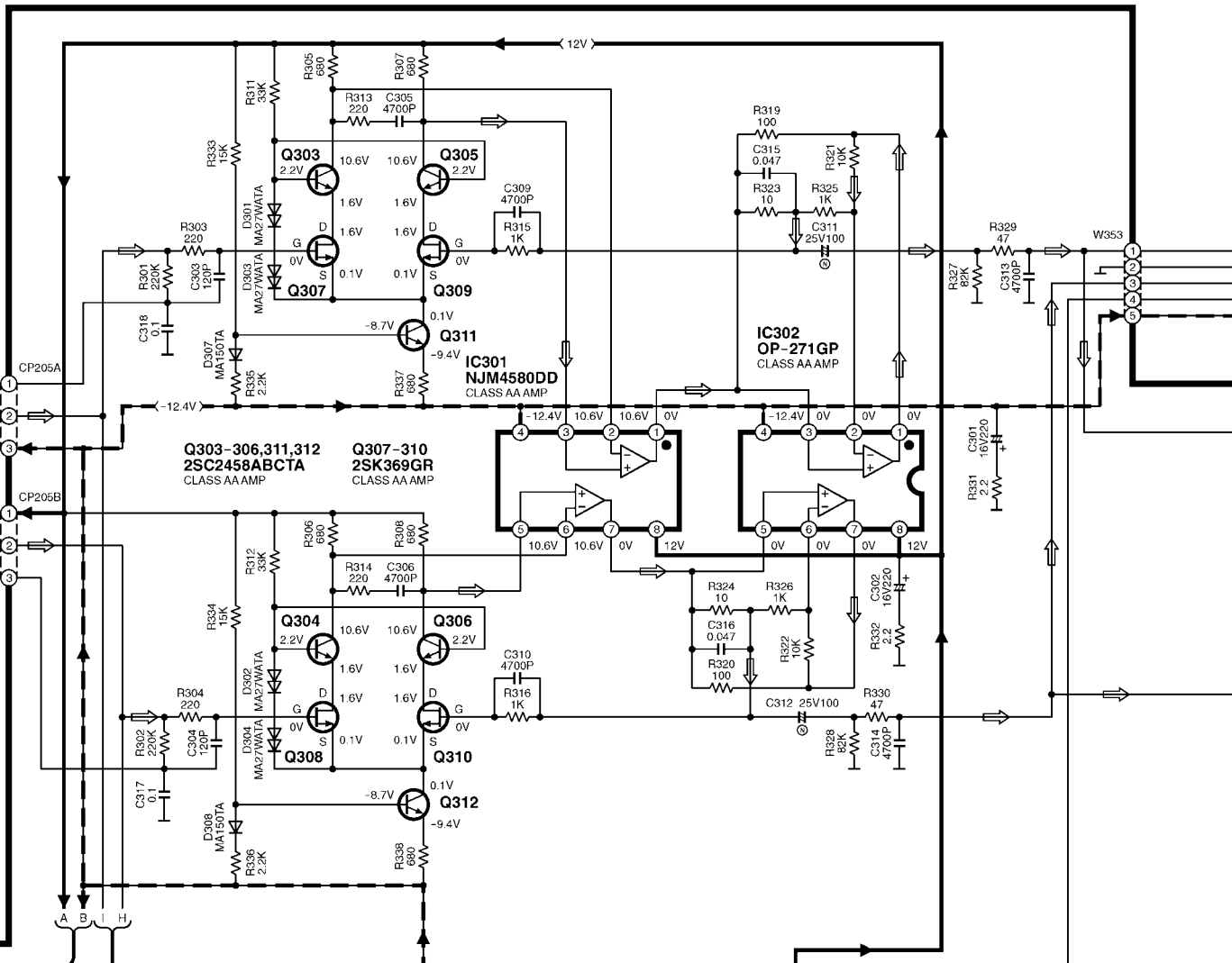
E MAIN POWER SW CIRCUIT
 (P.C.Board: on page 29)

F POWER SW CIRCUIT
 (P.C.Board: on page 29)

→ : POSITIVE VOLTAGE LINE

→ : NEGATIVE VOLTAGE LINE

⇨ : SOURCE SIGNAL LINE

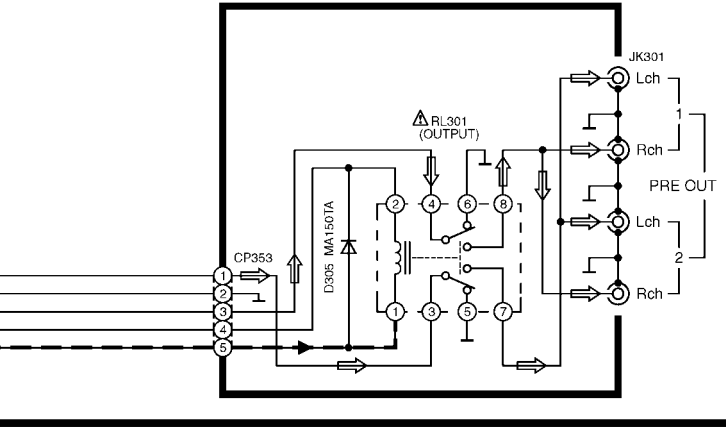


G METER LED CIRCUIT
(P.C. Board: on page 29)

H OPERATION CIRCUIT
(P.C. Board: on page 29)

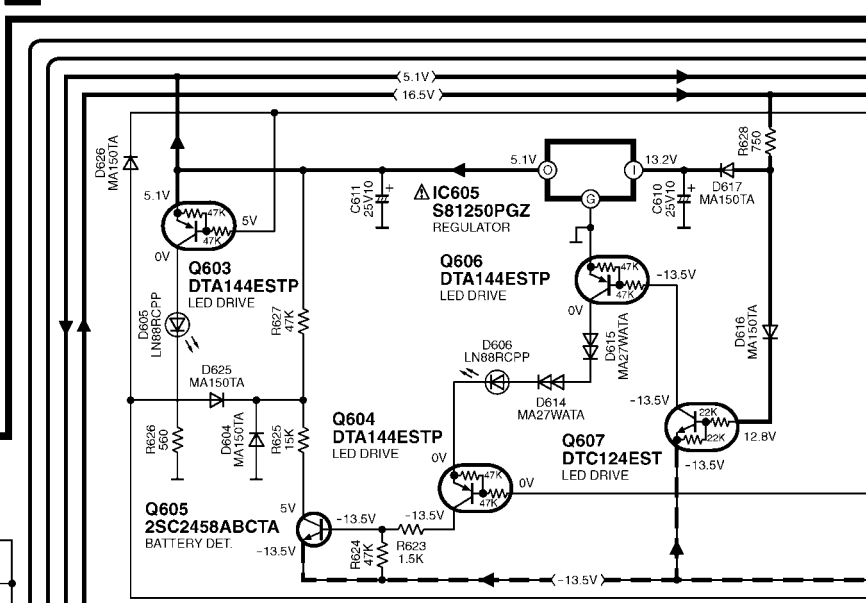
I PRE OUT TERMINAL CIRCUIT

(P.C. Board: on page 28)



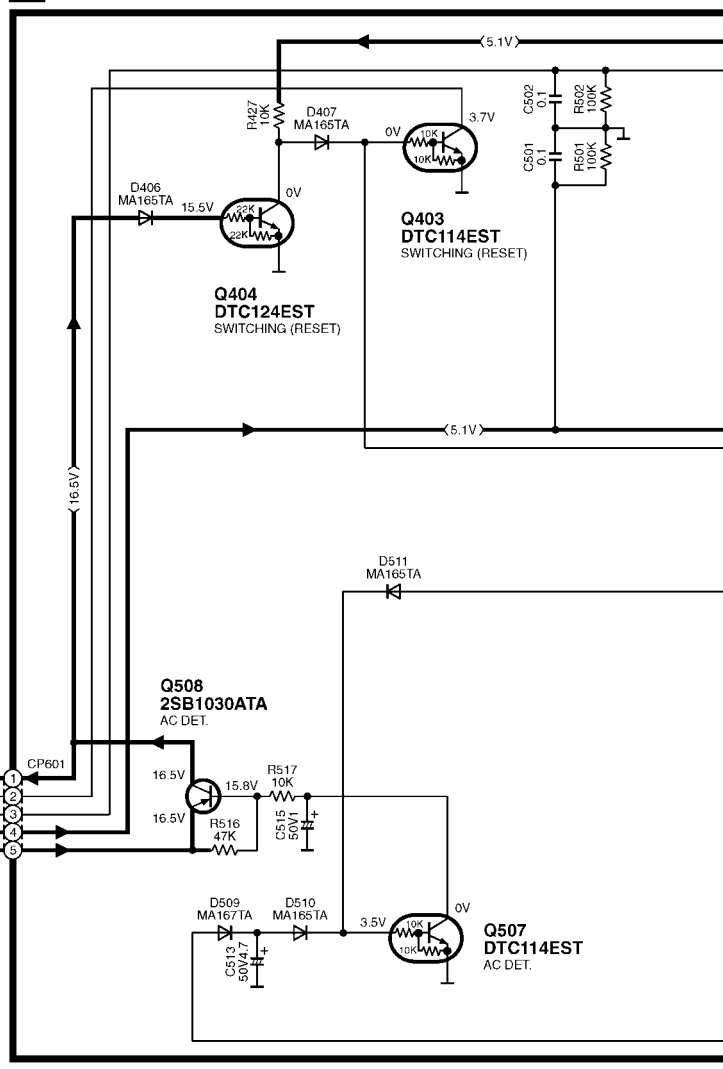
A MAIN CIRCUIT

(P.C. Board: on pages 26,27)



