

# Technics<sup>®</sup>



## SL-1500C

Direct Drive Turntable System

Platine tourne-disque à entraînement direct

Owner's Manual

Manuel d'utilisation

Music is borderless and timeless, touching people's hearts across cultures and generations. Each day the discovery of a truly emotive experience from an unencountered sound awaits. Let us take you on your journey to rediscover music.

Sans frontières, la musique est aussi intemporelle, touchant le coeur des gens en traversant les cultures et les générations. Tous les jours, nous attendons la révélation d'une expérience émotionnelle authentique à partir d'un son venu de nulle part. Permettez-nous de vous emmener en voyage pour redécouvrir la musique.

Rediscover Music™

**Technics**

## Delivering the Ultimate Emotive Musical Experience to All

At Technics we understand that the listening experience is not purely about technology but the magical and emotional relationship between people and music.

We want people to experience music as it was originally intended and enable them to feel the emotional impact that enthuses and delights them.

Through delivering this experience we want to support the development and enjoyment of the world's many musical cultures. This is our philosophy.

With a combination of our love of music and the vast high-end audio experience of the Technics team, we stand committed to building a brand that provides the ultimate emotive musical experience by music lovers, for music lovers.

## Apportez à tous l'expérience musicale empreinte d'émotions

Chez Technics, nous savons que l'expérience de l'écoute n'est pas purement et simplement une question de technologie, mais de relation magique entre les personnes et la musique.

Nous voulons que tout un chacun puisse ressentir la musique telle qu'elle a été conçue à l'origine et lui permettre de ressentir le choc émotionnel qu'il brûle de connaître.

En apportant ce vécu, nous cherchons à accompagner le développement et le plaisir des nombreuses cultures musicales du monde. Telle est notre philosophie.

Ici et maintenant, alliant l'amour de la musique et la grande expérience musicale de l'équipe Technics, nous sommes pleinement déterminés à construire une marque qui apporte le vécu musical émotionnel aux fervents de la musique.

Director  
Directeur  
Michiko Ogawa



# Introduction

Thank you for purchasing this product.  
Please read these instructions carefully before using this product, and save this manual for future use.

- About descriptions in these operating instructions
  - Pages to be referred to are indicated as “(⇒ 00)”.
  - The illustrations shown may differ from your unit.

If you have any questions, visit:  
U.S.A.: <http://shop.panasonic.com/support>  
Canada: [www.panasonic.ca/english/support](http://www.panasonic.ca/english/support)  
Register online at <http://shop.panasonic.com/support> (U.S. customers only)

# Features

- Coreless direct drive motor to achieve high precision, stable rotation and high reliability**
  - Stable rotation is achieved by combining the coreless direct drive motor that reduces minute vibration during rotation with the motor control technology that switches the drive mode depending on the operational status of the motor.
  - In addition to providing superior performance, the direct drive motor requires no parts replacement or maintenance.
- High-precision bearings for highly sensitive tone arm**
  - The machine-cut, high-precision bearing used in the tone arm bearing with gimbal suspension allows for high initial response sensitivity and accurate record tracking.
- Auto lift-up function to automatically lift up the tone arm**
  - This unit is equipped with an auto lift-up function to automatically lift up the tone arm as a record finishes playing.
- Complete package, including the following, to enjoy playing back records**
  - Built-in phono-equalizer amplifier compatible with a wide range of devices.
  - High-quality MM type cartridge.

# Table of contents

● <b>Before use</b>		Before use
IMPORTANT SAFETY INSTRUCTIONS .....	04	
Accessories .....	07	
Parts Name .....	08	
● <b>Getting started</b>		Getting started
Putting the player together .....	10	
● Before fitting the turntable.....	11	
● Fitting the turntable .....	11	
● Fitting the turntable mat .....	11	
● Attaching the head shell.....	11	
● Attaching the balance weight.....	11	
● To remove turntable.....	11	
Connections and installation .....	12	
● Connecting to an integrated amplifier or component system (Connecting the external output terminals Connecting the PHONO output terminals)...	12	
● Installation .....	14	
● Fit the dust cover.....	14	
Adjustment .....	15	
● Horizontal balance .....	15	
● Stylus pressure .....	15	
● Anti-skating.....	15	
● Tone arm height.....	16	
● Armlift height.....	17	
● <b>Playing back</b>		Playing back
Playing records.....	18	
● <b>Maintenance</b>		Maintenance
Maintenance.....	20	
Replacing the cartridge .....	21	
Troubleshooting guide .....	22	
Specifications.....	23	
Limited Warranty (ONLY FOR U.S.A.) .....	24	
Limited Warranty (ONLY FOR CANADA).....	25	

# IMPORTANT SAFETY INSTRUCTIONS

Read these operating instructions carefully before using the unit. Follow the safety instructions on the unit and the applicable safety instructions listed below. Keep these operating instructions handy for future reference.

