

# Service Manual

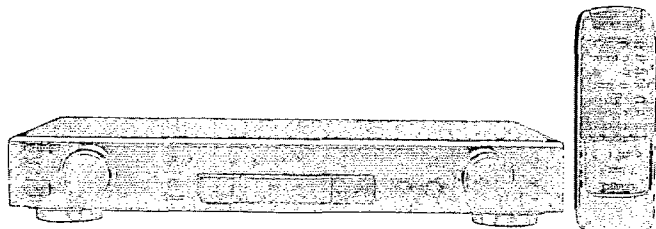
Stereo Control Amplifier

Amplifier

## SU-C1000

Colour

(K) : Black



Areas

Suffix for Model No.	Area	Colour
(P)	U.S.A.	(K)
(E)	Europe	
(EB)	Britain	
(EG)	Germany and Italy	

[for (P) area code model only]

### Specifications (IHF '78)

Total harmonic distortion Vol. Max 20 Hz – 20 kHz	0.01 %
Input sensitivity/Impedance	
PHONO "MM"	2.5 mV/47 kΩ
"MC"	170 μV/220 Ω
TUNER, CD, AUX, TAPE 1, TAPE 2/DCC	200 mV/22 kΩ
Phono maximum input voltage (1 kHz, RMS)	
"MM"	130 mV (IHF '66)
"MC"	10 mV (IHF '66)
S/N	
PHONO "MM"	78 dB (85 dB, IHF '66)
"MC"	64 dB (S = 250 μV, 66 dB, IHF '66)
TUNER, CD, AUX, TAPE 1, TAPE 2/DCC	91 dB (100 dB, IHF '66)
Frequency response	
PHONO "MM"	RIAA standard curve ±0.8 dB (30 Hz – 15 kHz)
TUNER, CD, AUX, TAPE 1, TAPE 2/DCC	3 Hz – 80 kHz (+0, –3 dB) ±0 dB, –0.3 dB (20 Hz – 20 kHz)
Tone controls	
BASS	50 Hz, +10 dB, –10 dB
TREBLE	20 kHz, +10 dB, –10 dB
Output voltage	
TAPE 1, TAPE 2 REC OUT	200 mV
PRE OUT	1 V
Channel balance (AUX, 250 Hz – 6.3 kHz)	±1 dB
Channel separation (AUX, 1 kHz)	50 dB
■ GENERAL	
Power consumption	9 W
Power supply	60 Hz AC, 120 V
Dimensions (W × H × D)	430 × 69.3 × 307 mm (16-15/16" × 2-23/32" × 12-3/32")
Weight	3.3 kg (7.3 lb.)

[for (E), (EB) and (EG) area code model]

### Specifications (DIN 45 500)

Total harmonic distortion Vol. Max 20 Hz – 20 kHz	0.01 %
Input sensitivity/Impedance	
PHONO "MM"	2.5 mV/47 kΩ
"MC"	170 μV/220 Ω
TUNER, CD, AUX, TAPE 1, TAPE 2/DCC	200 mV/22 kΩ
Phono maximum input voltage (1 kHz, RMS)	
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PHONO "MM"	RIAA standard curve ±0.8 dB (30 Hz – 15 kHz)
TUNER, CD, AUX, TAPE 1, TAPE 2/DCC	3 Hz – 80 kHz (+0, –3 dB) ±0 dB, –0.3 dB (20 Hz – 20 kHz)
Tone controls	
BASS	50 Hz, +10 dB, –10 dB
TREBLE	20 kHz, +10 dB, –10 dB
Output voltage	
TAPE 1, TAPE 2 REC OUT	200 mV
PRE OUT	1 V
Channel balance (AUX, 250 Hz – 6.3 kHz)	±1 dB
Channel separation (AUX, 1 kHz)	50 dB
■ GENERAL	
Power consumption	10 W
Power supply	
For (E) and (EG) areas	50 Hz/60 Hz AC, 230 V
For (EB) area	50 Hz/60 Hz AC, 230 V – 240 V
Dimensions (W × H × D)	430 × 69.3 × 307 mm
Weight	3.3 kg

Notes:

- Design and specifications are subject to change without notice. Weight and dimensions are approximate.
- Total harmonic distortion is measured by the digital spectrum analyzer.

#### ⚠ WARNING

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

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## ■ Safety Precaution

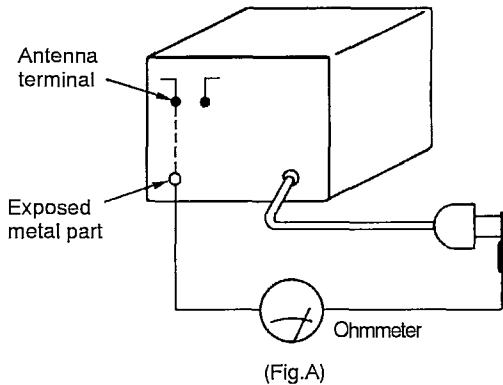
### [for (P) area code model only]

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

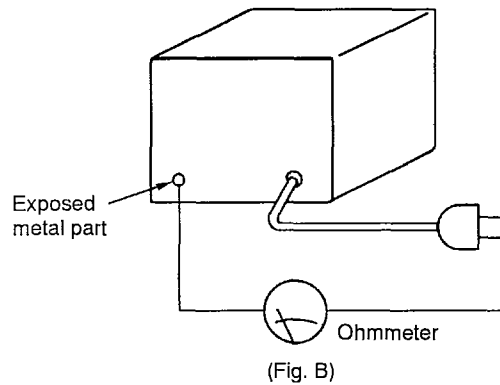
### ● INSULATION RESISTANCE TEST

1. Unplug the power cord and short the two prongs of the plug with a jumper wire.
2. Turn on the power switch.
3. Measure the resistance value with ohmmeter between the jumpered AC plug and each exposed metal cabinet part, such as screwheads antenna, control shafts, handle brackets, etc. Equipment with antenna terminals should read between 3 MΩ and 5.2 MΩ to all exposed parts. (Fig. A)  
Equipment without antenna terminals should read approximately infinity to all exposed parts. (Fig. B)

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



Resistance = 3 MΩ — 5.2 MΩ



Resistance = Approx. ∞

4. If the measurement is outside the specified limits, there is a possibility of a shock hazard. The equipment should be repaired and rechecked before it is returned to the customer.

## ■ Before Repair

- (1) Turn off the power supply. Using a 10 Ω, 10 W resistor, connect both ends of power supply capacitors (C611, C651) 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 50/60 Hz in NO SIGNAL mode should be shown below with respect to supply voltage 120 V/230 V/240 V.

Power supply voltage	AC 120 V, 60 Hz	AC 230 V, 50 Hz	AC 240 V, 50 Hz
Consumed current	30 ~ 55 mA	8 ~ 22 mA	8 ~ 22 mA

## ■ 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 function of this circuitry is to prevent circuitry damage if, for example, the positive and negative speaker connection wires are "shorted", or if speaker systems with an impedance less than the indicated rated impedance of this unit are used.

If this occurs, follow the procedure outlined below:

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

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

## ■ Caution for AC Mains Lead


[for (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 the colours of the wires in the mains lead of this appliance 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 in the plug which is marked with the letter N or coloured BLACK.

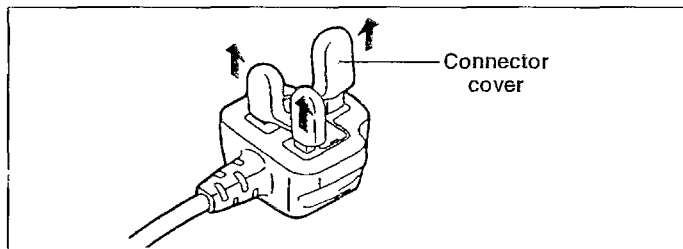
This apparatus was produced to BS 800.

The wire which is coloured BROWN must be connected to the terminal in the plug which is marked with the letter L or coloured RED.

Under no circumstances should either of these wires be connected to the earth terminal of the three pin plug, marked with the letter E or the Earth Symbol .

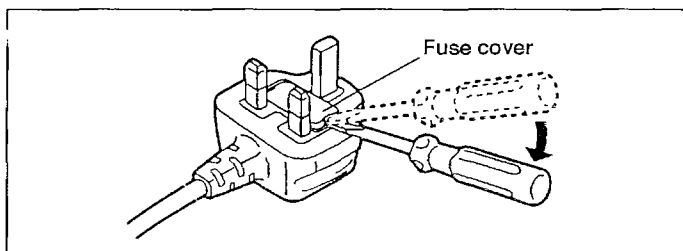
### Before use

Removal the connector cover as follows.

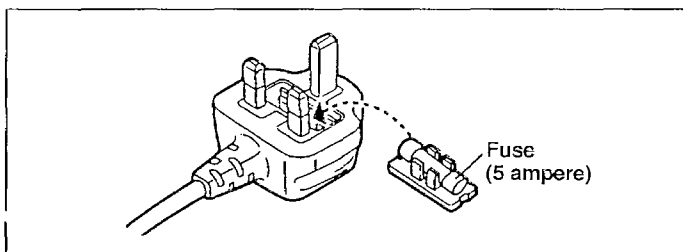


### How to replace the fuse

1. Remove the fuse cover with a screwdriver.

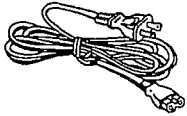


2. Replace the fuse and attach the fuse cover.

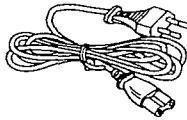


## ■ Accessories

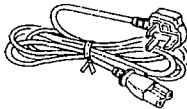
- AC power supply cord  
(P) area : (SJA172) ..... 1



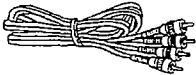
- (E, EG) areas : (RJA0019-2K) ..... 1



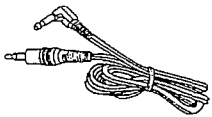
- (EB) area : (VJA0733) ..... 1



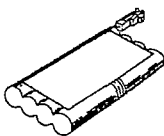
- Stereo connection cable  
(SJP2276) ..... 1



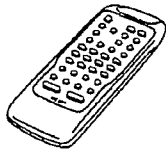
- Remote control cable  
[for (E), (EB) and (EG) areas]  
(SJP2257T) ..... 1



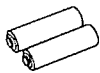
- Rechargeable battery  
for (P) area (P-06RM/8A14) ..... 1  
for (E), (EB) and (EG) area (P-06RM/8A13) ..... 1



- Remote control transmitter  
for (P) area (RAK-SU182WH) ..... 1  
for (E), (EB) and (EG) area (RAK-SU180WH) ..... 1



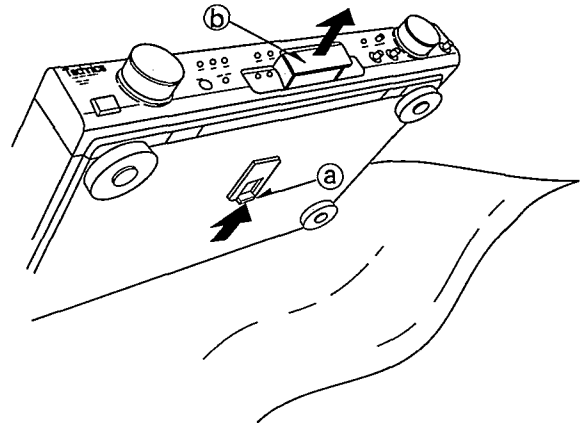
- Batteries  
(UM-4, "AAA", R03) ..... 2  
**Note:** These are available on sales route.



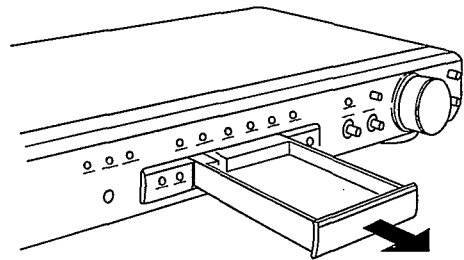
## ■ Inserting the Rechargeable Battery

Place the unit on top of a soft cloth to protect it from damage.

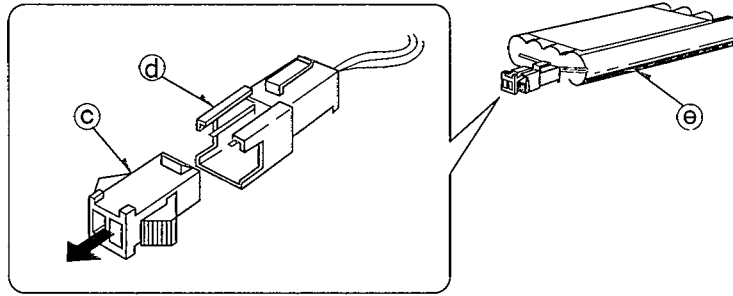
- 1 Pull the lever (a) at the bottom of the unit toward you. The battery case (b) will spring up by 1–2 cm.



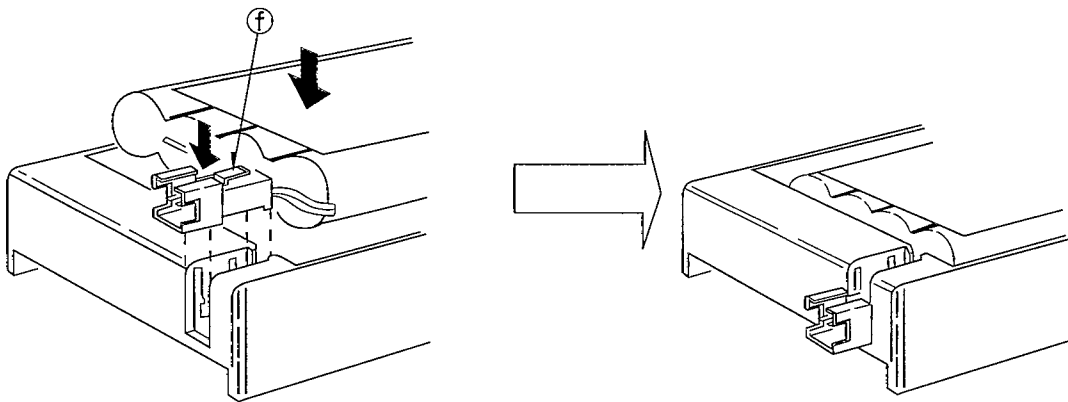
- 2 Take out the battery case.