K RELAY CONTROL CIRCUIT

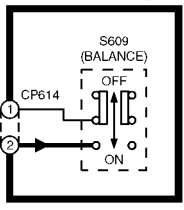
(P.C. Board: on page 30)



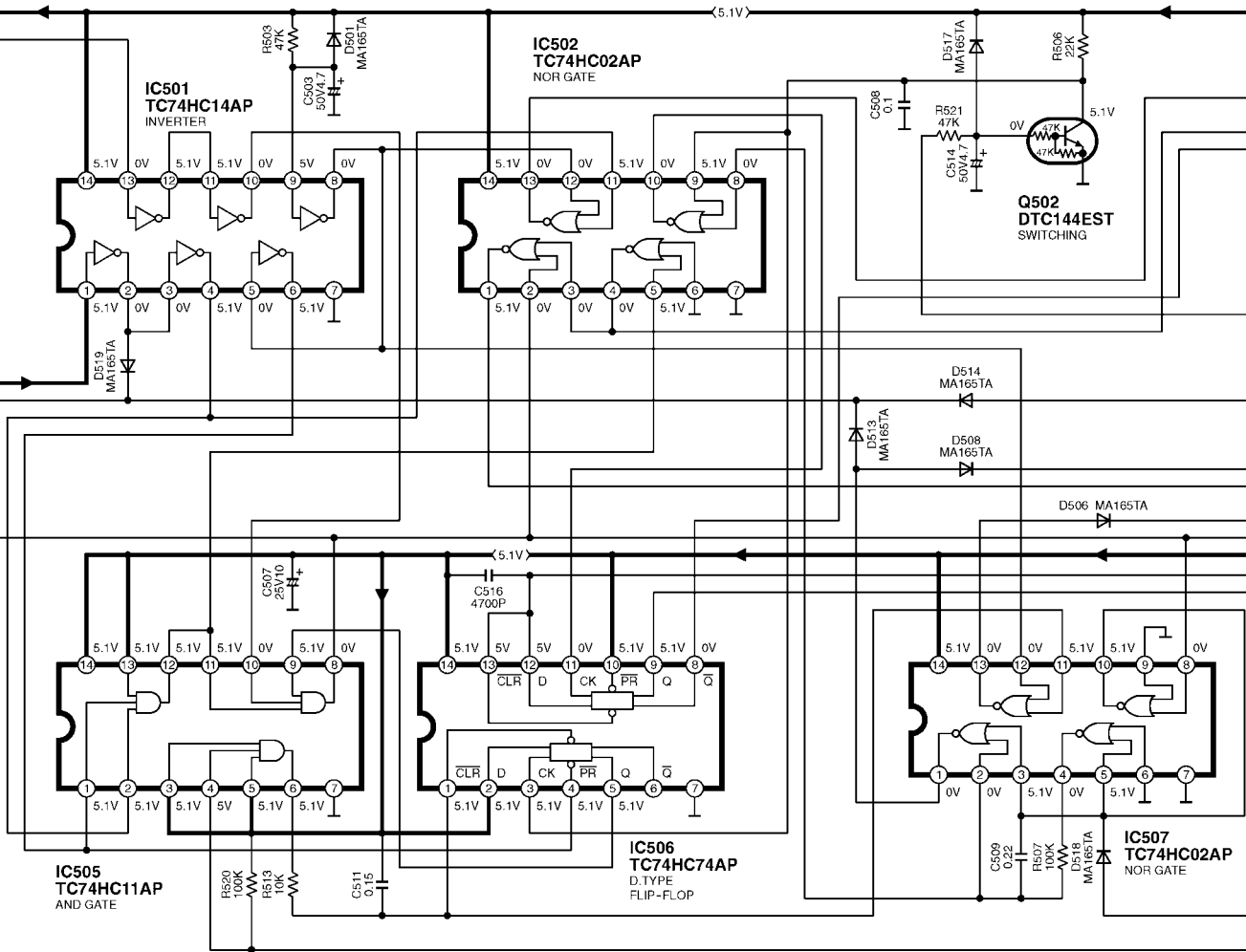
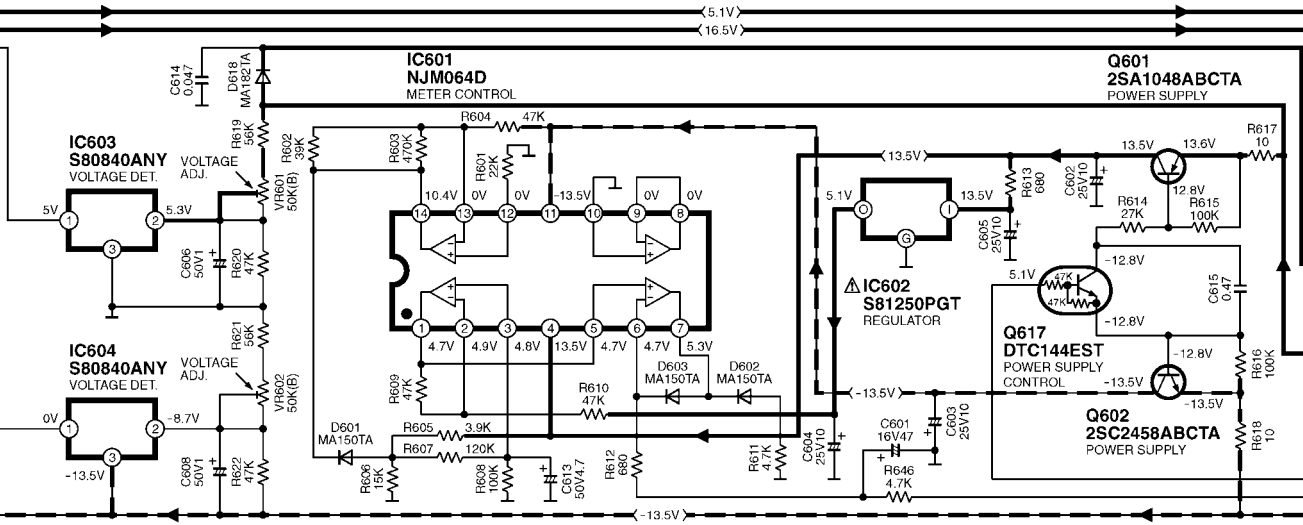
——— : POSITIVE VOLTAGE LINE
 - - - : NEGATIVE VOLTAGE LINE
 ⇨ : SOURCE SIGNAL LINE

J BALANCE SW CIRCUIT

(P.C. Board: on page 30)



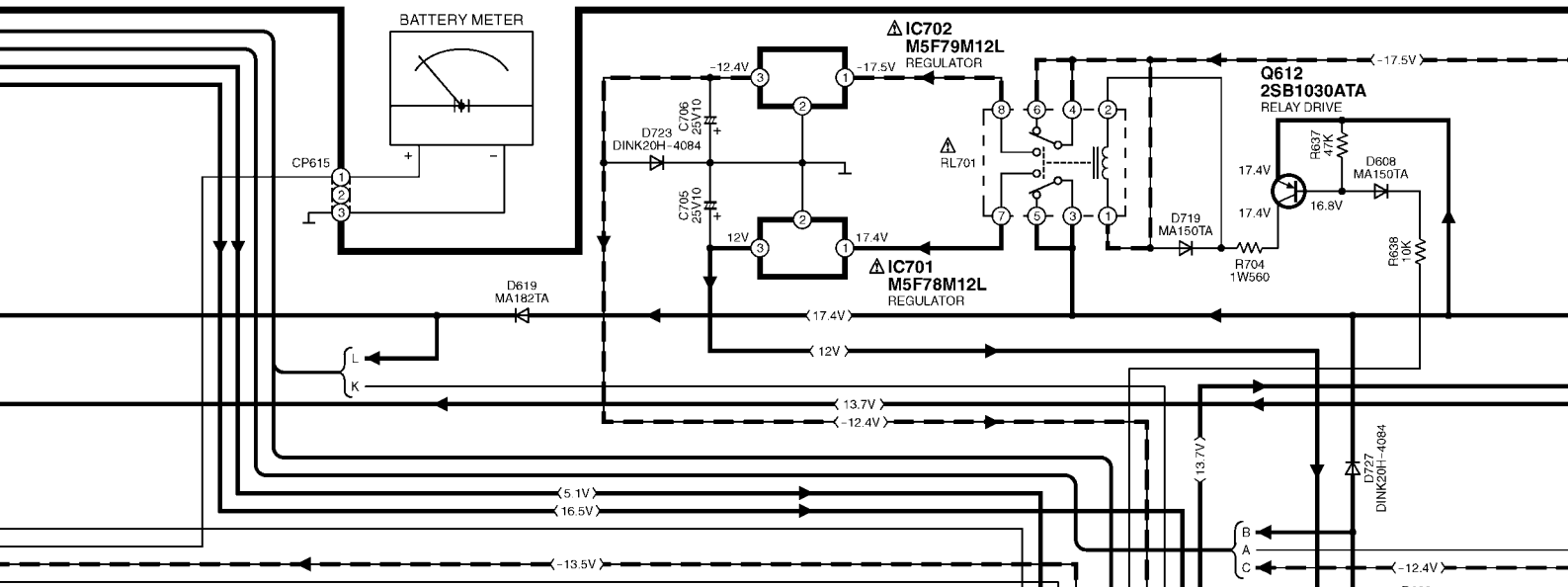
→ : POSITIVE VOLTAGE LINE - - - - - : NEGATIVE VOLTAGE LINE