- 1 Read these instructions.
- 2 Keep these instructions.
- 3 Heed all warnings.
- 4 Follow all instructions.
- 5 Do not use this apparatus near water.
- 6 Clean only with dry cloth.
- 7 Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
- 8 Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- 9 Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- 10 Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- 11 Only use attachments/accessories specified by the manufacturer.
- 12 Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
- 13 Unplug this apparatus during lightning storms or when unused for long periods of time.
- 14 Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.



## AC power supply cord

- The power plug is the disconnecting device. Install this unit so that the power plug can be unplugged from the socket outlet immediately.
- Ensure the earth pin on the power plug is securely connected to prevent electrical shock.
  - An apparatus with CLASS I construction shall be connected to a power socket outlet with a protective earthing connection.

## Caution

### Unit

- Do not place sources of naked flames, such as lighted candles, on this unit.

### Placement

- To reduce the risk of fire, electric shock or product damage,
  - Do not install or place this unit in a bookcase, built-in cabinet or in another confined space. Ensure this unit is well ventilated.
  - Do not obstruct this unit's ventilation openings with newspapers, tablecloths, curtains, and similar items.
- Keep your speakers at least 10 mm ( $13/32$ ") away from the system for proper ventilation.
- Keep any IC card or magnetic card such as a credit card away from the turntable.
  - Otherwise the IC card or magnetic card may become unusable due to magnetic effect.

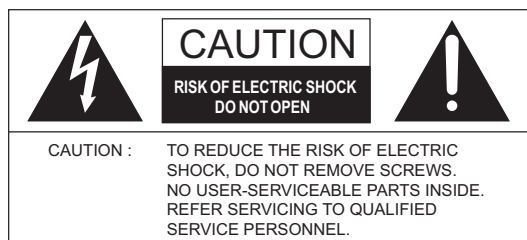
## Warning

### Unit

- To reduce the risk of fire, electric shock or product damage,
    - Do not expose this unit to rain, moisture, dripping or splashing.
    - Do not place objects filled with liquids, such as vases, on this unit.
    - Use only the recommended accessories.
    - Do not remove covers.
    - Do not repair this unit by yourself.
- Refer servicing to qualified service personnel.



The following mark and symbols are located on bottom of the unit.



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Conforms to UL STD 62368-1.  
Certified to CAN/CSA STD C22.2 No.62368-1.

## THE FOLLOWING APPLIES ONLY IN THE U.S.A.

### FCC Note:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules.

These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

### FCC Caution:

To assure continued compliance, follow the attached installation instructions and use only shielded interface cables when connecting to peripheral devices. Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:  
(1) This device may not cause harmful interference, and  
(2) this device must accept any interference received, including interference that may cause undesired operation.

### Supplier's Declaration of Conformity

Trade Name: Technics  
Model No.: SL-1500C

### Responsible Party:

Panasonic Corporation of North America  
Two Riverfront Plaza, Newark, NJ 07102-5490  
Support Contact: <http://shop.panasonic.com/support>

## THE FOLLOWING APPLIES ONLY IN CANADA.

CAN ICES-3(B)/NMB-3(B)



### Information on Disposal in other Countries outside the European Union

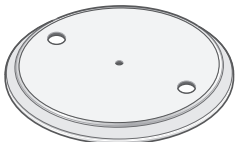
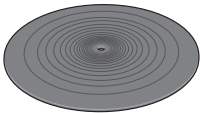
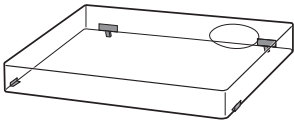



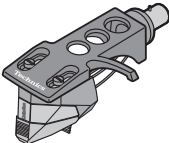
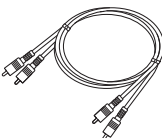
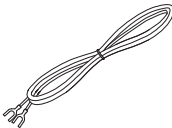
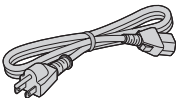
This symbol is only valid in the European Union.