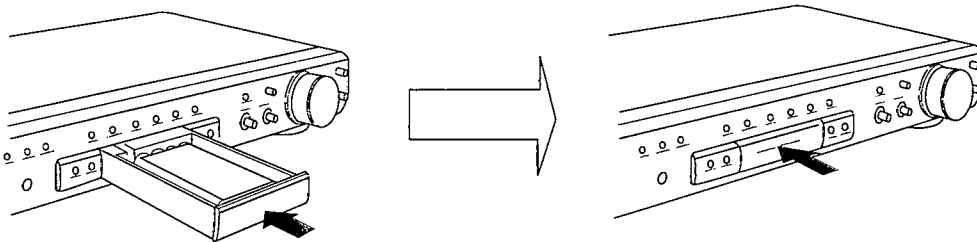
- 3** Remove the protective cap (c) from the connector (d) of the rechargeable battery (e) which is supplied as an accessory.



- 4** While holding the connector so that the pawl (f) is facing upward, securely insert the connector into the groove in the battery case until it snaps into place.



- 5** Insert the battery case into the main unit.



**Note**

- Do not insert anything other than the rechargeable battery into the battery compartment.
- Read the "Battery Notes" section on page 7 for details on correct use of the battery.

## Connections

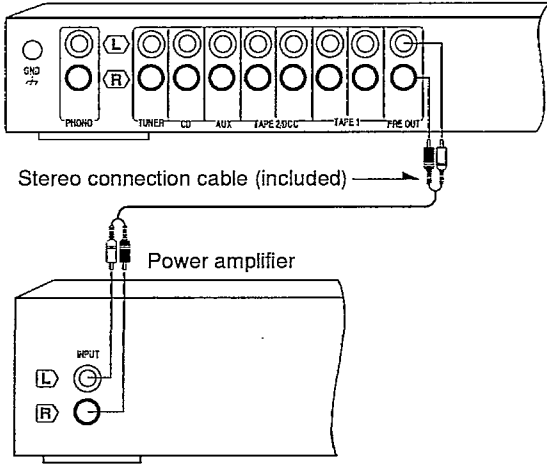
Make sure that the power supply for all components has been turned off before making any connections.

**Note** Do not place this unit on top of another piece of equipment that radiates heat (such as a power amplifier).

### Connecting to the power amplifier

[for all area code model]

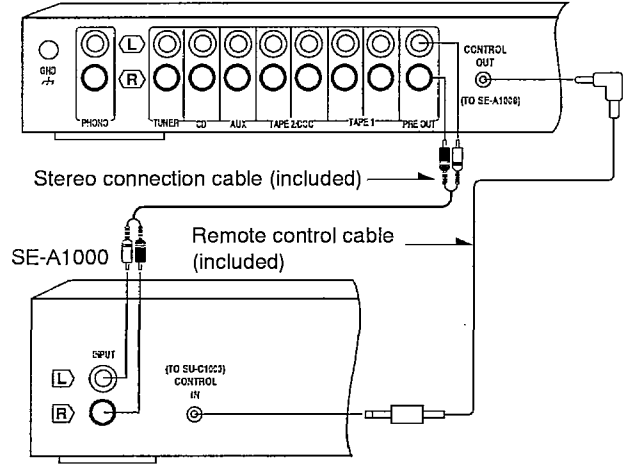
This unit



[for (E), (EB) and (EG) area code model]

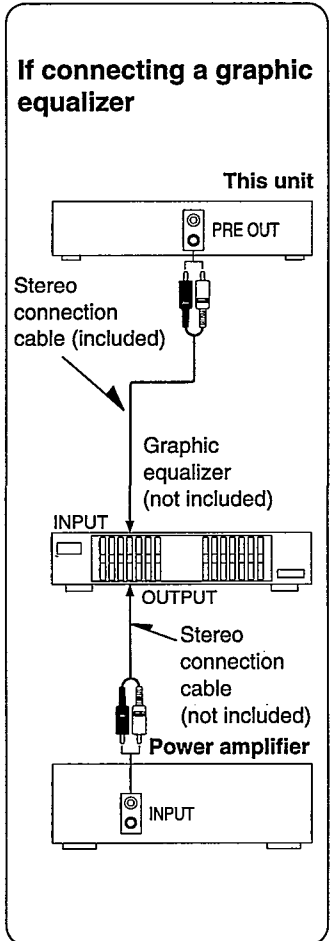
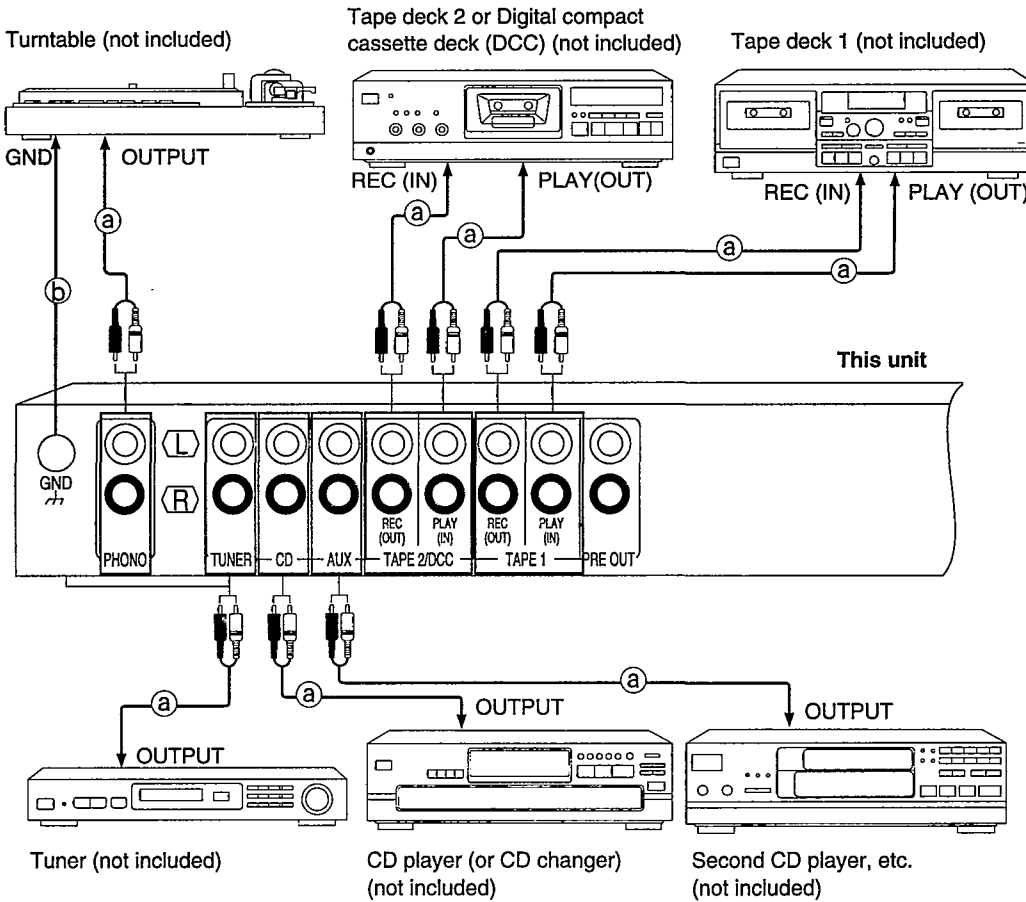
When connecting to the Technics SE-A1000

This unit



### Connecting to audio components

- Ⓐ Stereo connection cables (not included)
- Ⓑ Ground wire (not included)



## ■ Power Supply

### Power supply system

Once the unit has been connected to an AC power source and turned on, you can then select whether to continue to run it from an AC power supply or from battery power (using the rechargeable battery). Because the noise that is generated by AC power supplies is eliminated when running the unit from battery power, you can enjoy an even clearer playback sound.

The unit can be used continuously for approximately 15 hours from a fully-charged battery. After the battery has been used for a cumulative total of 8 hours, automatic recharging starts as soon as the amplifier is turned off. Therefore, it is not necessary to take any special steps to ensure that the battery remains charged.

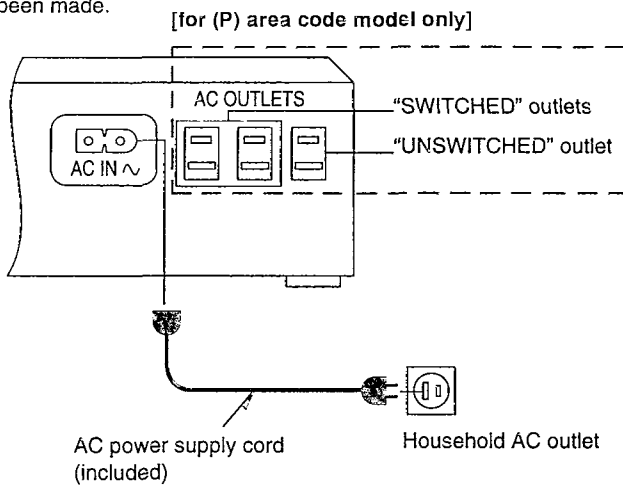
### Replacing the rechargeable battery

The operation life of the rechargeable battery is approximately two years. However, this will vary depending on the conditions of use.

For information about replacing the battery, please contact your dealer or the nearest Technics Service Center.

## Connecting the power supply

Connect the power supply only after all other connections have been made.



### “AC OUTLETS” [for (P) area code model only]

#### “SWITCHED” outlets

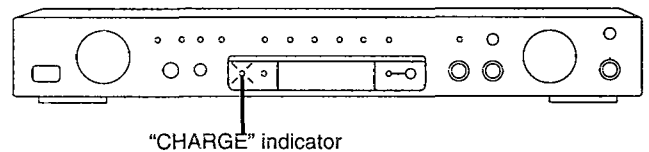
Power is controlled by the power switch. Audio equipment rated up to 300 W in total can be connected here.

#### “UNSWITCHED” outlet

Power is always available, regardless of power switch. Audio equipment rated up to 100 W can be connected here.

## Initial charging

When the amplifier is connected by means of the AC power supply cord, initial charging starts straight away and the “CHARGE” indicator on the front of the amplifier illuminates. In the case of initial charging, it takes approximately 10 hours for charging to be completed, and the unit cannot be run from the battery during this time. Please wait until the “CHARGE” indicator switches off before using the battery. (In the case of automatic recharging mentioned above, the battery can be used even while recharging is taking place.)



### NOTE

Initial charging of the battery will also be carried out at the following times in order to help preserve the battery.

1. When the battery case is removed and replaced;
2. When the battery is used continuously for a long period of time and the battery voltage has dropped to a constant level.

## ■ Forced Switching to Battery Power for Testing and Maintenance

When the rechargeable battery is replaced or reinstalled, it remains in a state of charging for approximately 10 hours. While it is in this state, the power supply cannot be switched over to battery power by pressing the Battery Operation button.

To forcibly switch to battery power, turn off the unit (with the Standby indicator on) and then back on again while holding down the Battery Operation button. The unit will switch to battery power and the Battery Operation indicator will light up.

If the Battery Operation indicator does not light, there is a malfunction in the rechargeable battery or a circuit in the battery system.

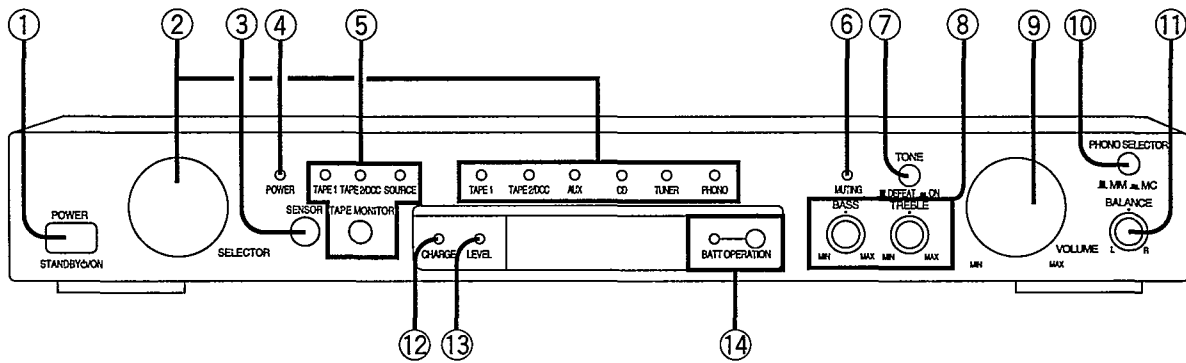
## ■ Battery Notes

- Always remove old, weak or worn-out batteries promptly and dispose of them properly.
- Never subject batteries to excessive heat or flame; do not attempt to disassemble them; and be sure they are not short-circuited.
- If the leaking electrolyte comes into contact with skin or clothes, flush with water immediately.

### Rechargeable battery

- Do not use the battery for powering any device other than this unit.
- Do not remove the cover that encloses the rechargeable battery, otherwise there is the danger of the battery short-circuiting.