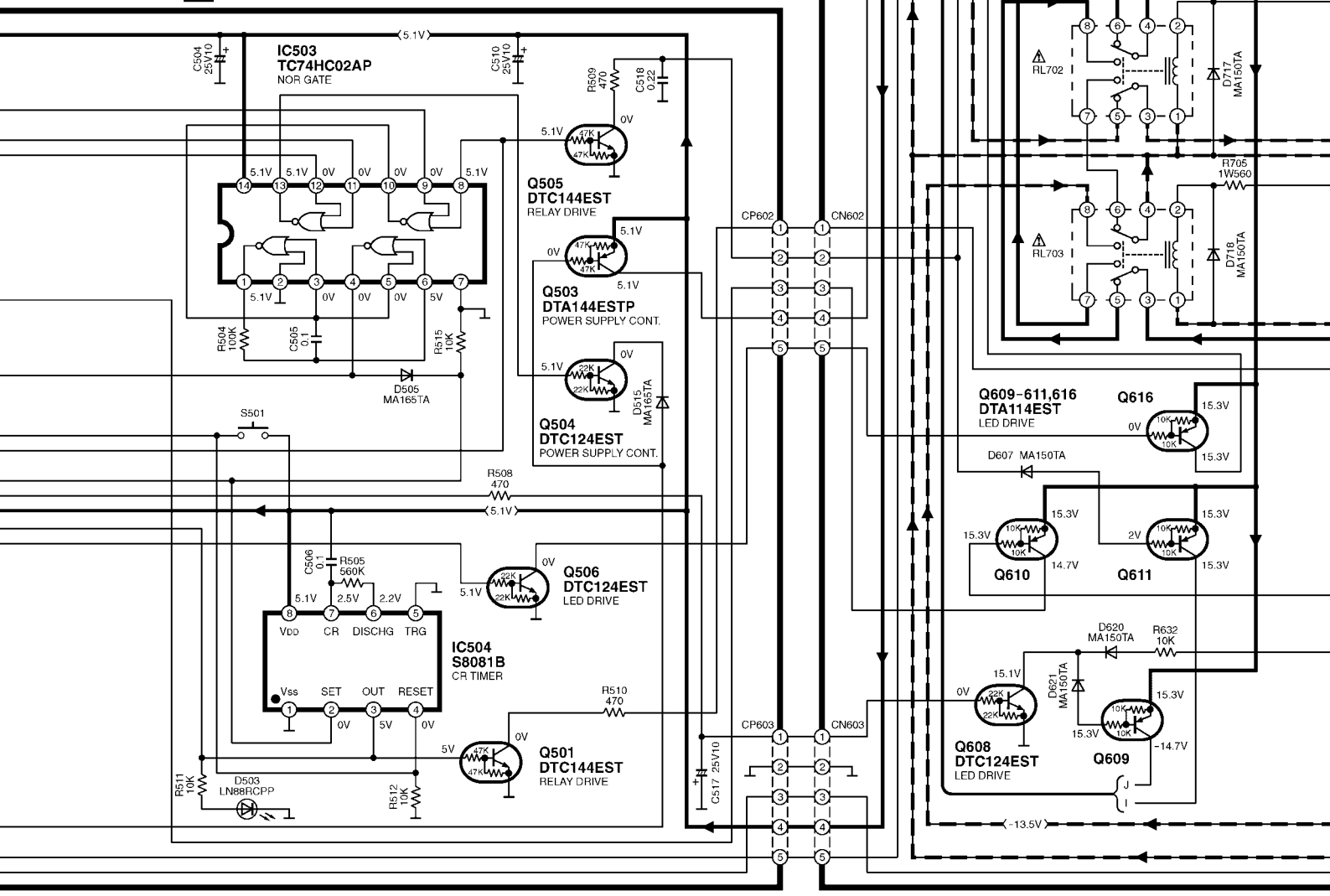
Q502 DTC144EST SWITCHING

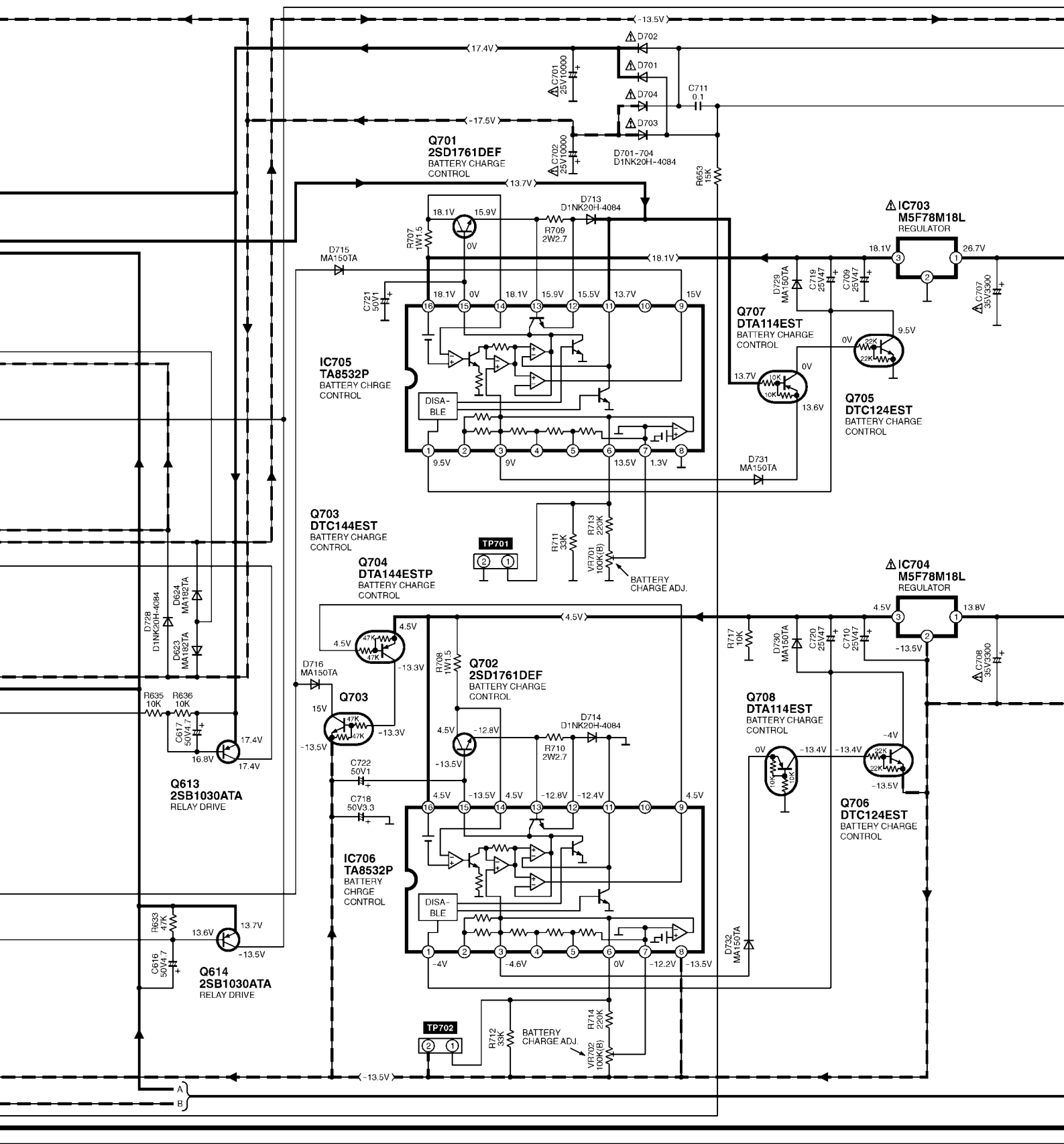
A MAIN CIRCUIT (P.C.Board: on pages 26,27)