If you wish to discard this product, please contact your local authorities or dealer and ask for the correct method of disposal.



# Accessories

In order to prevent damage during shipping some of the equipment has been disassembled. Please check and identify the supplied accessories. (Some accessories parts are supplied in a bag.)

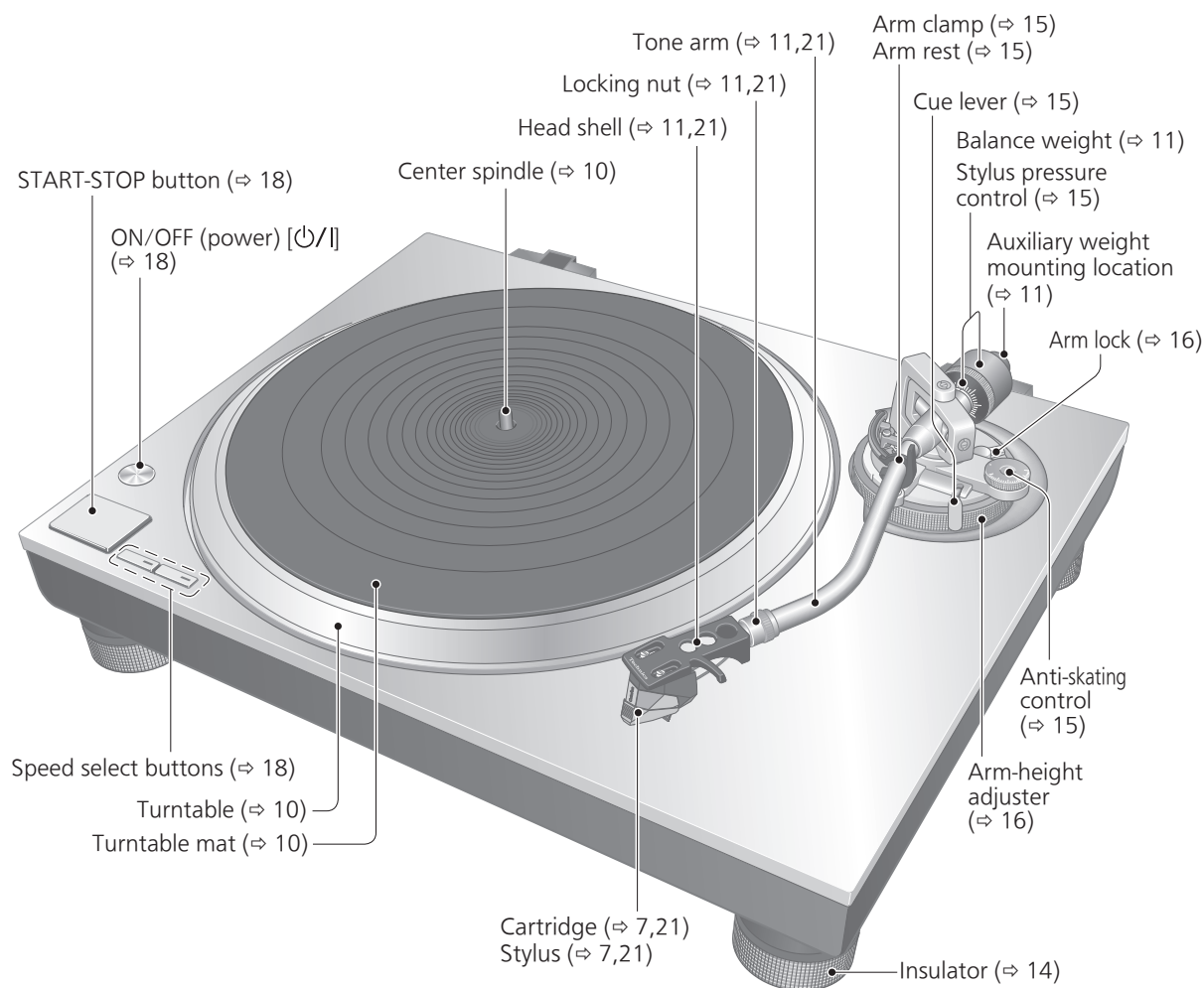
<p>Turntable (1 pc.) SL-1500CPP-S : (TYL0375) SL-1500CPP-K : (TYL0422)</p> 	<p>Turntable mat (1 pc.) (RGS0008)</p> 	<p>Dust cover (1 pc.) (TTFA0457)</p> 
<p>EP record adaptor (1 pc.) SL-1500CPP-S : (TPH0340) SL-1500CPP-K : (TPH0339)</p> 	<p>Balance weight (1 pc.) SL-1500CPP-S : (TYL0361) SL-1500CPP-K : (TYL0295)</p> 	<p>Auxiliary weight (1 pc.) (TYL0362)</p> 
<p>Head shell with cartridge (1 pc.) (TYL0360)</p>  <p>The head shell comes with a cartridge equivalent to "ortofon 2M Red".</p>	<p>PHONO cable (1pc.) (K4EY4YY00003)</p> 	<p>PHONO earth lead (1pc.) (K4EY1YY00189)</p> 
<p>AC power supply cord (1 pc.) (K2CG3YY00219)</p> 		