## ■ Front Panel Controls

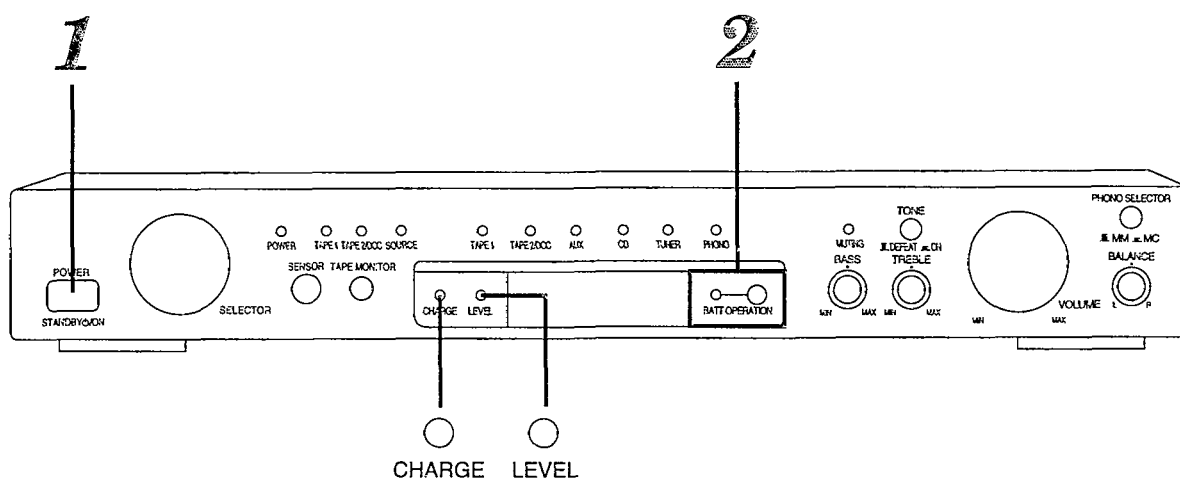


No.	Name
①	<b>Power "STANDBY <math>\phi</math>/ON" switch (POWER, STANDBY <math>\phi</math>/ON)</b> Press to switch the unit from on to standby mode or vice versa. In standby mode, the unit is still consuming a small amount of power.
②	<b>Input selector/indicators (SELECTOR)</b>
③	<b>Remote control signal sensor (SENSOR)</b>
④	<b>Power indicator (POWER)</b>
⑤	<b>Tape-monitor button/indicators (TAPE MONITOR)</b>
⑥	<b>Muting indicator (MUTING)</b>
⑦	<b>Tone control button (TONE)</b>

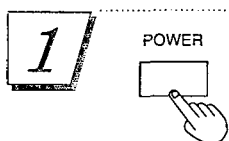
No.	Name
⑧	<b>Tone controls (BASS, TREBLE)</b>
⑨	<b>Volume control (VOLUME)</b>
⑩	<b>Phono cartridge select button (PHONO SELECTOR)</b>
⑪	<b>Balance control (BALANCE)</b>
⑫	<b>Charge indicator (CHARGE)</b>
⑬	<b>Battery condition indicator (LEVEL)</b>
⑭	<b>Battery operation button/indicator (BATT OPERATION)</b>



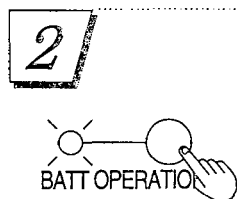
## ■ Using Battery Power



- Make sure you first read the "Power supply" section on page 7.
- If the unit is carrying out initial charging of the battery, carry out the following steps after the "CHARGE" indicator switches off.



**1** Press **POWER** to switch on the power.



**2** Press **BATT OPERATION**. The indicator next to the button will illuminate and the power supply will switch from AC power to battery power.

After this, carry out the steps on the following pages.

### When turning the amplifier off

When **POWER** is pressed, both the amplifier and the battery power supply will be switched off simultaneously. When **POWER** is then pressed again to turn the power back on, the battery power supply will also be turned back on.

### Switching to AC power

After the amplifier has been switched on, press **BATT OPERATION**. The battery operation indicator will switch off.

If the amplifier has started automatic recharging of the battery because the battery voltage has dropped to a constant level, the power supply at this time will automatically be switched to AC power. (Operations such as playback and recording will continue without a break while this happens.)

### If the "LEVEL" Indicator Is flashing (approximately every 5 seconds)

If this starts to happen when **BATT OPERATION** is pressed, it means that an initial charge of the battery is being carried out, and is to let you know that the battery cannot currently be used.

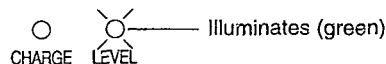
## Checking the battery condition

You can check the current battery level and whether it is charging by means of the "LEVEL" indicator and the "CHARGE" indicator.

### Basic operation of the indicators

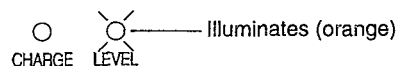
When battery power is being used, each indicator changes as shown below (①→②→③) during normal operation.

- ① When total battery operation time after the battery has been fully charged is less than 8 hours.



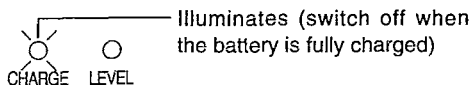
Charging is not carried out at this time even if the amplifier is turned off.

- ② When total battery operation time after the battery has been fully charged is 8 hours or more.



If the amplifier is turned off during this time, battery recharging will be carried out. (The "CHARGE" indicator will illuminate.)

- ③ During battery charging.



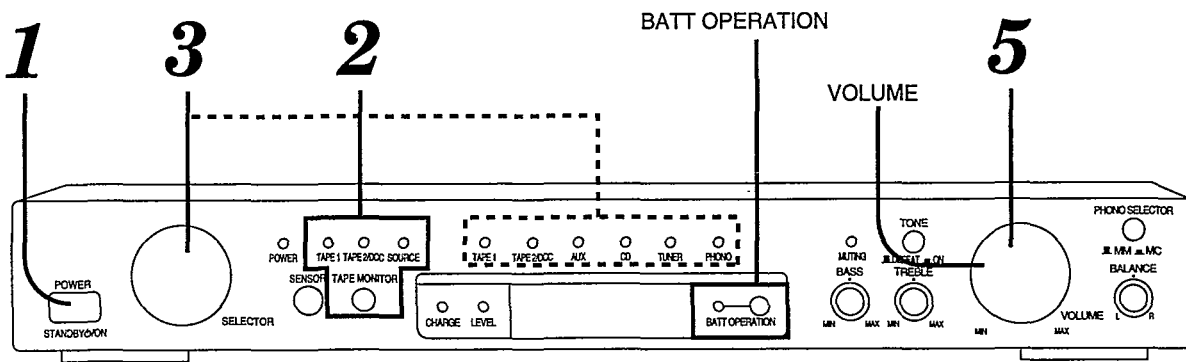
The time taken for the battery to charge is approximately half of the usage time.

You can switch over to battery power while the battery is charging, even if charging is not yet complete. (Battery charging stops as soon as battery-powered operation starts.)

### Other indicator operations

- If the "LEVEL" indicator illuminates in orange instead of green even when the battery is fully charged, it means that the performance of the rechargeable battery is deteriorating. Battery-powered operation is still possible.
- If the "LEVEL" indicator is flashing and the "CHARGE" indicator is still illuminated even after the normal amount of time required for recharging has passed, the battery is at the end of its usable life.
- If the "CHARGE" indicator is switched off and the "LEVEL" indicator is flashing, the battery has not been installed, or there is a malfunction of the battery or the amplifier.

## ■ Listening to Sound



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

**1** **POWER** Press **POWER** to switch on the power.  
Next, switch on the power of the power amplifier.

[for (E), (EB) and (EG) area code model]  
If the SE-A1000 power amplifier is connected to this unit, both units can simultaneously be turned on or to the standby position simply by pressing POWER on this unit.

If using battery-powered operation, press BATT OPERATION. The indicator beside the button will illuminate.

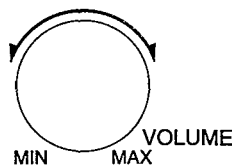
**2** Press **TAPE MONITOR** so that the "SOURCE" indicator illuminates.  
Each time the button is pressed, the indication will change as follows.  
TAPE 1 → TAPE 2/DCC → SOURCE

**3** Turn **SELECTOR** to select the desired source.  
The indicator which corresponds to the selected input source will illuminate.

**TAPE 1:** Tape deck 1  
**TAPE 2/DCC:** Tape deck 2 or DCC  
**AUX:** Component connected to the AUX terminals  
**CD:** CD player (or CD changer)  
**TUNER:** Tuner  
**PHONO:** Turntable (Refer to "When listening to phono discs" on next page.)

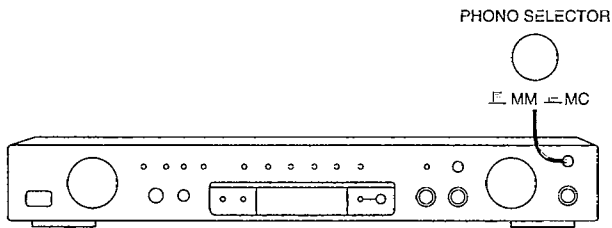
**4** Start the desired source.  
(Refer to the appropriate operating instructions for details.)

**5** Turn **VOLUME** to adjust the volume level.



After listening is finished  
1. Use VOLUME to reduce the volume level.  
2. First switch off the power amplifier, and then do the same for this unit.  
[for (E), (EB) and (EG) area code model]  
(When connected to the SE-A1000)  
Press POWER on this unit to switch both amplifiers to the standby condition.

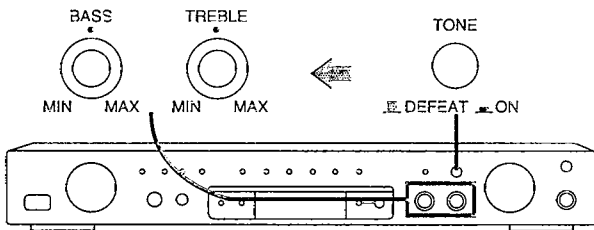
### *When listening to phono discs*



Press **PHONO SELECTOR** to select the cartridge type.

- ☐ **MM**: Set to this position when using a moving-magnet type cartridge or high-output moving-coil cartridge (1 mV or more).
- ☐ **MC**: Set to this position when using a moving-coil type cartridge.

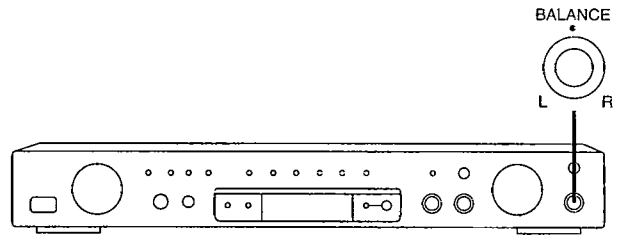
### *To adjust the tone quality*



- ① Press **TONE** in to the "☐ ON" position.
- ② Turn **BASS** to adjust the low-frequency sound. Turn **TREBLE** to adjust the high-frequency sound.

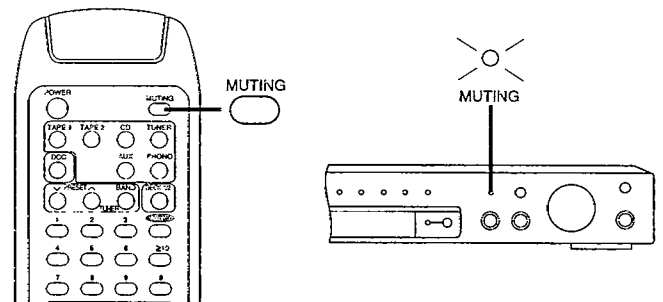
If listening without adjusting the tone quality, press **TONE** so that it is at the "☐ DEFEAT" position.

### *To adjust the sound balance*



Turn **BALANCE** to adjust the left/right sound balance.

### *To mute the sound level*

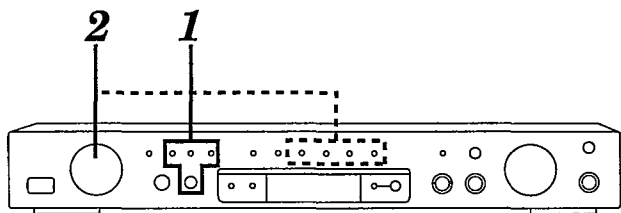


Press **MUTING** on the remote control transmitter. (The "MUTING" indicator on the amplifier will illuminate.)

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

## ■ Recording

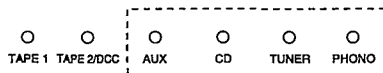
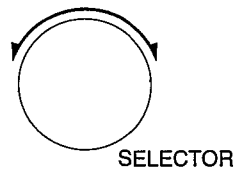
It is possible to record from units which are connected to the rear "AUX", "CD", "TUNER" or "PHONO" terminals to cassette tape decks or DCC decks which are connected to the "TAPE 1" or "TAPE 2/DCC" terminals.



**1** Press **TAPE MONITOR** so that the "SOURCE" indicator illuminates.



**2** Turn **SELECTOR** to select the desired source to be recorded.



**AUX:** Component connected to the AUX terminals  
**CD:** CD player (or CD changer)  
**TUNER:** Tuner  
**PHONO:** Turntable

**3** Prepare the tape deck for recording. Refer to the operating instructions for the tape deck for detailed adjustment of the recording level, etc.

**4** Start the tape deck for recording, and play the source.

### *Recording from tape to tape*

It is possible to record from tape deck 1 to tape deck 2 (or DCC) and vice versa.

#### **To record from tape deck 1 to 2**

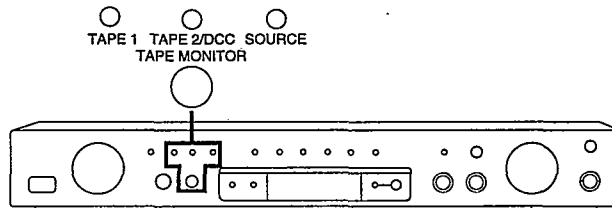
1. Press **TAPE MONITOR** so that the "SOURCE" indicator illuminates.
2. Turn **SELECTOR** so that the "TAPE 1" indicator illuminates.
3. Begin tape deck 2 for recording and tape deck 1 for playback.

#### **To record from tape deck 2 to 1**

1. Press **TAPE MONITOR** so that the "SOURCE" indicator illuminates.
2. Turn **SELECTOR** so that the "TAPE 2/DCC" indicator illuminates.
3. Begin tape deck 1 for recording and tape deck 2 for playback.

### *To check the sound recorded while recording is being made*

If a cassette tape deck with 3 heads is connected to the "TAPE 1" or "TAPE 2/DCC" terminals, it is possible to check the sound being recorded onto the tape.