— : POSITIVE VOLTAGE LINE
 - - - : NEGATIVE VOLTAGE LINE



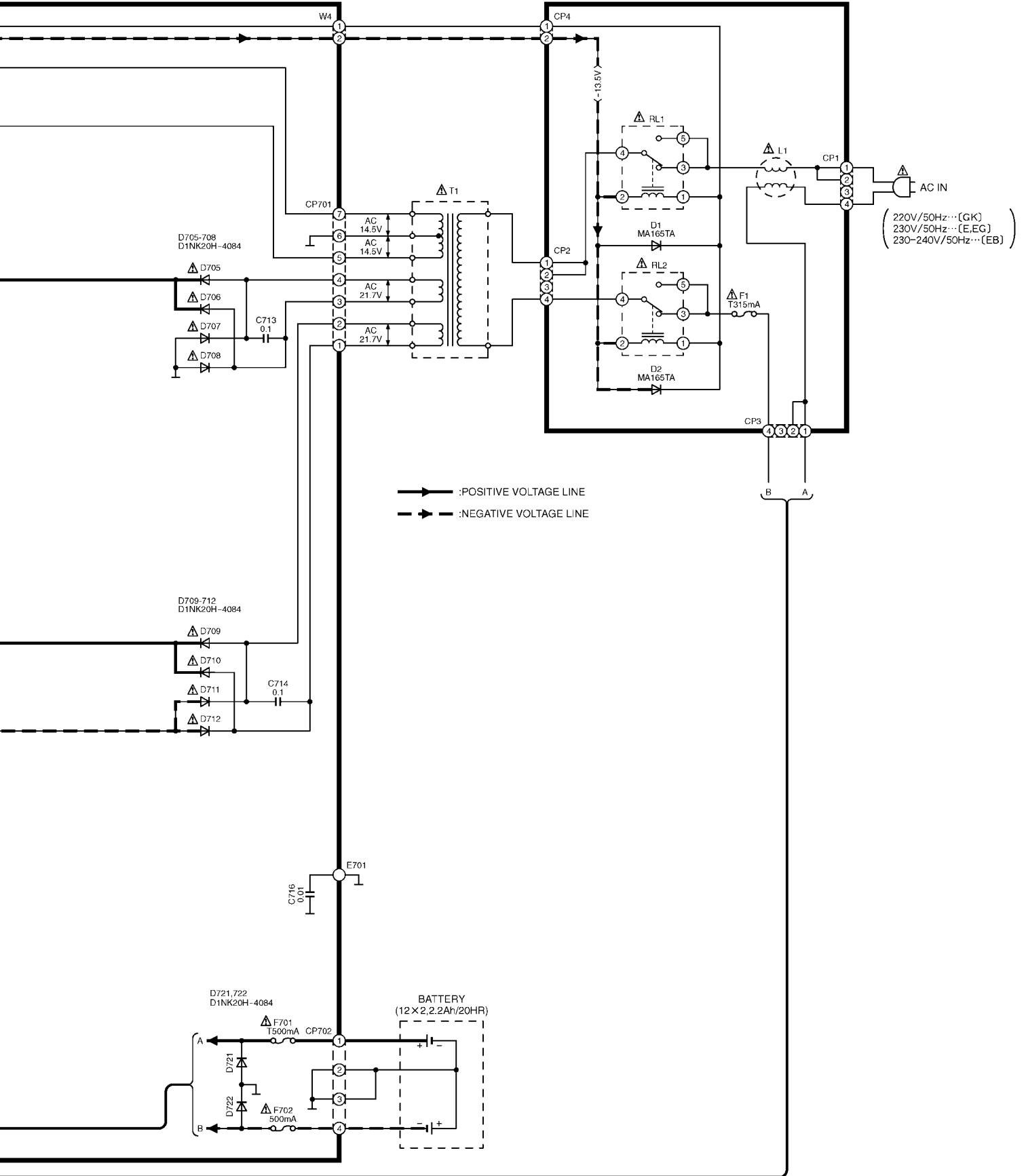
K RELAY CONTROL CIRCUIT (P.C.Board: on page 30)



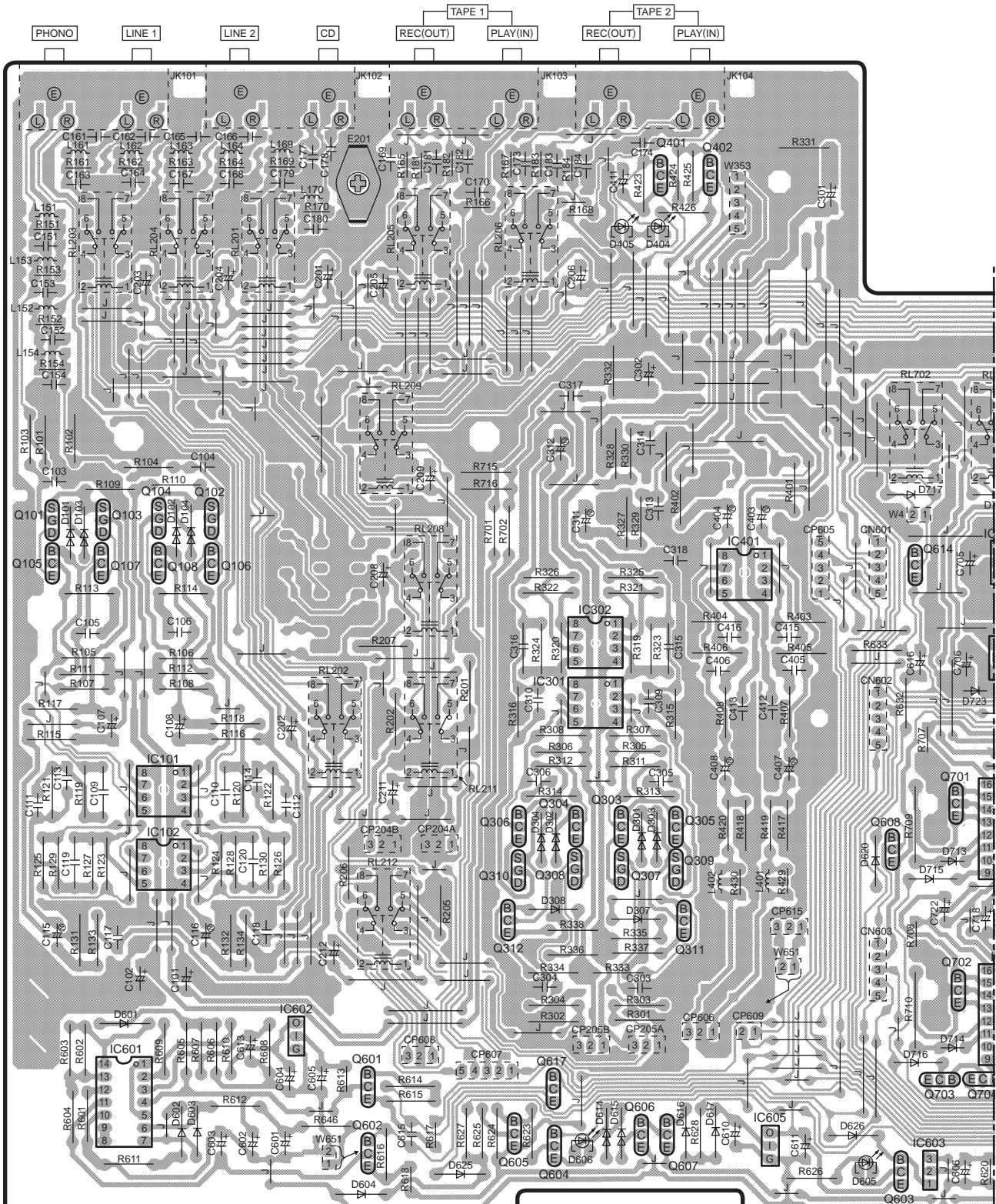


A MAIN CIRCUIT
(P.C.Board: on pages 26,27)

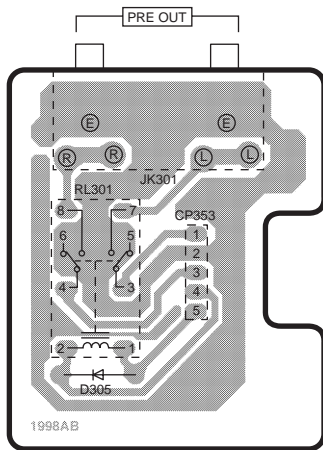
L POWER SUPPLY CIRCUIT
(P.C.Board: on page 30)



A MAIN P.C.B.



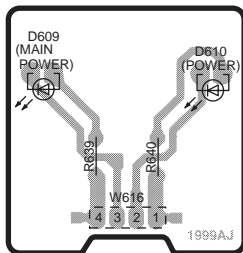
I PRE OUT TERMINAL P.C.B.



1998AB

(REP2715B-M)

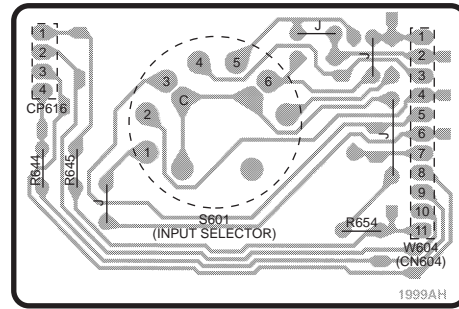
B LED P.C.B.



1999AJ

(REP2716B-S)

D SELECTOR P.C.B.



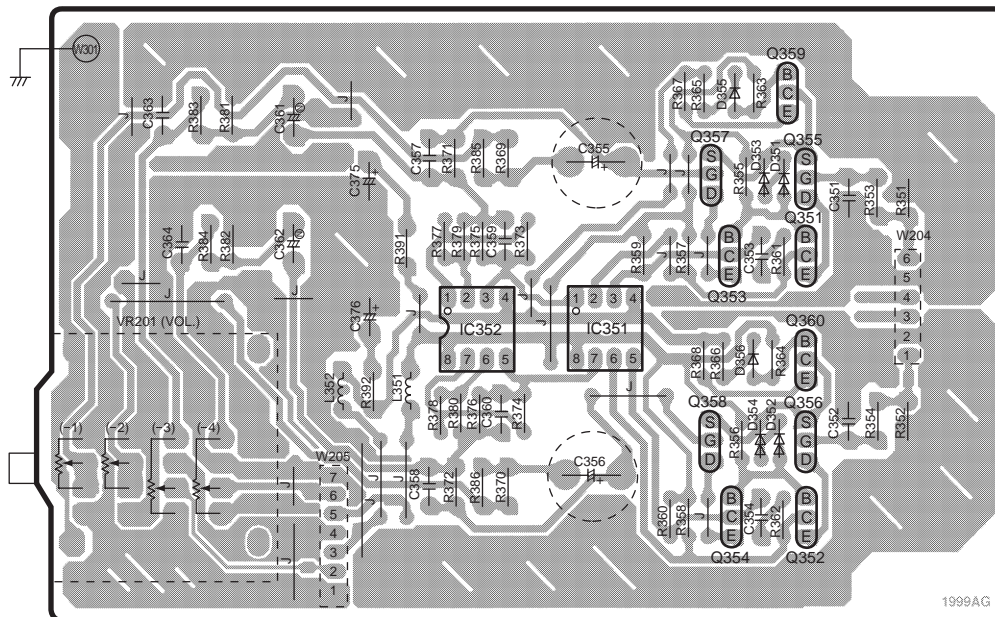
1999AH

(REP2716B-S)