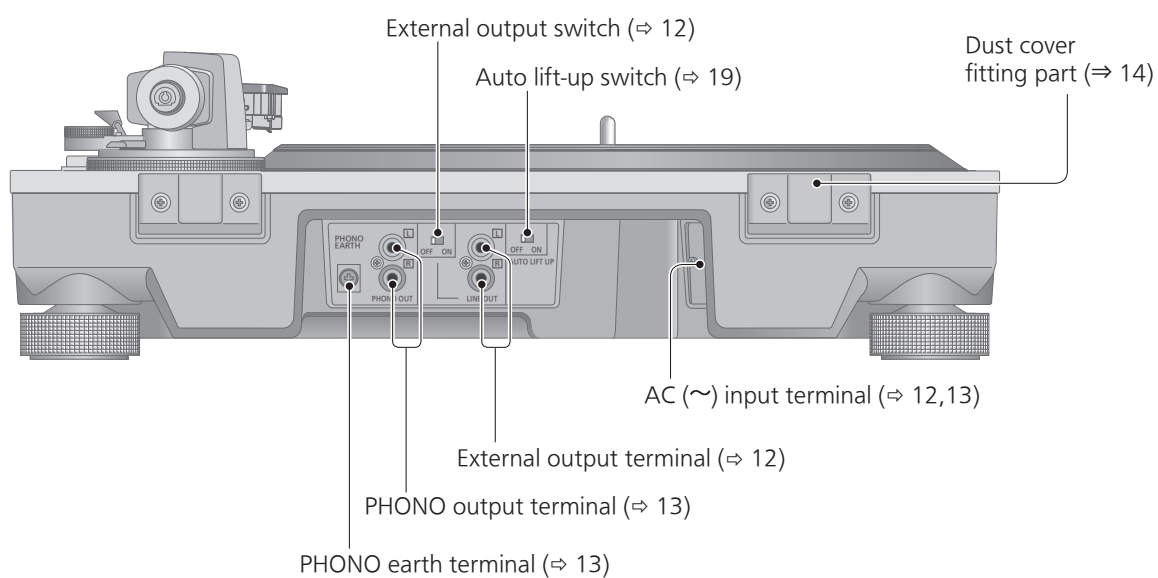
- The model numbers of the accessories are as of February 2019. They are subject to change without notice.
- Keep the packaging materials after taking out the goods. You will need them when carrying the product over long distances.
- Follow the local regulations when disposing of the product.
- Do not use any other AC power supply cord, PHONO cable and PHONO earth lead except the supplied one.
- Keep the cartridge, auxiliary weight out of reach of children to prevent swallowing.
- Illustrations and figures in this manual are of the silver main body.
- The stylus is a consumable item. When replacing, purchase ortofon "stylus 2M Red".

# Parts Name

Numbers such as (⇒ 18) indicate reference pages.