Press **TAPE MONITOR** to select the deck (tape deck 1 or 2) and set the monitor switch on the tape deck to "TAPE".

**TAPE 1:** when recording on tape deck 1

**TAPE 2/DCC:** when recording on tape deck 2

**Note**

Be sure to switch the illuminated tape monitor indicator back to "SOURCE" once you have finished monitoring the sound being recorded.

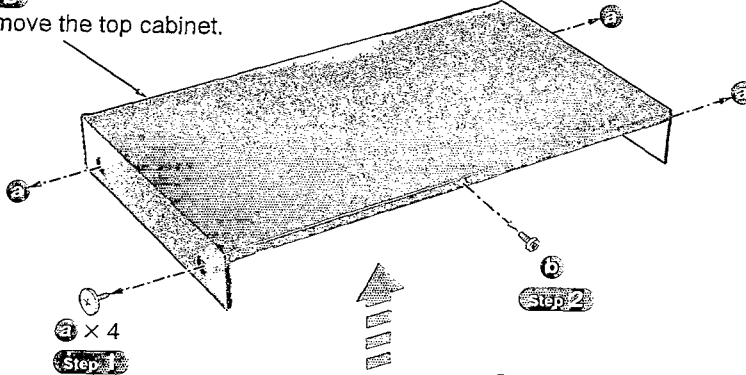
# Operation Check and Main Component Replacement Procedures

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

## 1. Checking for the operation P.C.B. and main P.C.B.

**Step 3**

Remove the top cabinet.



(a)

[RHD30035-K1] (Black)



(b)

(c)

[XTBS3+8JFZ1] (Black)

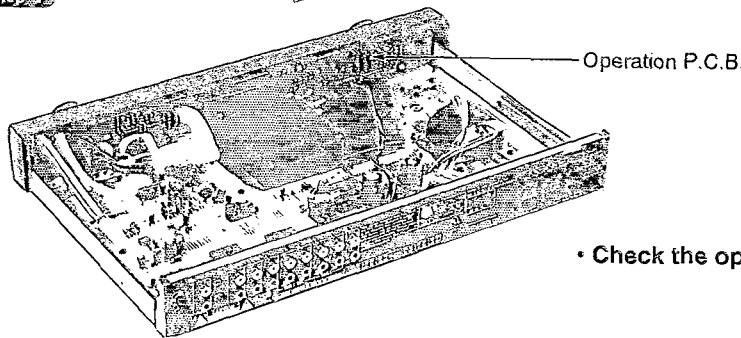


(d)

[XTB3+20JFZ] (Black)

(a) x 4  
**Step 4**

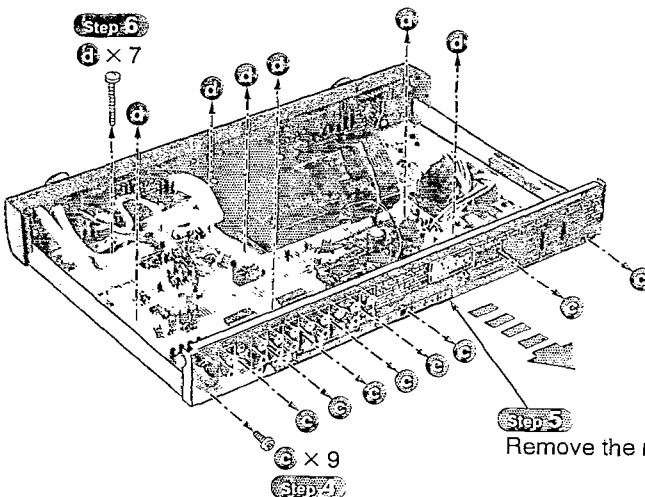
**Step 2**



• Check the operation P.C.B. this condition.

**Step 6**

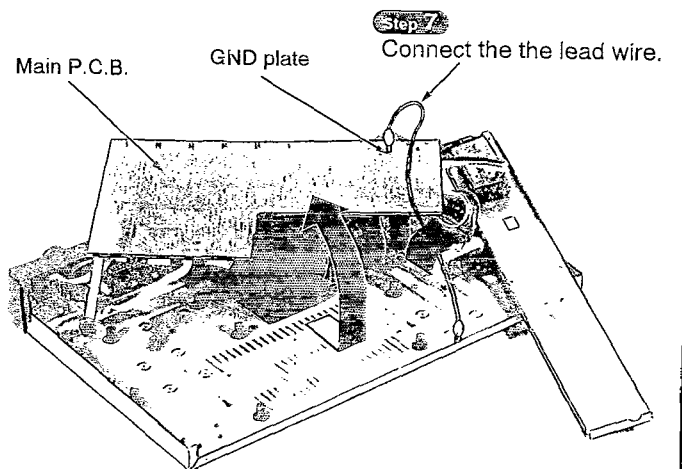
(d) x 7



(d) x 9  
**Step 4**

**Step 5**

Remove the rear panel.



**Step 7**

Connect the the lead wire.

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

**To remove each P.C.B.**

• Follow the **Step 1** ~ **Step 3** in item 1 on page 13.



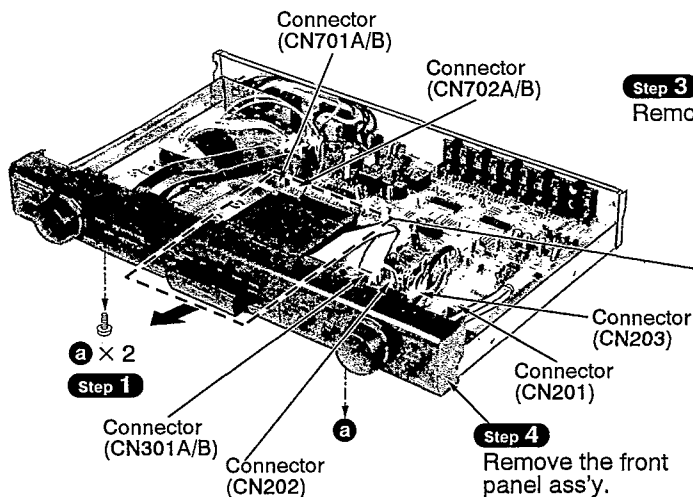
**a**

[XTBS3+8JFZ1] (Black)



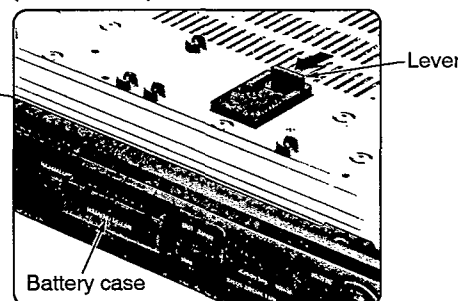
**b, c, d**

[RHD26017]



**Step 3**  
Remove the 6 connectors.

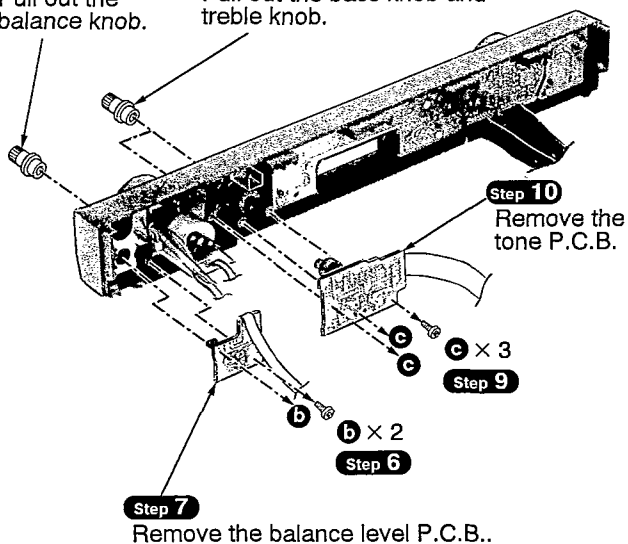
(Bottom side)



**Step 2**  
Push the lever and then pull out the battery case.

**Step 5**  
Pull out the balance knob.

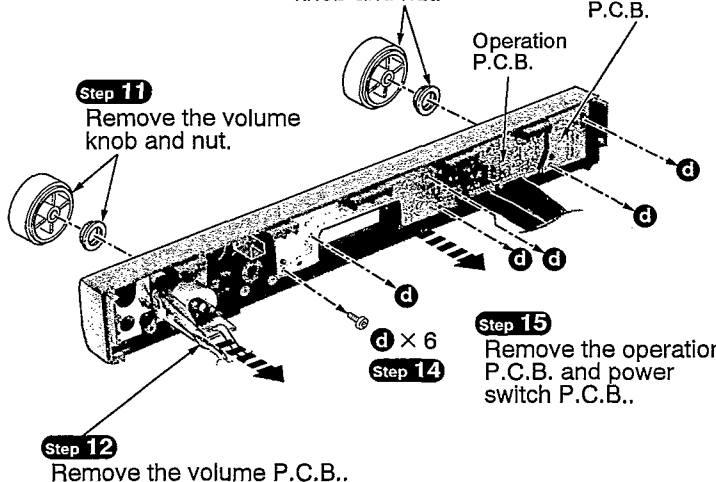
**Step 8**  
Pull out the bass knob and treble knob.



**Step 10**  
Remove the tone P.C.B.

**Step 13**  
Remove the selector knob and nut.  
Power switch P.C.B.

**Step 11**  
Remove the volume knob and nut.

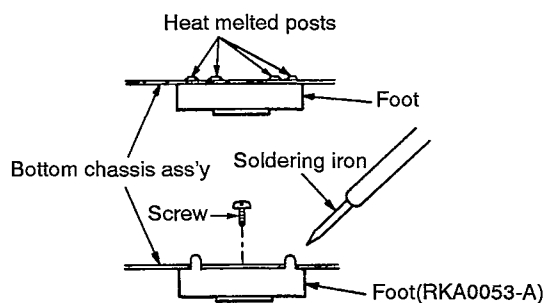


**Step 15**  
Remove the operation P.C.B. and power switch P.C.B..

**Step 12**  
Remove the volume P.C.B..

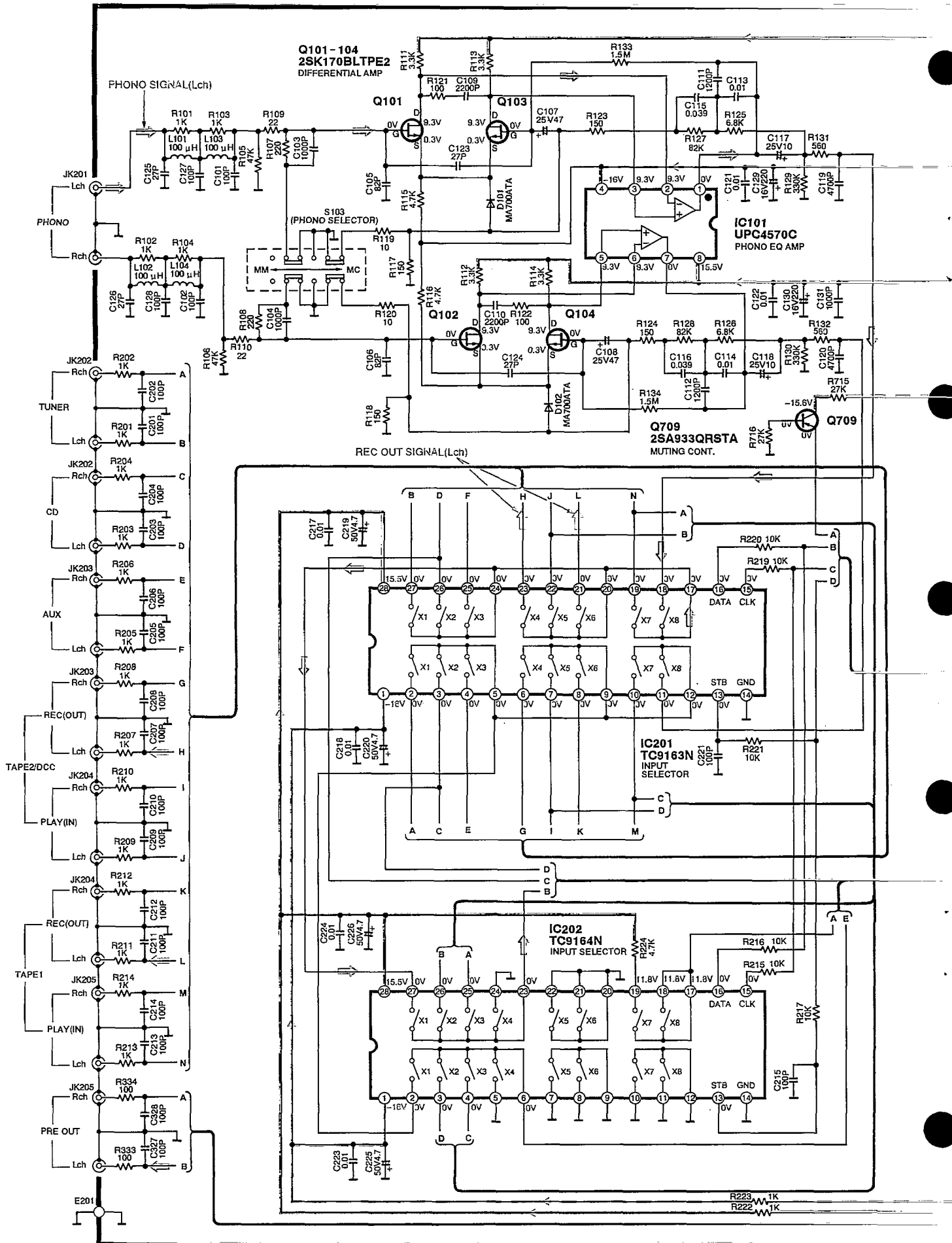
**Replacement of the foot**

- Remove the 4 heat melted posts on the bottom chassis ass'y with a pair of nippers or similar tool.
- To replace the foot(RKA0053-A) on the bottom chassis ass'y melt the 4 posts with a soldering iron or install it with a screw (XTB3+6J)