ELECTRICAL PARTS LOCATION

Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.
I PRE OUT TERMINAL P.C.B.									
D305	3A	RL301	2A	JK301	2B	CP353	2B		
B LED P.C.B.									
D609	4A	D610	4B	W616	5B	R639	4B	R640	4B
D SELECTOR P.C.B.									
S601	2E	CP616	1D	R644	2D	R645	2D	R654	2E
W604	2F								
C VOLUME P.C.B.									
IC351	7D	D355	6D	R359	7D	R375	7C	C353	7D
IC352	7C	D356	7D	R360	8D	R376	7C	C354	8D
Q351	7D	VR201	7A	R361	7D	R377	7C	C355	6D
Q352	8D	L351	7C	R362	8D	R378	7C	C356	8C
Q353	7D	L352	7B	R363	6D	R379	7C	C357	6C
Q354	8D	W204	7E	R364	7D	R380	7C	C358	8C
Q355	6D	W205	8B	R365	6D	R381	6B	C359	7C
Q356	8D	W301	6A	R366	7D	R382	7B	C360	7C
Q357	6D	R351	6E	R367	6D	R383	6B	C361	6B
Q358	7D	R352	7E	R368	7D	R384	7B	C362	7B
Q359	6D	R353	6E	R369	6C	R385	6C	C363	6B
Q360	7D	R354	7E	R370	8C	R386	8C	C364	7B
D351	6D	R355	6D	R371	6C	R391	7C	C375	6B
D352	8D	R356	8D	R372	8C	R392	7C	C376	7B
D353	6D	R357	7D	R373	7C	C351	6E		
D354	8D	R358	8D	R374	7C	C352	7E		

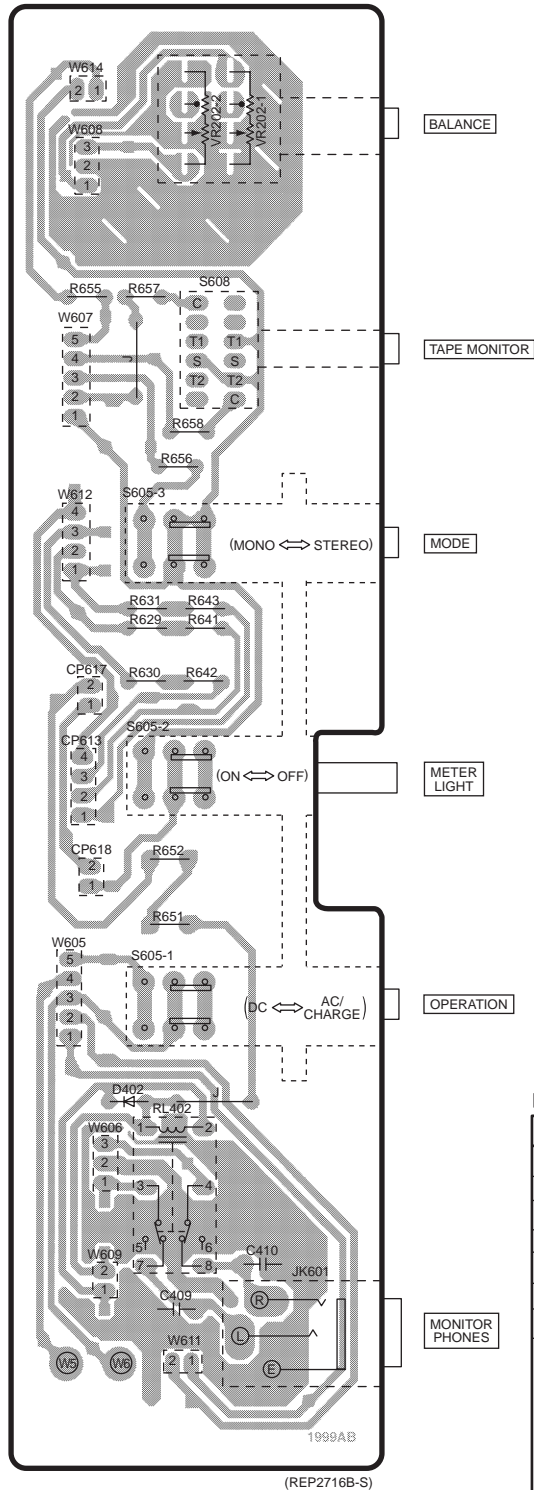
C VOLUME P.C.B.



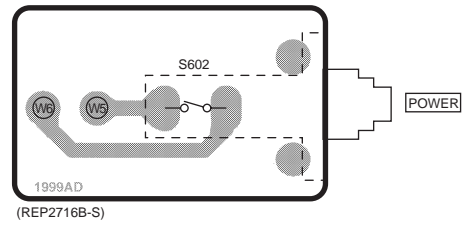
1999AG

(REP2716B-S)

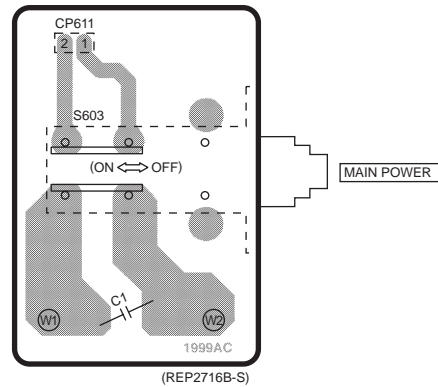
H OPERATION P.C.B.



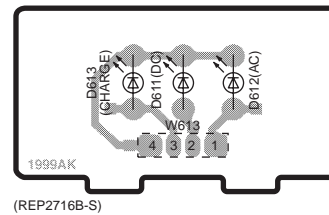
F POWER SW P.C.B.



E MAIN POWER SW P.C.B.



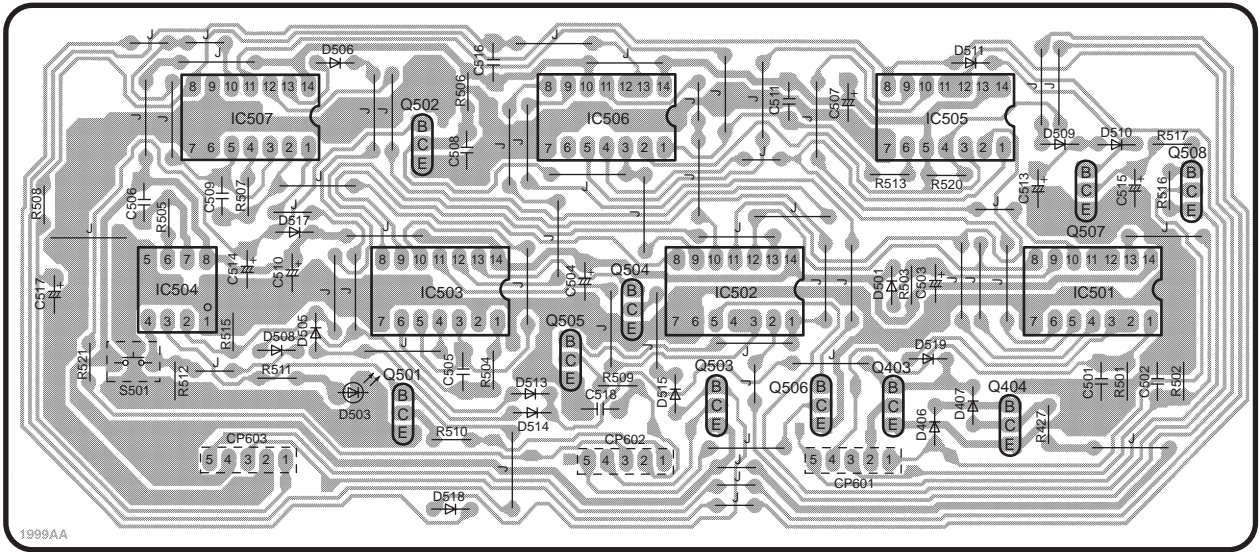
G METER LED P.C.B.



ELECTRICAL PARTS LOCATION

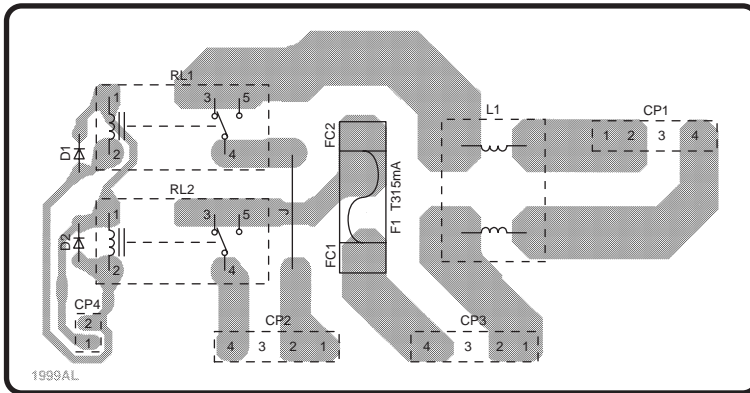
Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.
F POWER SWITCH P.C.B.									
S602	1E	W5	2D	W6	2D				
E MAIN POWER SWITCH P.C.B.									
S603	3D	CP611	3D	W1	4D	W2	4E	C1	4D
G METER LED P.C.B.									
D611	5E	D612	5E	D613	5D	W613	5E		
H OPERATION P.C.B.									
D402	6A	S608	3B	W608	2A	R631	4A	R657	3A
CP613	5A	VR202-1	2B	W609	7A	R641	4B	R658	3B
CP617	4A	VR202-2	2B	W611	7B	R642	4B	C409	7A
CP618	5A	W5	7A	W612	4A	R643	4B	C410	7B
RL402	6A	W6	7A	W614	2A	R651	5A		
S605-1	6B	W605	6A	JK601	7B	R652	5A		
S605-2	5B	W606	6A	R629	4A	R655	3A		
S605-3	4B	W607	3A	R630	4A	R656	3A		

K RELAY CONTROL P.C.B.