Front



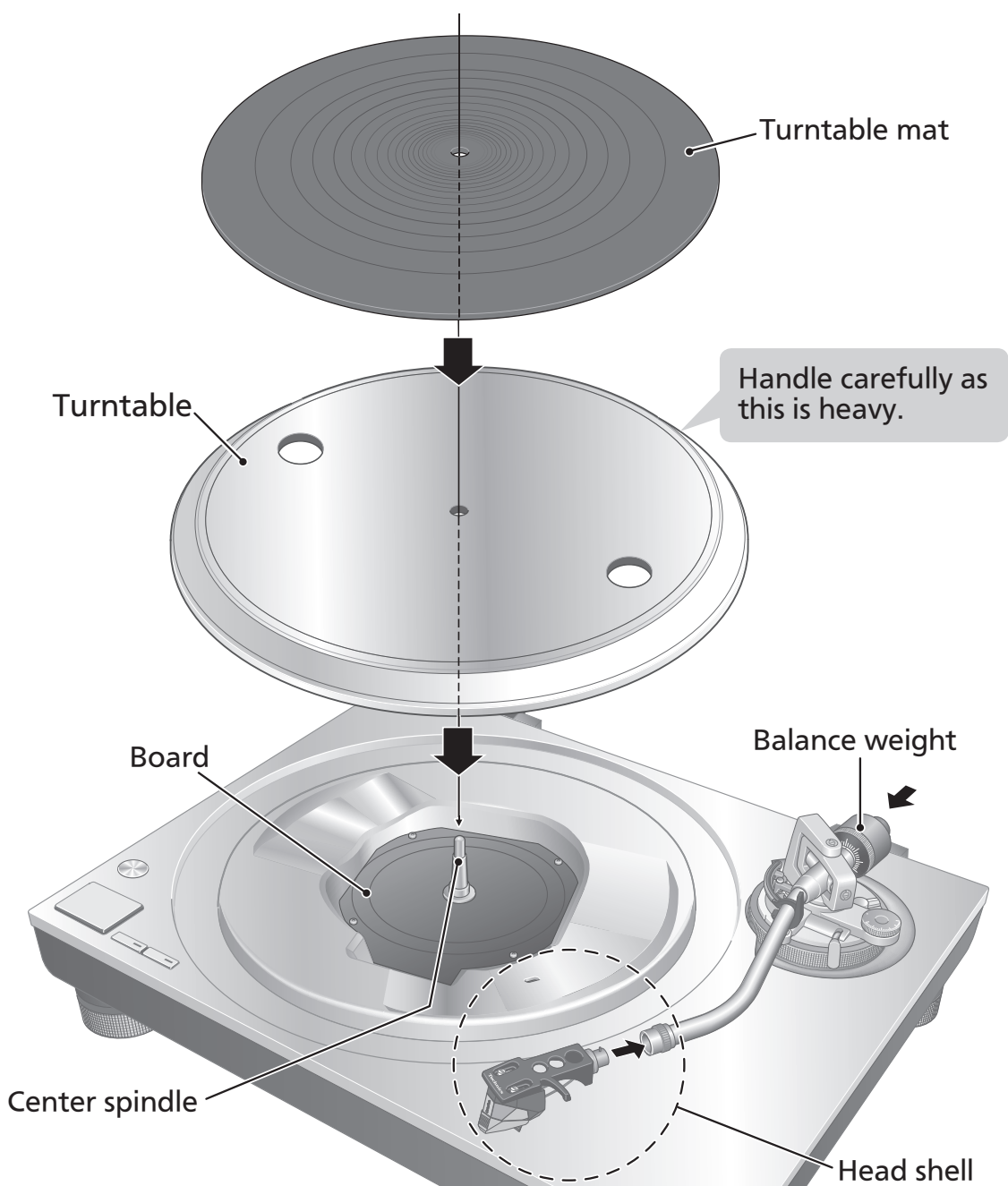
[Back](#)

# Putting the player together

In order to prevent damage during shipping, some of the equipment has been disassembled. Put the player together in the following order.

## Attention

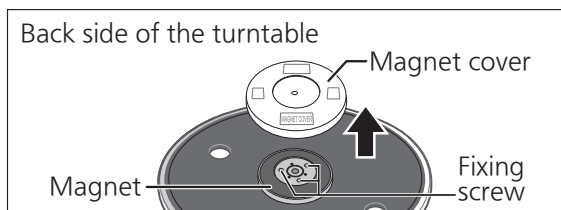
- Before setting up, put on the stylus guard to protect the stylus tip (⇒ 18), return the tone arm to the arm rest and fix it with the arm clamp.
- Do not connect the AC power supply cord until set up is complete.
- When fitting the turntable, prevent foreign material from getting in between the main unit and turntable.
- Do not touch or scratch the board.





## Before fitting the turntable

- 1 Remove the magnet cover from the turntable.**
  - There is a magnet and its cover on the back side of the turntable. Remove the magnet cover before fitting to the main unit.