**A** MAIN CIRCUIT (P.C.Board: on page 22)

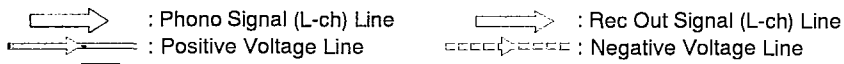




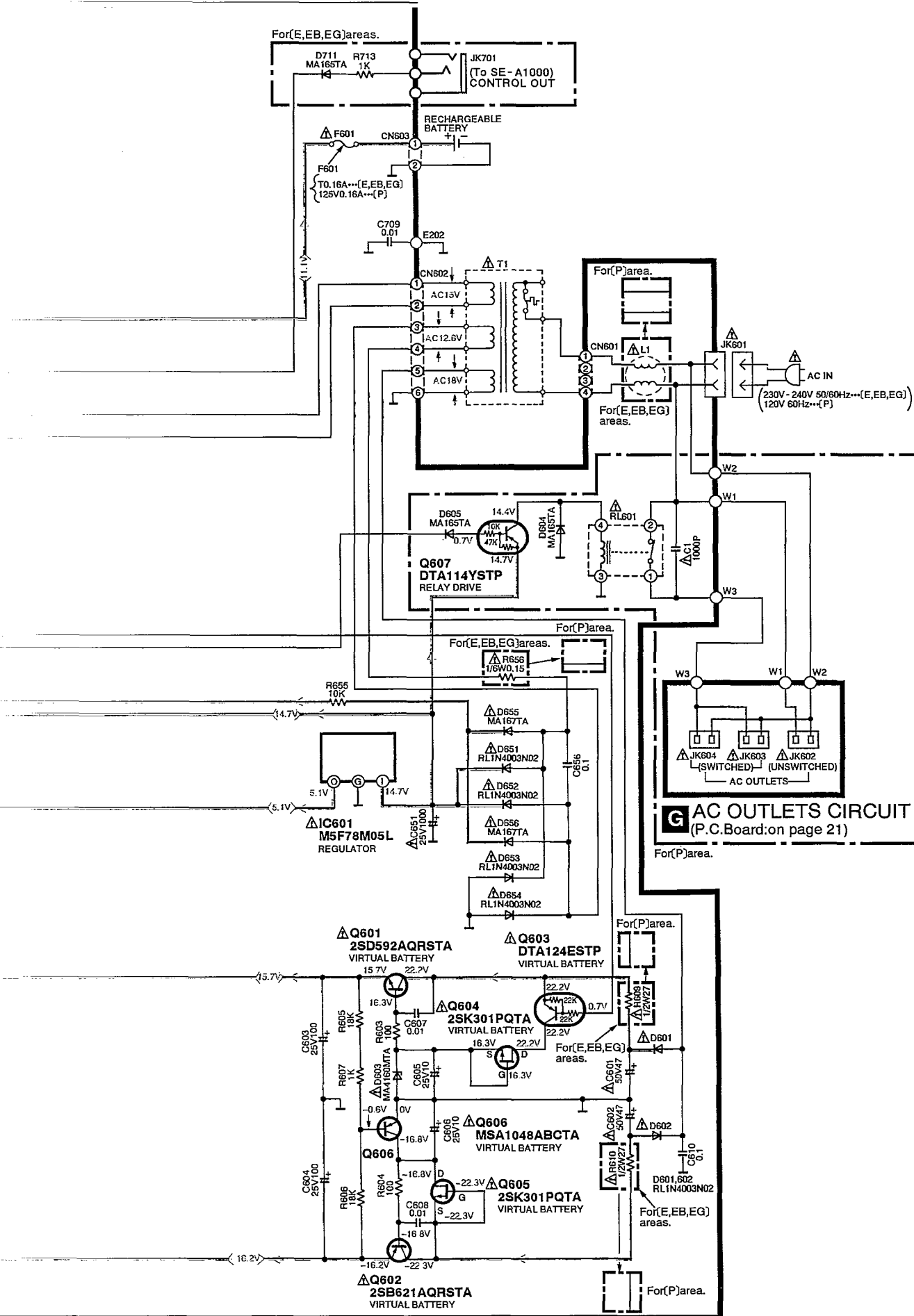








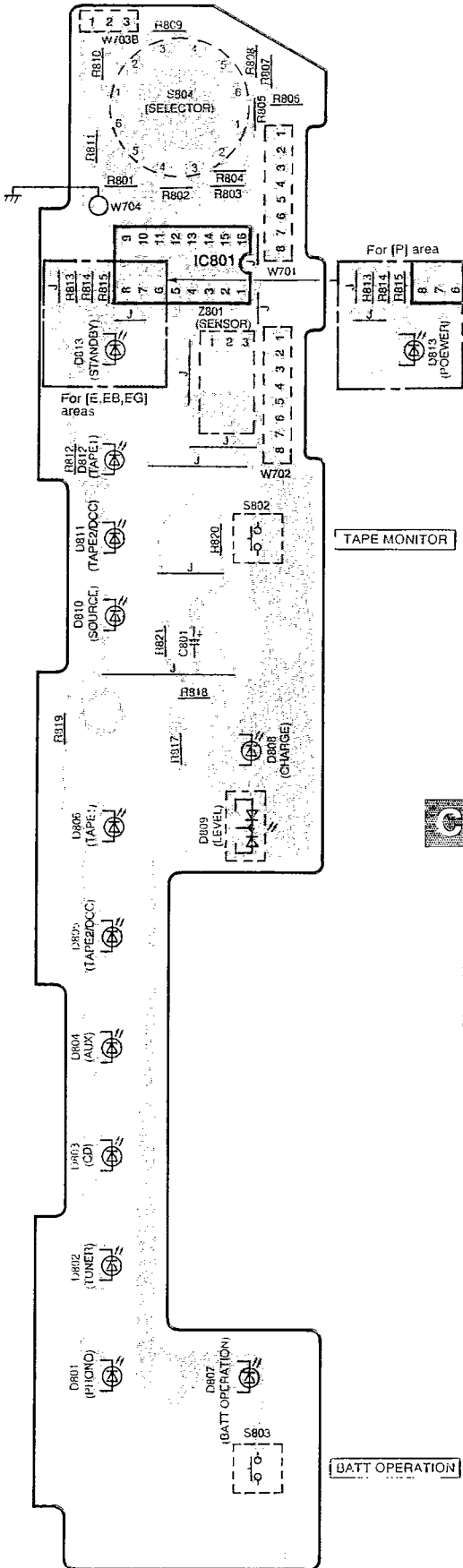
**A MAIN CIRCUIT (P.C.Board: on page 22)**



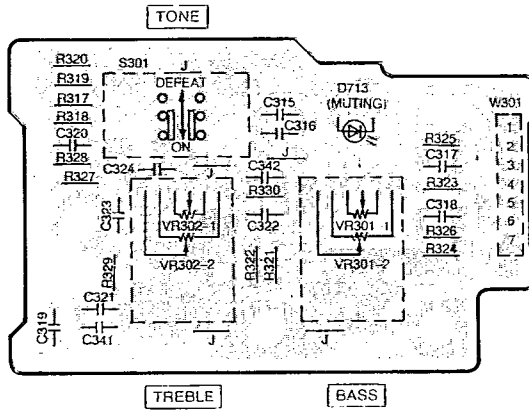
# Printed Circuit Board Diagram

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

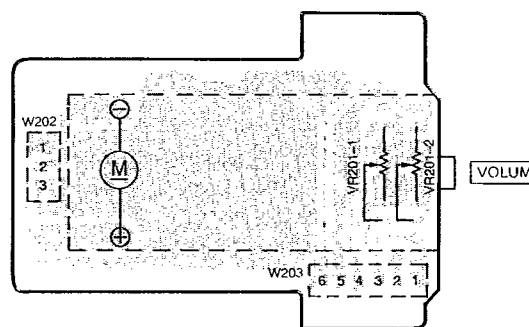
**F** OPERATION P.C.B.  
 (REP2157A-2S...[E,EB,EG])  
 (REP2157B-2S...[P])



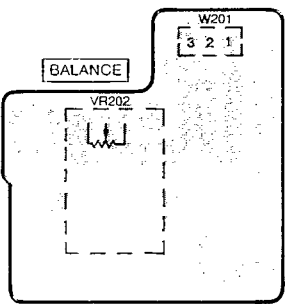
**UD** TONE P.C.B.  
 (REP2157A-2S...[E,EB,EG])  
 (REP2157B-2S...[P])



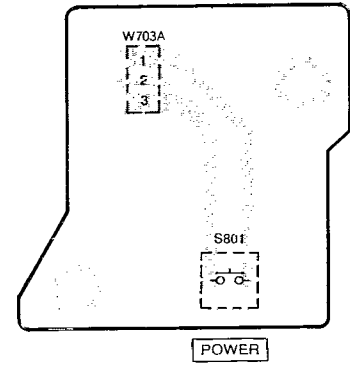
**D** VOLUME P.C.B.  
 (REP2157A-2S...[E,EB,EG])  
 (REP2157B-2S...[P])



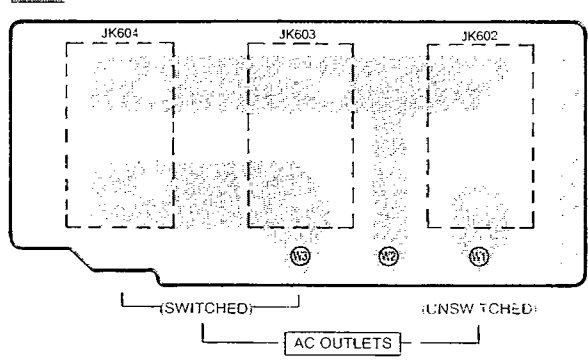
**G** BALANCE LEVEL P.C.B.  
 (REP2157A-2S...[E,EB,EG])  
 (REP2157B-2S...[P])