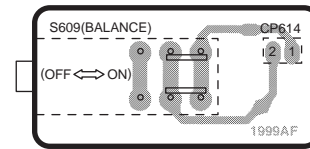
1999AA
(REP2716B-S)

L POWER SUPPLY P.C.B.



1999AL
(REP2716B-S)

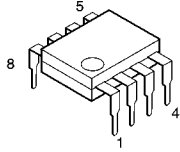
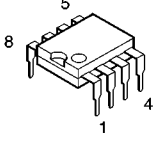
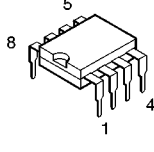
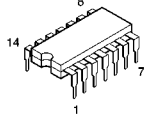
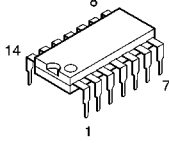
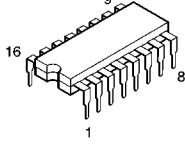
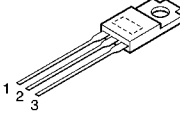
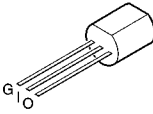
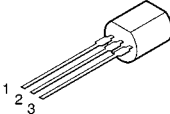
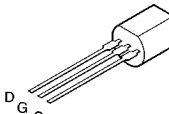
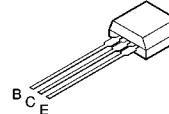

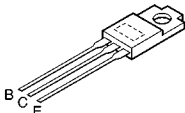
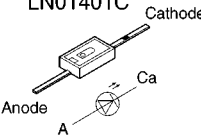
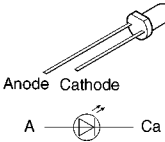
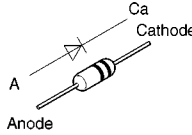
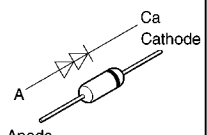
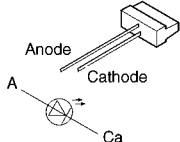
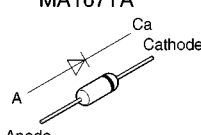
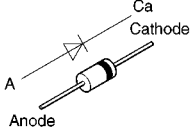
J BALANCE SW P.C.B.

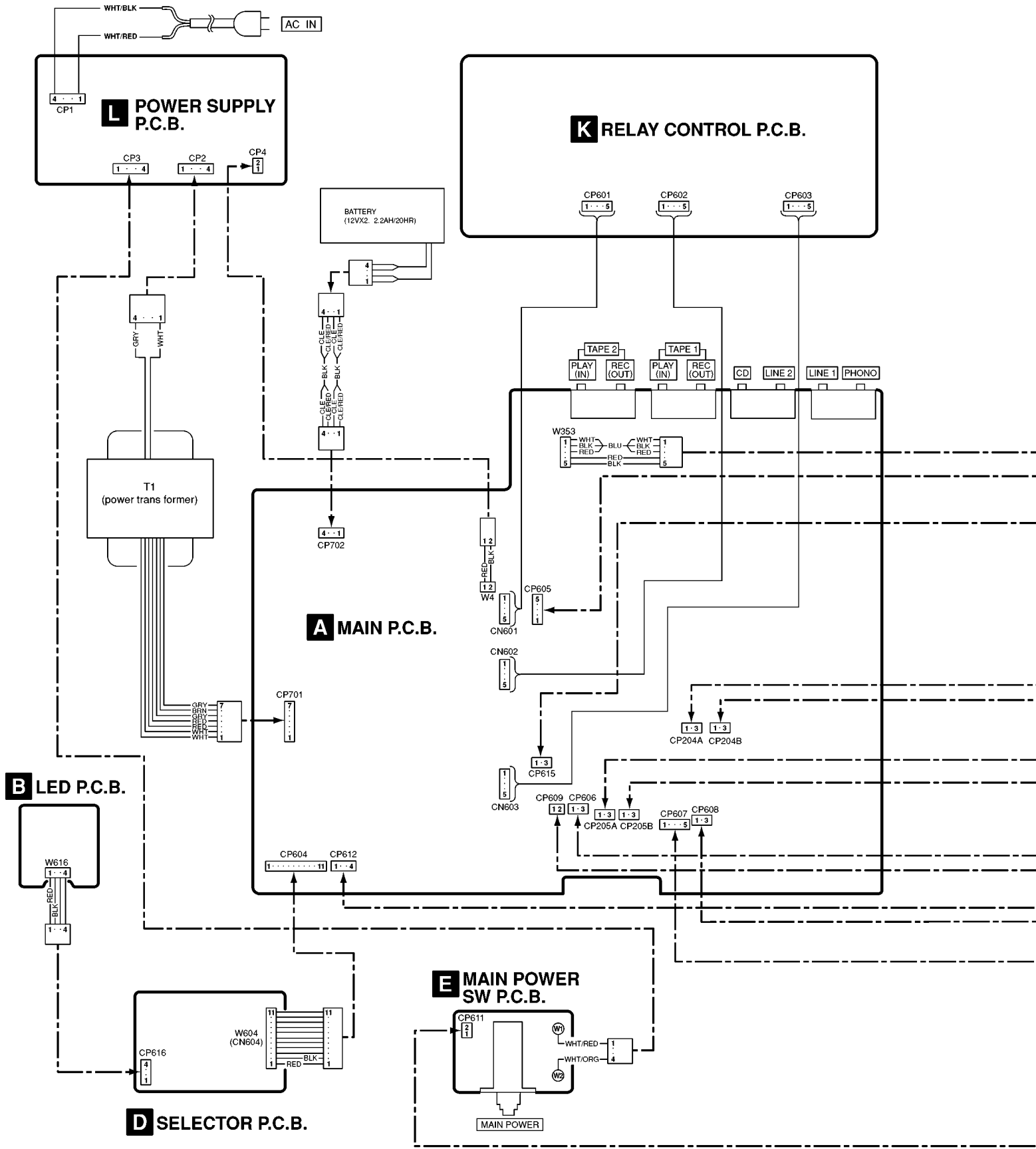


1999AF
(REP2716B-S)

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.
J BALANCE SW P.C.B.											
S609	5E	CP614	5F								
K RELAY CONTROL P.C.B.											
IC501	2F	Q505	3C	D511	1E	R502	3F	R516	2F	C510	2B
IC502	2D	Q506	3D	D513	3C	R503	2E	R517	2F	C511	2D
IC503	2C	Q507	2F	D514	3C	R504	3C	R520	2E	C513	2E
IC504	2B	Q508	2F	D515	3D	R505	2B	R521	3A	C514	2B
IC505	2E	D406	3E	D517	2B	R506	2C	C501	3F	C515	2F
IC506	2D	D407	3E	D518	3C	R507	2B	C502	3F	C516	1C
IC507	2B	D501	2E	D519	3E	R508	2A	C503	2E	C517	2A
Q403	3E	D503	3B	S501	3A	R509	3D	C504	2C	C518	3C
Q404	3E	D505	3B	CP601	3E	R510	3C	C505	3C		
Q501	3C	D506	1B	CP602	3D	R511	3B	C506	2A		
Q502	2C	D508	3B	CP603	3B	R512	3B	C507	2E		
Q503	3D	D509	2F	R427	3F	R513	2E	C508	2C		
Q504	2D	D510	2F	R501	3F	R515	3B	C509	2B		
L POWER SUPPLY P.C.B.											
D1	5A	L1	5C	RL1	5A	FC1	5B	CP1	5D	CP3	6C
D2	5A	F1	5B	RL2	5A	FC2	5B	CP2	6B	CP4	6A

<p>NJM4580DD S8081B</p> 	<p>OP-271GP</p> 	<p>M5216P</p> 	<p>TC74HC14AP TC74HC02AP TC74HC11AP TC74HC74AP</p> 	<p>NJM064D</p> 	<p>TA8532P</p> 
<p>M5F78M12L M5F79M12L M5F78M18L</p> 	<p>S81250PGT S81250PGZ</p> 	<p>S80840ANY</p> 	<p>2SK369GR</p> 	<p>2SC2458ABCTA 2SA1048ABCTA DTA144ESTP DTC124EST DTC114EST DTC144EST DTA114EST</p> 	
<p>2SB1030ATA</p> 	<p>2SD1761DEF</p> 	<p>LN01201C LN01301C LN01401C</p> 	<p>LN88RCP</p> 	<p>MA182TA</p> 	<p>MA27WATA MA29WATA</p> 
<p>LN846RP-C</p> 	<p>MA165TA MA150TA MA167TA</p> 	<p>D1NK20H-4084</p> 			



I PRE OUT TERMINAL P.C.B.

G METER LED P.C.B.