### Attention

- Keep any magnetic-sensitive object such as a magnetic card and watch away from the magnet.
- Prevent the turntable from hitting the main unit or falling off. Prevent dust or iron powder from adhering to the magnet on the back side.
- Do not touch the fixing screws (three locations) of the turntable. The rating performance cannot be guaranteed if they are out of position.

## Fitting the turntable

- 2 Slowly set the turntable on the center spindle.**

### Attention

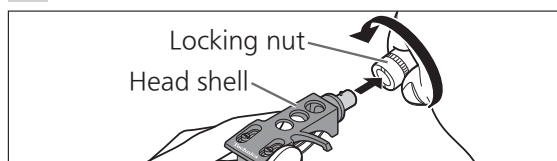
- Be careful when handling the turntable, as it is heavy.
- Keep your fingers from being caught.
- Wipe off fingerprints or dirt with a soft cloth.

## Fitting the turntable mat

- 3 Lay the turntable mat on the turntable.**

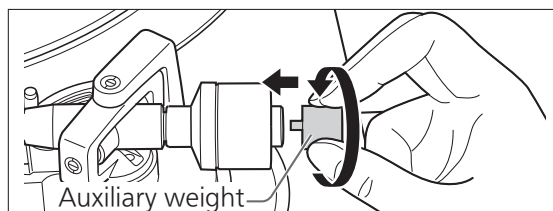
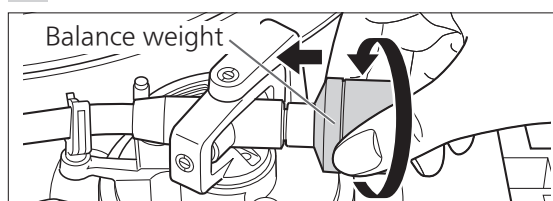
## Attaching the head shell

- 4 Fit the head shell with the cartridge into the tone arm. Keep the head shell horizontal and tighten the locking nut.**
  - Be careful not to touch the stylus tip.



## Attaching the balance weight

- 5 Attach the balance weight to the rear of the tone arm.**



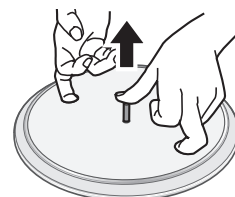
- Attach the included auxiliary weight to the rear of the tone arm according to the weight of your cartridge. For adjustable cartridge weight ranges, see "Applicable cartridge weight range". (⇒23)

### Note

- The inside of the balance weight is greased.

## To remove the turntable

As shown in the figure on the right, set your fingers in the two holes on the turntable, hold the center spindle down and remove the turntable upward.