**E** POWER SWITCH P.C.B.  
 (REP2157A-2S...[E,EB,EG])  
 (REP2157B-2S...[P])

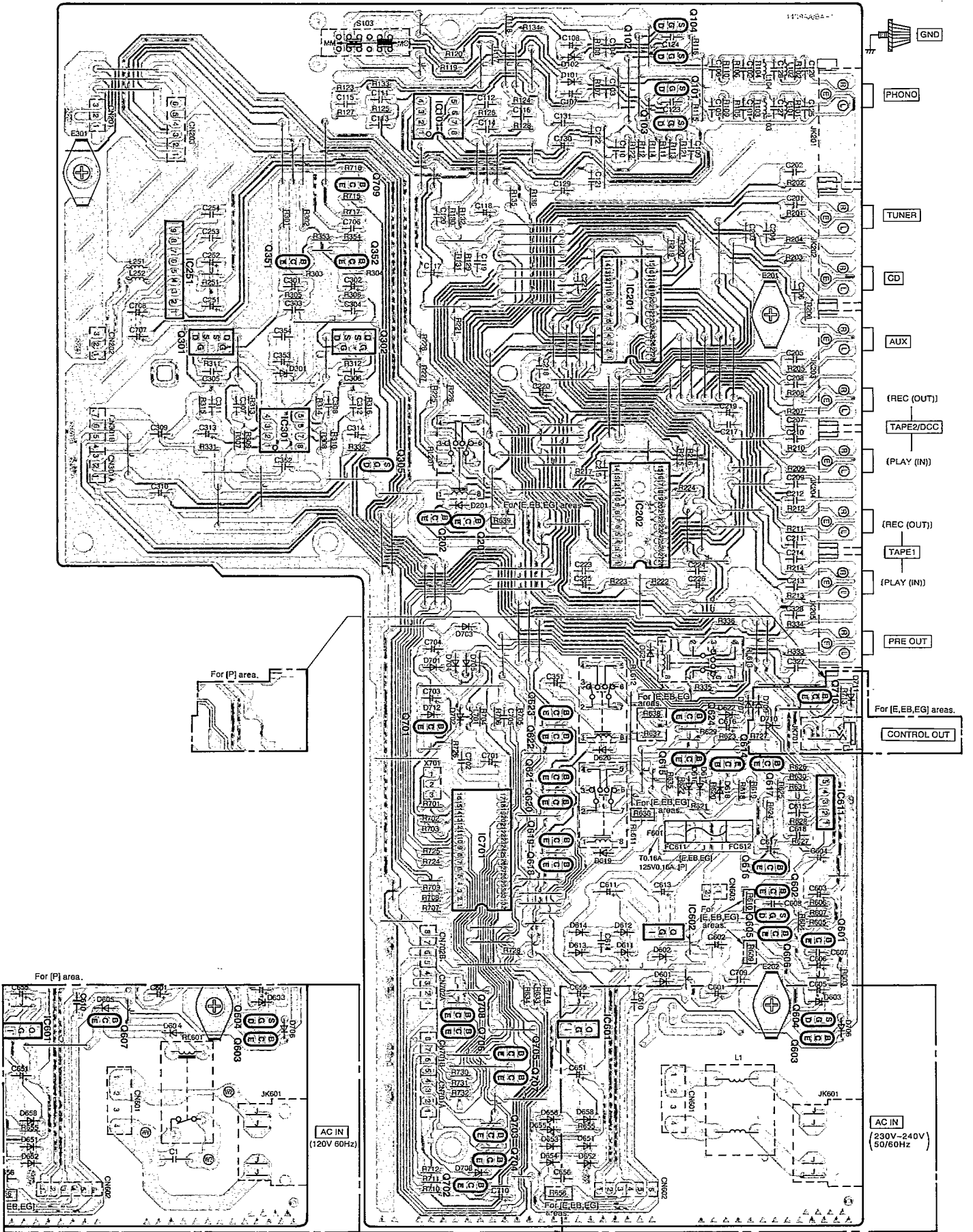


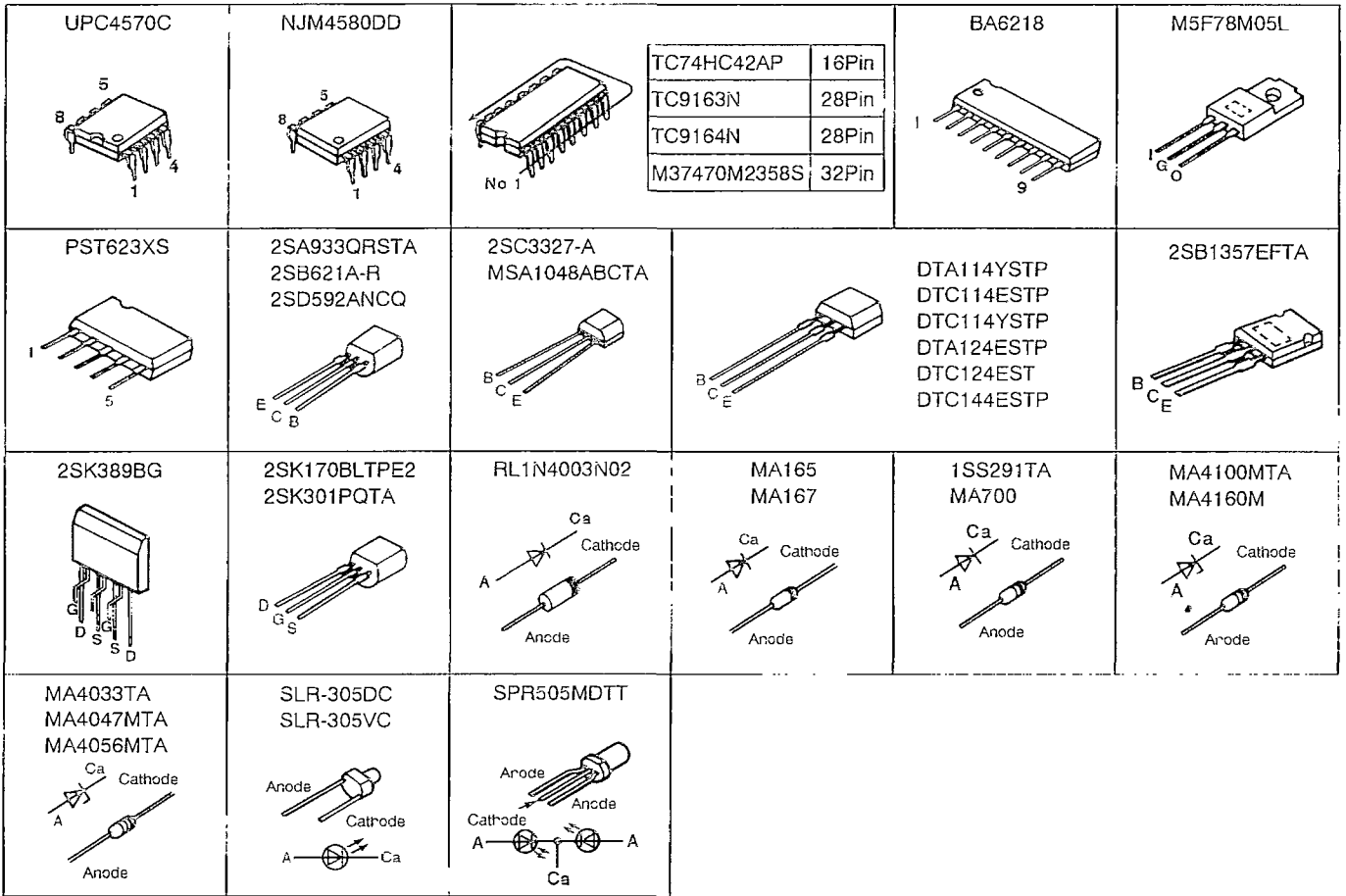
**G** AC OUTLETS P.C.B. (REP2157B-2S)



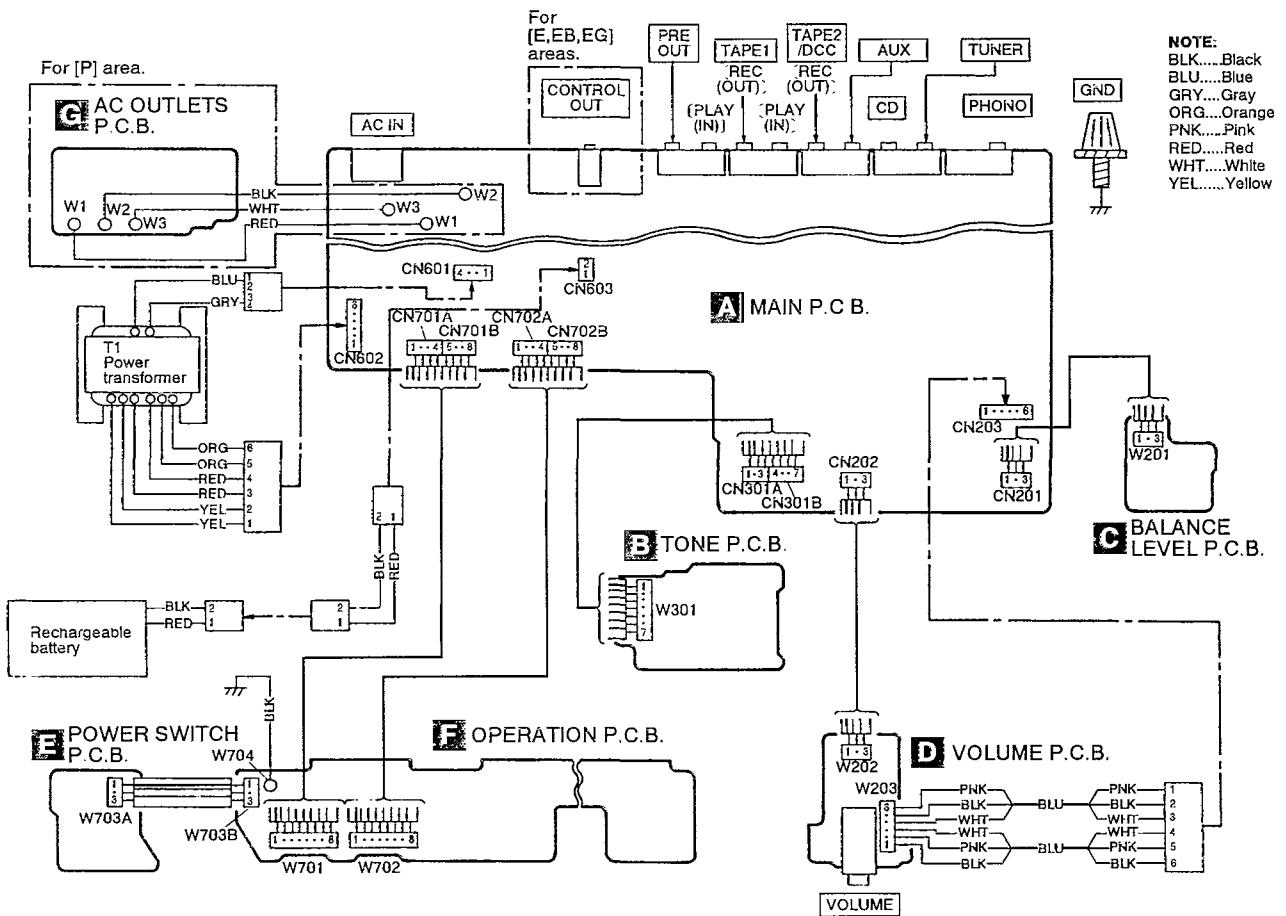
**A** MAIN P.C.B. (REP2157A-1S...[E,EB,EG]  
REP2157B-1S...[P])

PHONO SELECTOR

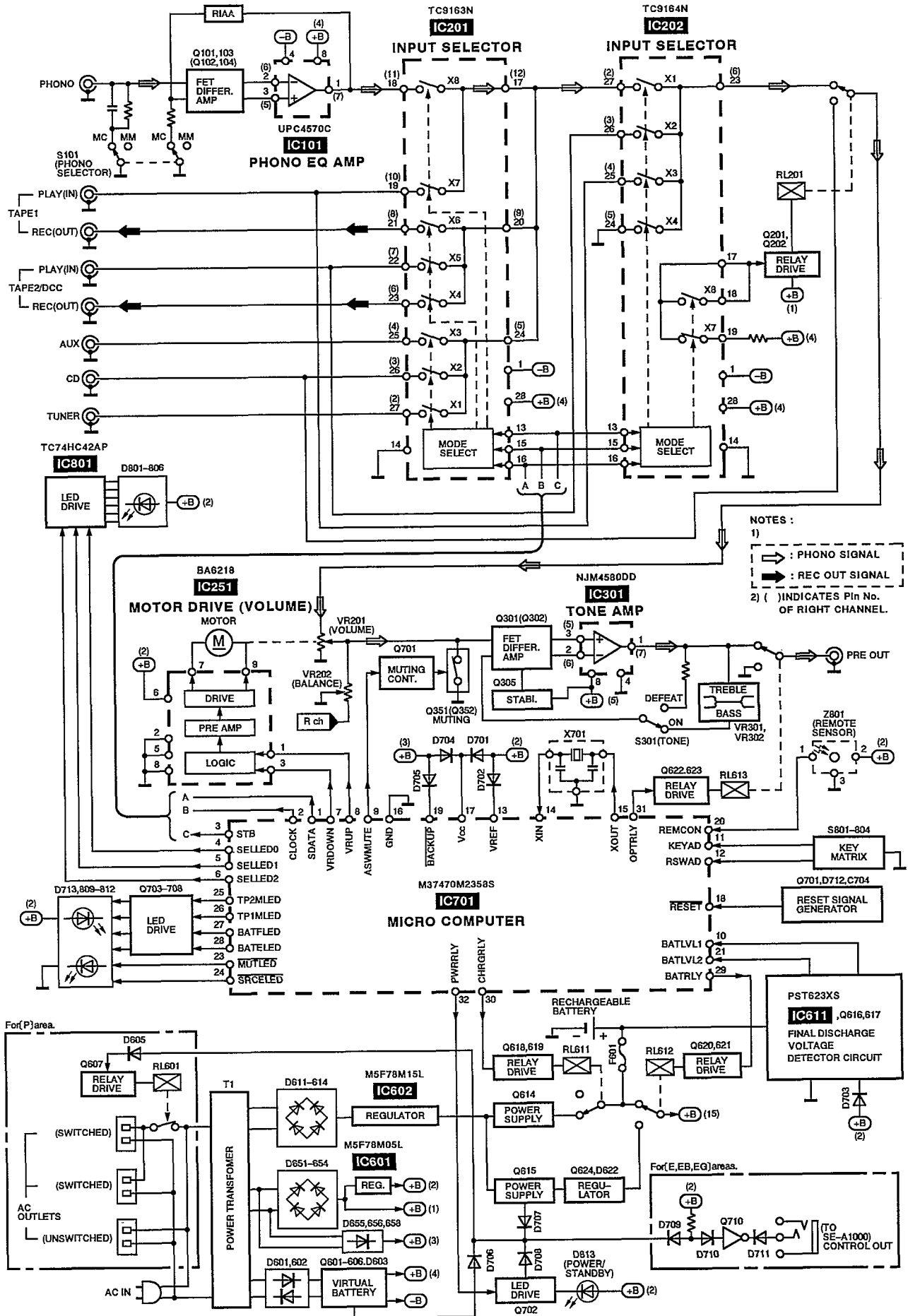




## Wiring Connection Diagram



# Block Diagram



NOTES :  
 1) : PHONO SIGNAL  
 : REC OUT SIGNAL  
 2) ( ) INDICATES Pin No. OF RIGHT CHANNEL.



## Function of IC Terminals

### IC701 (M37470M2358S)

Pin No.	Terminal Name	I/O	Function
1	SDATA	O	Data signal output for input select IC (IC201 and IC202)
2	CLOCK	O	Clock signal output for input select IC (IC201 and IC202)
3	STB	O	Strobe signal output for input select IC (IC201 and IC202)
4	SELLED0	O	Input select LED drive signal output
5	SELLED1		
6	SELLED2		
7	VRDOWN	O	Motor drive signal output (Volume down)
8	VRUP	O	Motor drive signal output (Volume up)
9	ASWMUTE	O	Audio signal muting signal output
10	BATLVL1	I	Battery voltage detection (1) signal input
11	KEYAD	I	Power switch and Tape monitor switch signal
12	RSWAD	I	Input selector switch (S804) signal input
13	VREF	I	Reference voltage input
14	XIN	I	Connect to the ceramic oscillator
15	XOUT	O	
16	GND	—	Connect to GND

Pin No.	Terminal Name	I/O	Function
17	VCC	I	Power supply (+5V)
18	RESET	I	System reset signal input
19	BACKUP	I	Power failure detect signal input
20	REMCON	I	Remote control signal input
21	BATLVL2	I	Battery voltage detection (2) signal input
22	CS	I	Chip select signal input (Connect to GND)
23	MUTLED	O	Muting LED (D713) drive signal output
24	SRCELED	O	Source LED (D810) drive signal output
25	TP2MLED	O	Tape 2 LED (D811) drive signal output
26	TP1MLED	O	Tape 1 LED (D812) drive signal output
27	BATFLED	O	Battery level (full) LED (D809) drive signal output
28	BATELED	O	Battery level (empty) LED (D809) drive signal output
29	BATRLY	O	Battery-drive relay (RL612) drive signal output
30	CHRGRLY	O	Battery-charge relay (RL611) drive signal output
31	OPTRLY	O	Output relay (RL613) drive signal output
32	PWRRLY	O	Power control signal output

# Replacement Parts List

**Notes:** \*Important safety notice:

Components identified by Δ mark have special characteristics important for safety.

Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used.

When replacing any of components, be sure to use only manufacture's specified parts shown in the parts list.

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

Parts without these indications can be used for all areas.