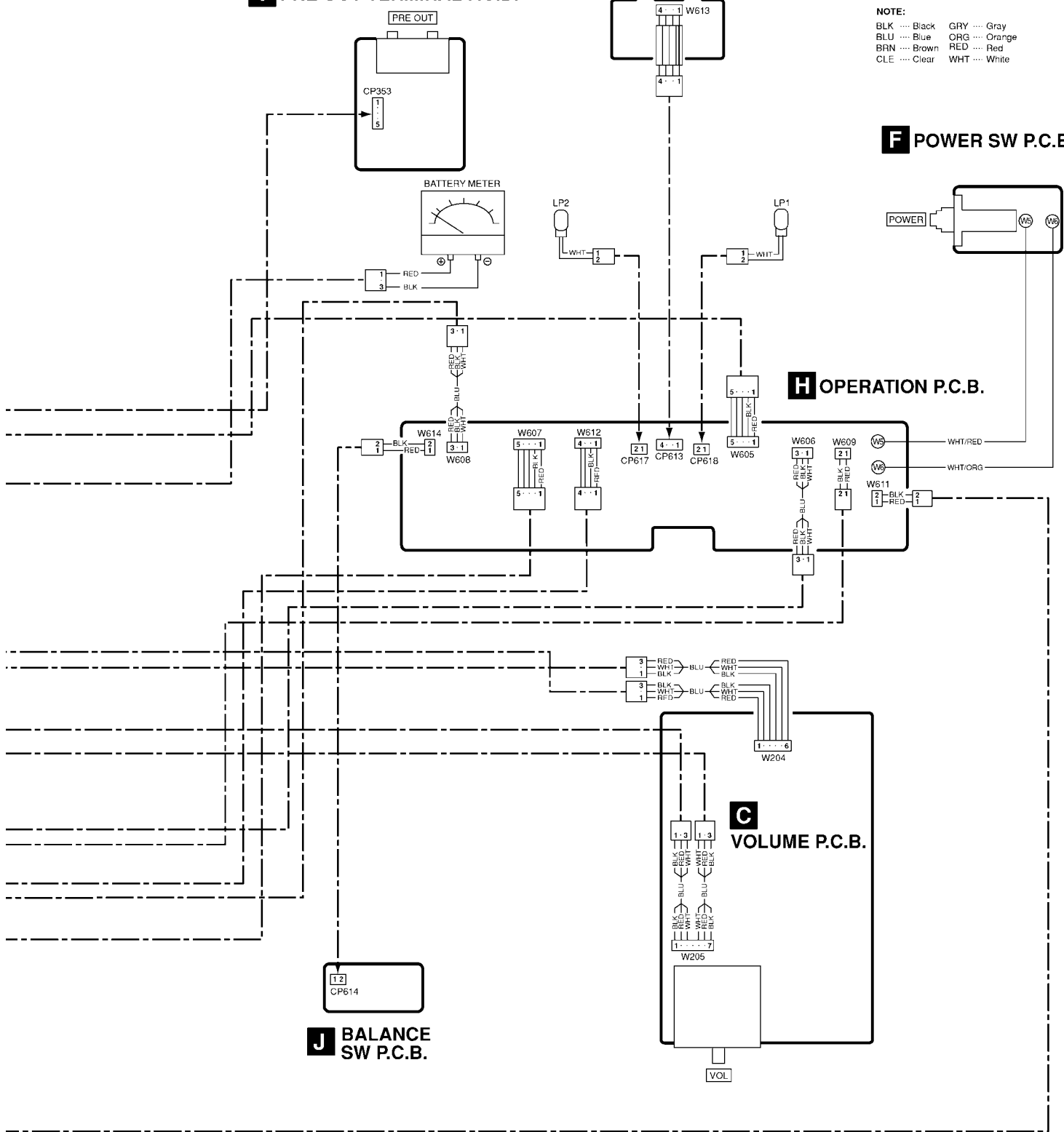
NOTE:
 BLK Black GRY Gray
 BLU Blue ORG Orange
 BRN Brown RED Red
 CLE Clear WHT White

F POWER SW P.C.B.

H OPERATION P.C.B.

C VOLUME P.C.B.

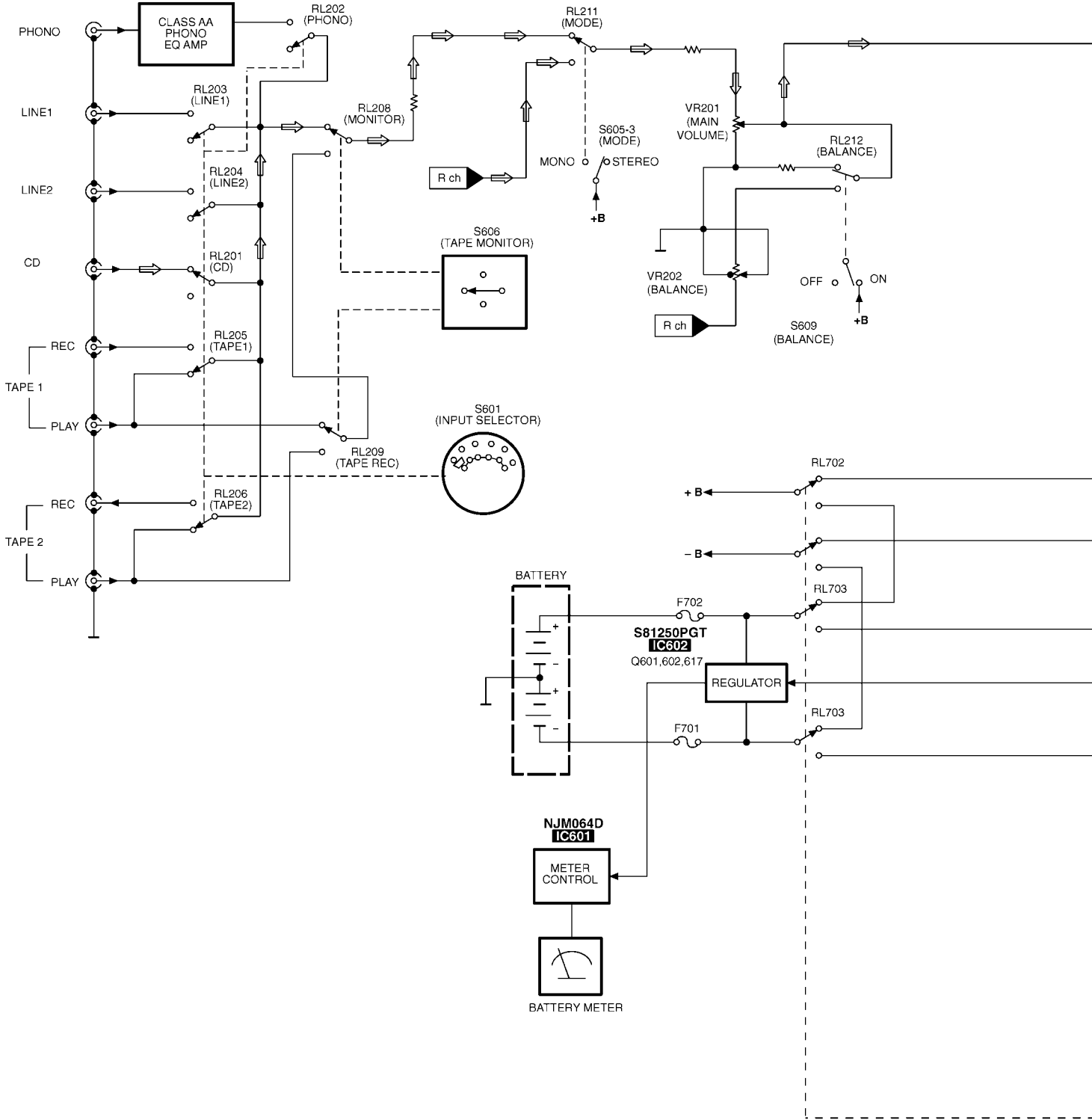
J BALANCE SW P.C.B.



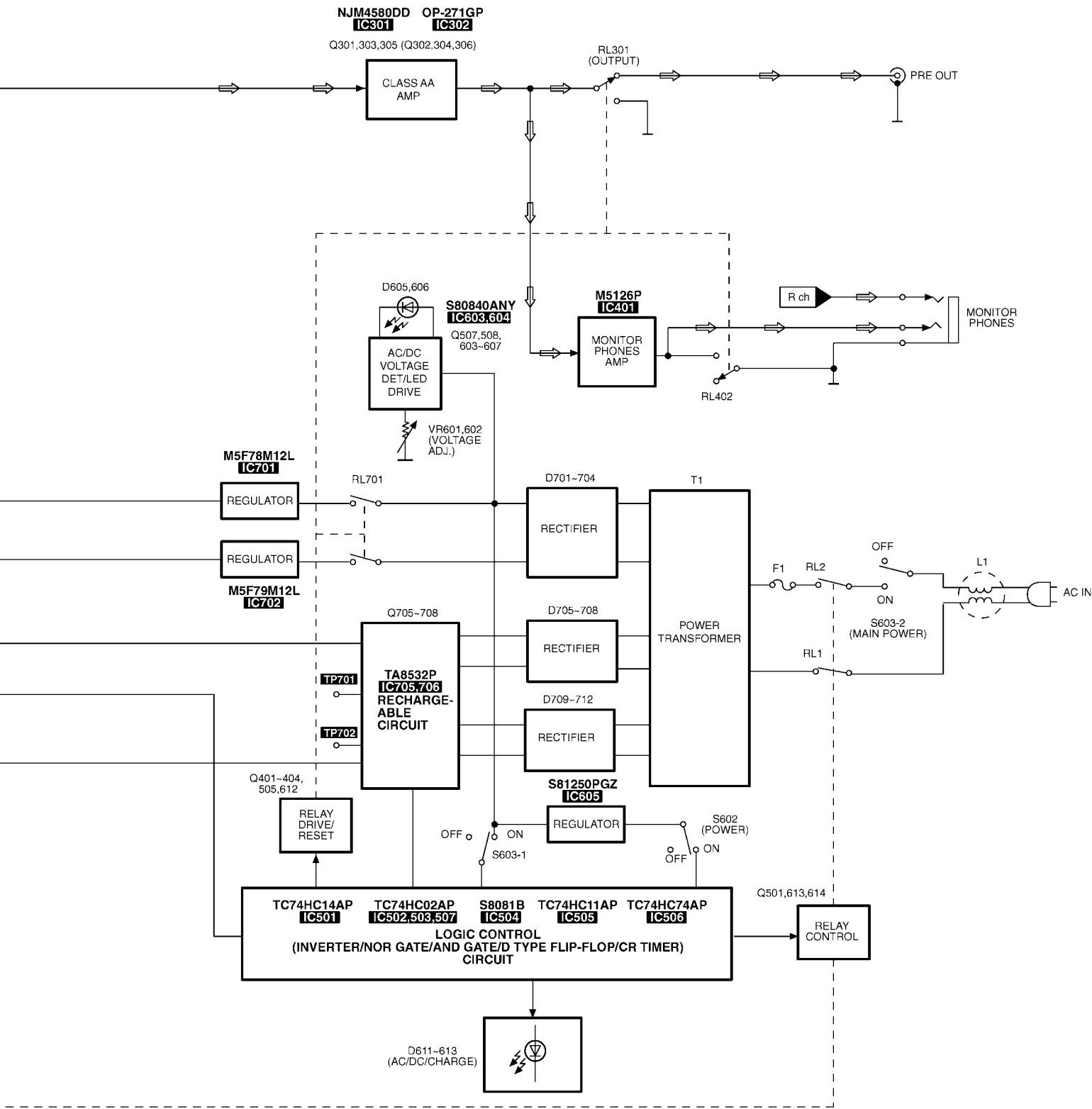
(L ch)

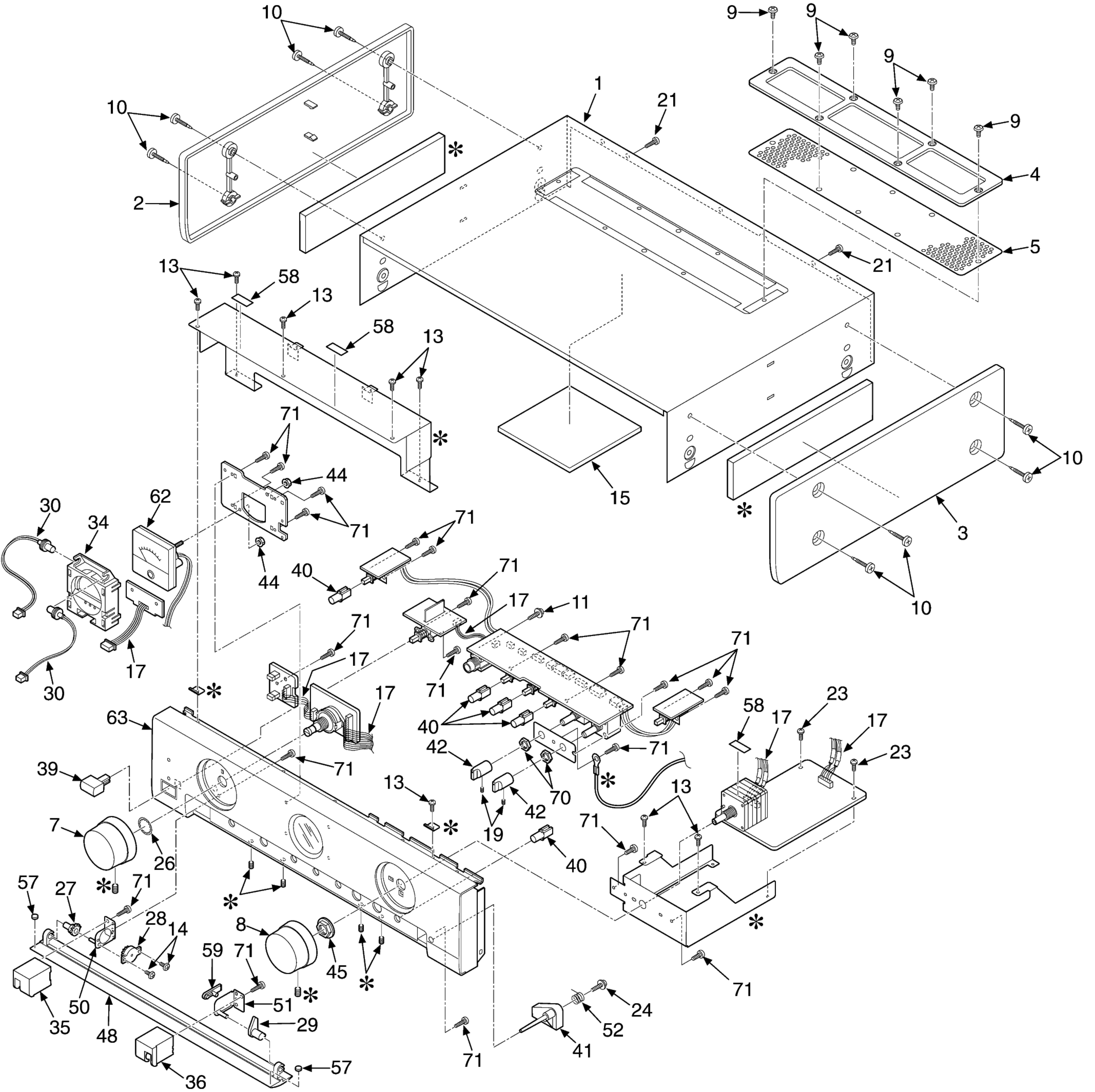
NJM4580DD IC101 **OP-271GP IC102**

Q101,103,105,107(Q102,104,106,108)

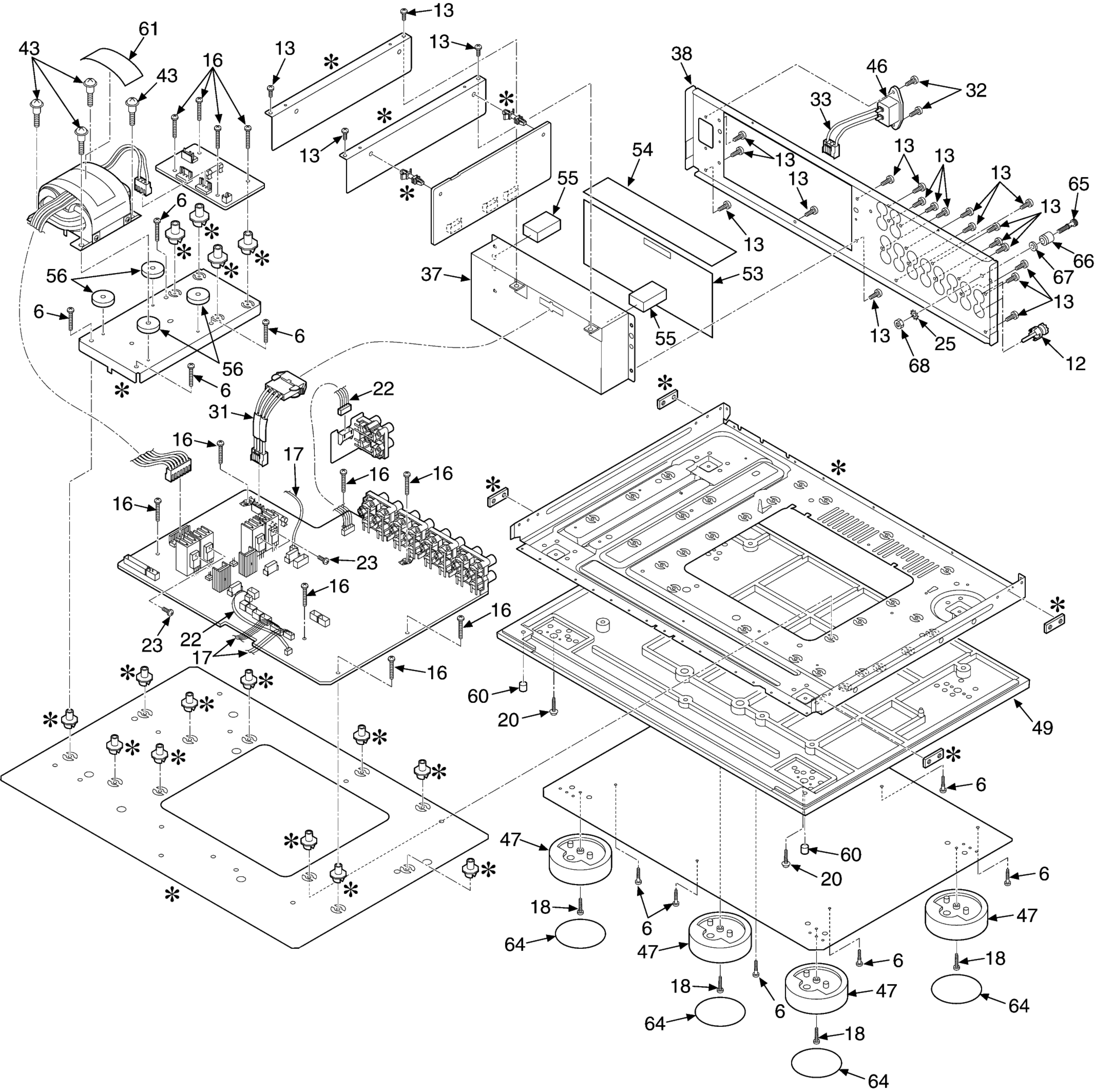


Notes
 ● Signal line ⇨ : Source signal
 ● () indicates pin No. Right channel.





We do not supply those items of parts marked *.



We do not supply those items of parts marked *.