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

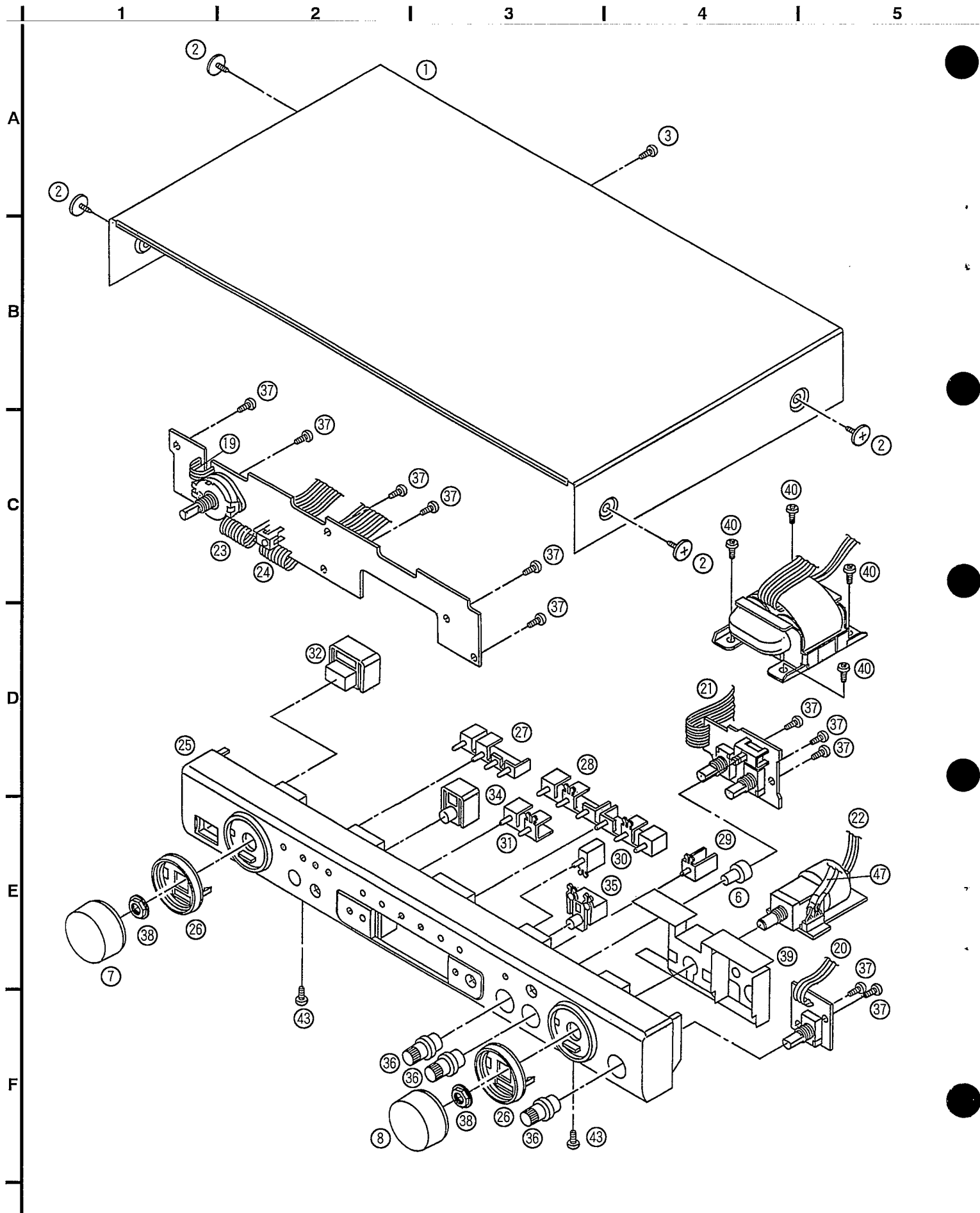
\*The "(SF)" mark denotes the standard part.

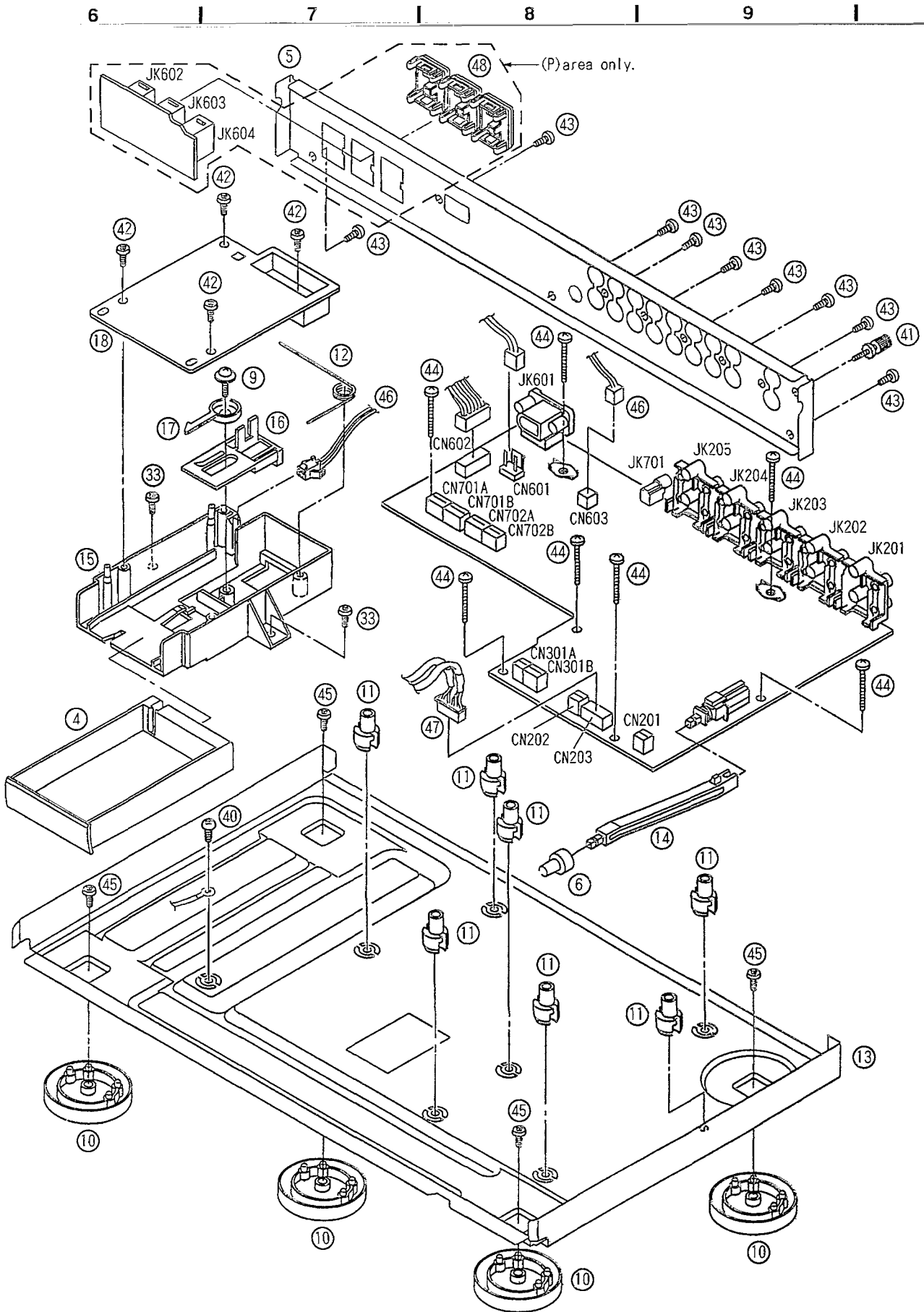
\*&lt;VRD&gt;: indicates parts that are supplied by Video Recorder Division.

Ref. No.	Part No.	Part Name & Description	Remarks	Ref. No.	Part No.	Part Name & Description	Remarks
		INTEGRATED CIRCUIT(S)				DIODE(S)	
IC101	UPC4570C	IC, PHONO EQ AMP.		D101, 102	MA700	DIODE	
IC201	TC9163N	IC, INPUT SELECTOR		D201	MA165	DIODE	
IC202	TC9164N	IC, INPUT SELECTOR		D301	MA4047MTA	DIODE	
IC251	BA6218	IC, MOTOR DRIVE		D601, 602	RL1N4003N02	DIODE	Δ
IC301	NJM4580DD	IC, TONE AMP.		D603	MA4160M	DIODE	Δ
IC601	M5F78M05L	IC, REGULATOR	Δ	D604, 605	MA165	DIODE	(P)
IC602	M5F78M15L	IC, REGULATOR	Δ	D611-614	RL1N4003N02	DIODE	Δ
IC611	PST623XS	IC, FINAL DISCHARGE VOLTAGE		D616	MA4033TA	DIODE	Δ
IC701	M37470M2358S	IC, MICRO COMPUTER		D617-621	MA165	DIODE	
IC801	TC74HC42AP	IC, LED DRIVE		D622	MA4100MTA	DIODE	Δ
		TRANSISTOR(S)		D651-654	RL1N4003N02	DIODE	Δ
				D655, 656	MA167	DIODE	Δ
				D658	MA4056MTA	DIODE	Δ
Q101-104	2SK170BLTPE2	TRANSISTOR		D701	1SS291TA	DIODE	
Q201	DTC124EST	TRANSISTOR		D702	MA165	DIODE	
Q202	DTA124ESTP	TRANSISTOR		D703	RL1N4003N02	DIODE	
Q301, 302	2SK389BG	TRANSISTOR		D704	1SS291TA	DIODE	
Q305	2SK301PQTA	TRANSISTOR		D705-708	MA165	DIODE	
Q351, 352	2SC3327-A	TRANSISTOR		D709-711	MA165	DIODE	(E, EB, EG)
Q601	2SD592ANCQ	TRANSISTOR	Δ	D712	MA165	DIODE	
Q602	2SB621A-R	TRANSISTOR	Δ	D713	SLR-305VC	LED	
Q603	DTA124ESTP	TRANSISTOR	Δ	D801-808	SLR-305VC	LED	
Q604, 605	2SK301PQTA	TRANSISTOR	Δ	D809	SPR505MDTT	LED	
Q606	MSA1048ABCTA	TRANSISTOR	Δ	D810	SLR-305VC	LED	
Q607	DTA114YSTP	TRANSISTOR	(P)	D811, 812	SLR-305DC	LED	
Q614	2SB1357EFTA	TRANSISTOR	Δ	D813	SLR-305VC	LED	
Q615	2SB621A-R	TRANSISTOR	Δ				
Q616	MSA1048ABCTA	TRANSISTOR				VARIABLE RESISTOR(S)	
Q617	DTC144ESTP	TRANSISTOR					
Q618	DTC124EST	TRANSISTOR		VR201	EJWMPREF20A15	V. R, MAIN VOLUME	
Q619	DTA124ESTP	TRANSISTOR		VR202	EJY02QF02G15	V. R, BALANCE	
Q620	DTC124EST	TRANSISTOR		VR301, 302	EJYA1F02C15	V. R, TONE CONTROL	
Q621	DTA124ESTP	TRANSISTOR					
Q622	DTC124EST	TRANSISTOR				COMPONENT COMBINATION(S)	
Q623	DTA124ESTP	TRANSISTOR					
Q624	2SD592ANCQ	TRANSISTOR	Δ	Z801	RCDGP1U28XD	REMOTE SENSOR	
Q701	DTC114ESTP	TRANSISTOR					
Q702-705	DTC114YSTP	TRANSISTOR				COIL(S)	
Q706	DTA114YSTP	TRANSISTOR					
Q707	DTC114YSTP	TRANSISTOR		L1	RLQZ271M	COIL	Δ (E, EB, EG)
Q708	DTA114YSTP	TRANSISTOR		L101-104	ELEXT101KA9	COIL	
Q709	2SA933QRSTA	TRANSISTOR		L251, 252	ELEXT1R0KA9	COIL	
Q710	DTC114YSTP	TRANSISTOR	(E, EB, EG)	L701	ELEXT101KA9	COIL	

Ref. No.	Part No.	Part Name & Description	Remarks	Ref. No.	Part No.	Part Name & Description	Remarks
		TRANSFORMER (S)				JACK (S)	
T1	RTP7B5B001-W	POWER TRANSFORMER	△ (E, EB, EG)	JK201	SJF3069-11A	TERMINAL, PHONO	
T1	RTP7B5C001-W	POWER TRANSFORMER	△ (P)	JK202	SJF3069A	TERMINAL, TUNER/CD	
		OSCILLATOR (S)		JK203	SJF3069A	TERMINAL, AUX/TAPE2/DCC	
				JK204	SJF3069A	TERMINAL, TAPE2/DCC/TAPE1	
X701	EFOGC4004A4	OSCILLATOR (4MHz)		JK205	SJF3069A	TERMINAL, TAPE1/PRE OUT	
		FUSE (S)		JK601	SJS9236	JACK, AC INLET	△ (E, EB, EG)
F601	XBA2C016TB0S	FLUSE, 250V, TO. 16A	△ (E, EB, EG)	JK601	SJS9236	JACK, AC INLET	△ (P)
F601	XBA1C016NBAU	FLUSE, 125V TO. 16A	△ (P)	JK602	SJS9233B	JACK, AC OUTLET	△ (P)
		SWITCH (ES)		JK603	SJS9233B	JACK, AC OUTLET	△ (P)
S103	RSP2D010-J	SW, PHONO SELECTOR		JK604	SJS9233B	JACK, AC OUTLET	△ (P)
S301	ESB68047	SW, TONE (DEFEAT/ON)		JK701	RJJ33TB1	JACK, CONTROL OUT	(E, EB, EG)
S801	EVQ21405R	SW, POWER (STANDBY/ON)					
S802	EVQ21405R	SW, TAPE MONITOR					
S803	EVQ21405R	SW, BATT OPERATION					
S804	RSR9A001-A	SW, SELECTOR					
		CONNECTOR (S)					
CN201, 202	RJS1A6603	CONNECTOR (3P)					
CN203	SJT3611	CONNECTOR (6P)					
CN601	RJP1A4204-1	CONNECTOR (4P)					
CN602	SJT3611	CONNECTOR (6P)					
CN603	SJT3213	CONNECTOR (2P)					
CN301A	RJS1A6603	CONNECTOR (3P)					
CN301B	RJS1A6604	CONNECTOR (4P)					
CN701A	RJS1A6604	CONNECTOR (4P)					
CN702A	RJS1A6604	CONNECTOR (4P)					
CN701B	RJS1A6604	CONNECTOR (4P)					
CN702B	RJS1A6604	CONNECTOR (4P)					
		EARTH TERMINAL					
E201, 202	SNE1004-2	GND PLATE					
E301	SNE1004 2	GND PLATE					
		FUSE HOLDER					
FC611, 612	EYF528C	FLUSE HOLDER					
		RELAY					
RL201	RSY0020M-R	RELAY					
RL601	RSY0019 0	RELAY	△ (P)				
RL611-613	RSY0020M-R	RELAY					

# ■ Cabinet Parts Location





Ref. No.	Part No.	Part Name & Description	Remarks	Ref. No.	Part No.	Part Name & Description	Remarks
		CABINET PARTS LIST		46	REX0758	CABLE ASS' Y(2P)	
				47	REX0759	CABLE ASS' Y(6P)	
				48	SJS9233A	AC OUTLET COVER	(P)
1	RKM0032-K	TOP CABINET				PACKING CASE	
2	RHD30035-K1	SCREW		P1	RPG2634	PACKING CASE	(E, EG)
3	XTBS3+8JFZ1	SCREW		P1	RPG2635	PACKING CASE	(EB)
4	RGQ0179-K	BATTERY TRAY	(E, EB, EG)	P1	RPG2633	PACKING CASE	(P)
4	RFKMC1000PK	BATTERY TRAY ASS' Y	(P)	P2	RPF0139	PROTECTION COVER	
5	RGRO224B-A	REAR PANEL	(E, EG)	P3	RPN0917	PAD	(E, EG, P)
5	RGRO224B-BA	REAR PANEL	(EB)	P3	RPN0919	PAD	(EB)
5	RFKHUC1000PK	REAR PANEL ASS' Y	(P)	P4	RPC0164	PAD	
6	RGU1207-K	BUTTON, TONE		P5	SPP756	PROTECTION COVER	
7	RGW0229-K	KNOB, SELECTOR		P6	RPH0032	MIRROR SHEET	(EB)
8	RGW0230-K	KNOB, VOLUME				ACCESSORIES	
9	RHD26016	SCREW		A1	RAK-SU180WH	REMOTE CONTROL TRANSMITTER	(E, EB, EG)
10	RKA0053-A	FOOT		A1	RAK-SU182WH	REMOTE CONTROL TRANSMITTER	(P)
11	RKQ0089	P. C. B. SUPPORT		A1-1	RKK0057-K	BATTERY COVER	
12	RME0190	SPRING		A2	RQA0013	WARRANTY CARD	(E, EB, EG)
13	RMK0035A	CHASSIS		A2	RQA0114	WARRANTY CARD	(P)
14	RMN0144	SHAFT		A3	RQCB0169	SERVICE CENTER LIST	(E, EB, EG)
15	RMRO904-K	BATTERY BASE		A3	RQCB0391	SERVICE CENTER LIST	(P)
16	RMRO905-K	LEVER		A4	RQT3104-B	INSTRUCTION MANUAL	(EB)
17	RMRO910-K	LOCK ARM		A4	RQT3103-E	INSTRUCTION MANUAL	(EG)
18	RMRO911-K	BATTERY COVER		A4	RFKSUC1000EK	INSTRUCTION MANUAL	(E)
19	RWJ1803040KK	FLAT CABLE (3P) (W703)		A4	RQT3105-P	INSTRUCTION MANUAL	(P)
20	RWJ3903170KQ	FLAT CABLE (3P) (W201)		A5	RJA0019-2K	AC POWER SUPPLY CORD	△(SF) (E, EG)
21	RWJ3907170KQ	FLAT CABLE (7P) (W301)		A5	VJA0733	AC POWER SUPPLY CORD	△(SF) <VRD>(EB)
22	RWJ3903170KQ	FLAT CABLE (3P) (W202)		A5	SJA172	AC POWER SUPPLY CORD	△(SF) (P)
23	RWJ1808220KX	FLAT CABLE (8P) (W701)		A6	SJP2276	STEREO CONNECTION CABLE	
24	RWJ1808220KX	FLAT CABLE (8P) (W702)		A7	SJP2257T	REMOTE CONTROL CABLE	(E, EB, EG)
25	RFKGC1000EK	FRONT PANEL ASS' Y	(E, EB, EG)	A8	P-06RM/8A13	RECHARGEABLE BATTERY	(E, EB, EG)
25	RFKGC1000PK	FRONT PANEL ASS' Y	(P)	A8	P-06RM/8A14	RECHARGEABLE BATTERY	(P)
26	RGK0747-S	RING					
27	RGLO296-Q	PANEL LIGHT A					
28	RGLO297-Q	PANEL LIGHT B					
29	RGLO298-Q	PANEL LIGHT C					
30	RGLO299-Q	PANEL LIGHT D					
31	RGLO300-Q	PANEL LIGHT E					
32	RGU0882-K	BUTTON, POWER					
33	XTB3+8JFZ	SCREW					
34	RGU1271-K	BUTTON, MONITOR					
35	RGU1295-K	BUTTON, CHARGE					
36	RGW0205-K	KNOB, BALANCE					
37	RHD26017	SCREW					
38	RHN90001	NUT					
39	RSC0428-1	SHIELD PLATE					
40	XTB3+6JFZ	SCREW					
41	SNE2123	SCREW					
42	XTBS26+8J	SCREW					
43	XTBS3+8JFZ1	SCREW					
44	XTB3+20JFZ	SCREW					
45	XTB3+6G	SCREW					

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

Ref. No.	Part No.	Values & Remarks	Ref. No.	Part No.	Values & Remarks	Ref. No.	Part No.	Values & Remarks
		RESISTORS	R620	ERDS2TJ182	1/4W 1.8K	R821	ERDS2TJ123	1/4W 12K
			R621	ERDS2TJ821	1/4W 820			CAPACITORS
R101-104	ERDS2TJ102	1/4W 1K	R622	ERDS2TJ223	1/4W 22K			
R105, 106	ERDS2TJ473	1/4W 47K	R623	ERDS2TJ153	1/4W 15K	C1	ECKWNS102MBM	500V 1000P (P)
R107, 108	ERDS2TJ221	1/4W 220	R624	ERDS2TJ473	1/4W 47K	C101, 102	ECBT1H101KB5	50V 100P
R109, 110	ERDS2TJ220T	1/4W 22	R625	ERDS2TJ104	1/4W 100K	C103, 104	ECBT1H102KB5	50V 1000P
R111-114	ERDAS3G332T	1/4W 3.3K	R626	ERDS2TJ473	1/4W 47K	C105, 106	ECBT1H820KB5	50V 82P
R115, 116	ERDAS3G472T	1/4W 4.7K	R627	ERDS2TKF2213	1/4W 221K	C107, 108	ECA1EPXS470B	25V 47U
R117, 118	ERDS2TJ151	1/4W 150	R628	ERDS2TKF3742	1/4W 37.4K	C109, 110	ECQB1H222JF3	50V 2200P
R119, 120	ERDS2TJ100	1/4W 10	R629	ERDS2TJ102	1/4W 1K	C111, 112	ECQB1H122JF3	50V 1200P
R121, 122	ERDS2TJ101	1/4W 100	R630	ERDS2TKF4022	1/4W 40.2K	C113, 114	ECQB1H103JF3	50V 0.01U
R123, 124	ERDS2TJ151	1/4W 150	R631	ERDS2TKF1802	1/4W 18K	C115, 116	ECQV1H393JM3	50V 0.039U
R125, 126	ERDS2TJ682T	1/4W 6.8K	R633, 634	ERDS2TJ182	1/4W 1.8K	C117, 118	ECA1EPXS100B	25V 10U
R127, 128	ERDS2TJ823T	1/4W 82K	R635 Δ	ERDS1FVJ101T	1/2W 100 (E, EB, EG)	C119, 120	ECQB1H472JF3	50V 4700P
R129, 130	ERDS2TJ334	1/4W 330K	R635 Δ	ERDS1FVJ4R7T	1/2W 4.7 (P)	C121, 122	ECKR1H103ZF5	50V 0.01U
R131, 132	ERDS2TJ561	1/4W 560	R636-639 Δ	ERDS1FVJ101T	1/2W 100 (E, EB, EG)	C123-126	ECBT1H270J5	50V 27P
R133, 134	ERDS2TJ153	1/4W 1.5M	R655	ERDS2TJ103	1/4W 10K	C127, 128	ECBT1H101KB5	50V 100P
R135, 136 Δ	ERDS1FVJ181T	1/2W 180	R656 Δ	ERQ16NKWR15E	1/6W 0.15 (E, EB, EG)	C129, 130	ECA1CPXS221B	16V 220U
R201-214	ERDAS3G102T	1/4W 1K	R701	ERDS2TJ102	1/4W 1K	C131	ECBT1H102KB5	50V 1000P
R215-217	ERDS2TJ103	1/4W 10K	R702, 703	ERDS2TJ103	1/4W 10K	C201, 202	ECBT1H101KB5	50V 100P
R219-221	ERDS2TJ103	1/4W 10K	R704, 705	ERDS2TJ104	1/4W 100K	C203, 204	ECKT1H101KB	50V 100P
R222, 223	ERDS2TJ102	1/4W 1K	R706	ERDS2TJ103	1/4W 10K	C205-208	ECBT1H101KB5	50V 100P
R224	ERDS2TJ472	1/4W 4.7K	R707-712	ERDS2TJ104	1/4W 100K	C209, 210	ECKT1H101KB	50V 100P
R225, 226	ERDAS3G222T	1/4W 2.2K	R713	ERDS2TJ102	1/4W 1K (E, EB, EG)	C211, 212	ECBT1H101KB5	50V 100P
R227, 228	ERDAS3G104	1/4W 100K	R714	ERDS2TJ331	1/4W 330	C213, 214	ECKT1H101KB	50V 100P
R251 Δ	ERDS1FVJ100T	1/2W 10	R715, 716	ERDS2TJ273	1/4W 27K	C215	ECBT1H101KB5	50V 100P
R301, 302	ERDAS3G101T	1/4W 100	R717	ERDS2TJ334	1/4W 330K	C217, 218	ECBTC103NS5	16V 0.01U
R303-306	ERDAS3J224T	1/4W 220K	R724, 725	ERDS2TJ103	1/4W 10K	C219, 220	ECA1HPXS4R7B	50V 4.7U
R307-310	ERDS2TJ152	1/4W 1.5K	R726	ERDS2TJ102	1/4W 1K	C221	ECBT1H101KB5	50V 100P
R311, 312	ERDAS3G222T	1/4W 2.2K	R727	ERDS2TJ103	1/4W 10K (E, EB, EG)	C223, 224	ECBT1C103NS5	16V 0.01U
R313, 314	ERDS2EJ121	1/4W 120	R728	ERDS2TJ104	1/4W 100K	C225, 226	ECA1HPXS4R7B	50V 4.7U
R315, 316	ERDS2TJ224T	1/4W 220K	R730-732	ERDS2TJ103	1/4W 10K	C251, 252	RCEQJKA101BV	6.3V 100P
R317, 318	ERDAS3G223T	1/4W 22K	R801	ERDS2TJ821	1/4W 820	C253, 254	ECQV1H104JM3	50V 0.1U
R319, 320	ERDAS3G392T	1/4W 3.9K	R802	ERDS2TJ102	1/4W 1K	C301, 302	ECA1HPXS010B	50V 1U
R321, 322	ERDS2TJ223	1/4W 22K	R803	ERDS2TJ122	1/4W 1.2K	C303, 304	ECCR1H470JC5	50V 47P
R323, 324	ERDS2TJ392T	1/4W 3.9K	R804	ERDS2TJ152	1/4W 1.5K	C305, 306	ECCR1H101J5	50V 100P
R325, 326	ERDS2TJ183T	1/4W 18K	R805	ERDS2TJ182	1/4W 1.8K	C307, 308	ECQB1H222JF3	50V 2200P
R327, 328	ERDS2TJ392T	1/4W 3.9K	R806	ERDS2TJ222	1/4W 2.2K	C309, 310	ECA1HPXS010B	50V 1U
R329, 330	ERDS2TJ102	1/4W 1K	R807	ERDS2TJ332	1/4W 3.3K	C311, 312	ECCR1H390JC5	50V 39P
R331-334	ERDAS3G101T	1/4W 100	R808	ERDS2TJ472	1/4W 4.7K	C313, 314	ECA1EPX101TB	25V 100U
R335, 336	ERDS2TJ102	1/4W 1K	R809	ERDS2TJ682T	1/4W 6.8K	C315, 316	ECBTDJ153MS5	6.3V 0.015U
R353, 354	ERDS2TJ102	1/4W 1K	R810	ERDS2TJ123	1/4W 12K	C317, 318	ECQV1H823JM3	50V 0.082U
R603, 604	ERDS2TJ101	1/4W 100	R811	ERDS2TJ223	1/4W 22K	C319, 320	ECBT1C222KR5	16V 2200P
R605, 606	ERDS2TJ183T	1/4W 18K	R812	ERDS2TJ221	1/4W 220	C321, 322	ECBTDJ153MS5	6.3V 0.015U
R607	ERDS2TJ102	1/4W 1K	R813, 814	ERDS2TJ181T	1/4W 180	C323, 324	ECBT1H121KB5	50V 120P
R609, 610 Δ	ERDS1FVJ270	1/2W 27 (E, EB, EG)	R815	ERDS2TJ331	1/4W 330	C327, 328	ECKT1H101KB	50V 100P
R618 Δ	ERDS1FVJ8R2T	1/2W 8.2	R817, 818	ERDS2TJ181T	1/4W 180	C341, 342	ECBT1C332KR5	16V 3300P
R619	ERDS2TJ102	1/4W 1K	R819	ERDS2TJ271	1/4W 270	C351	ECA1EPX101TB	25V 100U
			R820	ERDS2TJ223	1/4W 22K			