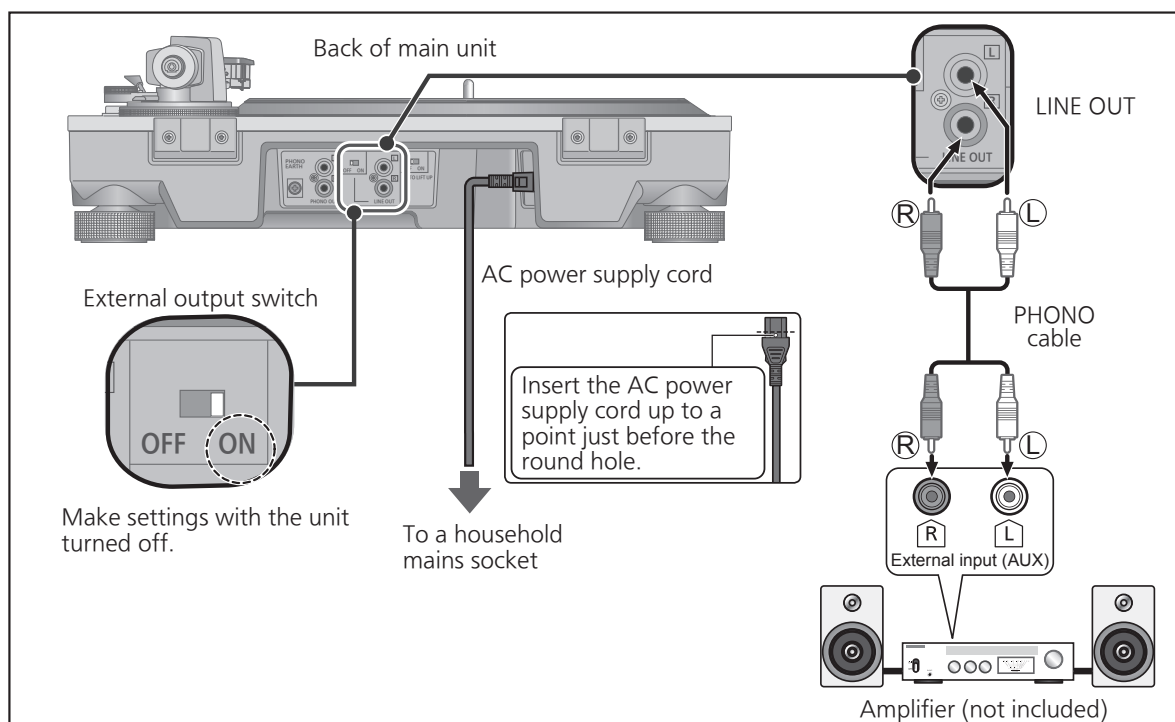
# Connections and installation

- Do not simultaneously connect both the PHONO terminal output and external output terminals to a connected device (pre-main amplifier, component system, etc.). Connecting simultaneously may cause noise and/or popping sound.
- Turn off all units and disconnect the AC power supply cord from the socket before making any connections.
- Do not operate the external output switch and connect or disconnect cables with the unit turned on.
- When connecting the PHONO output terminals, be sure to connect the PHONO earth lead. Otherwise, mains hum (buzzing noise) may occur.
- Refer also to the instruction manual of the connected device.

## Connecting to an integrated amplifier or component system

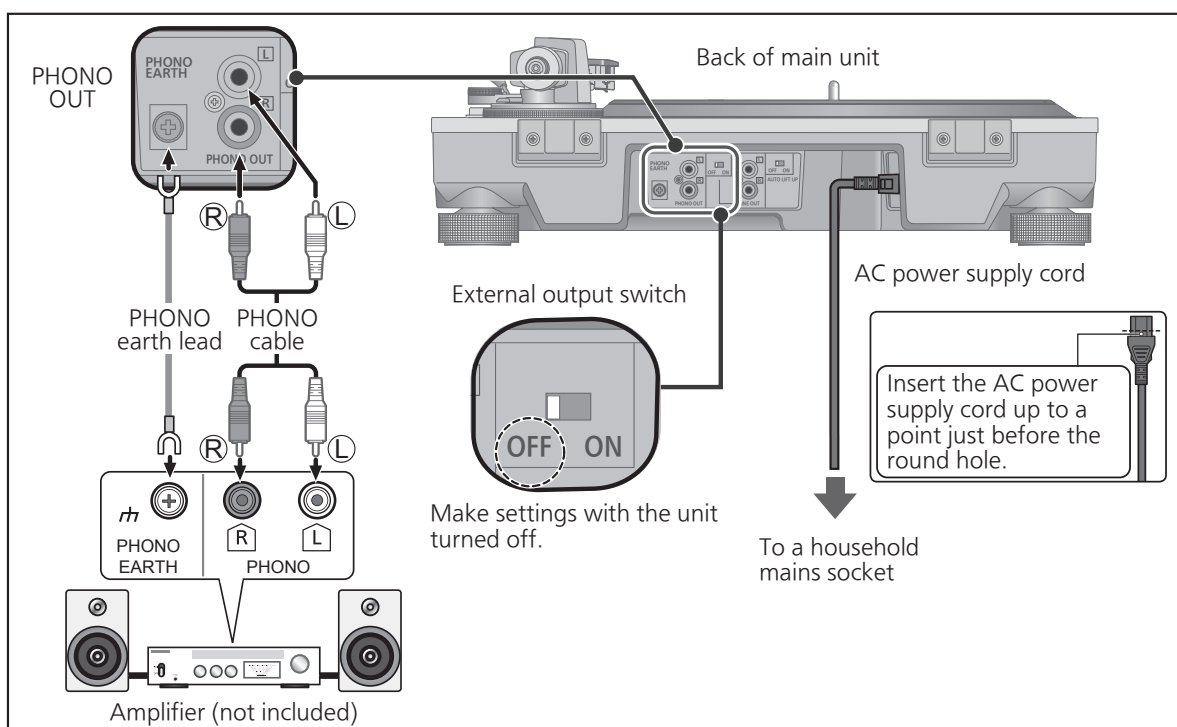
### Connecting the external output terminals

- 1** Turn off the unit and the connected device, and disconnect the AC power supply cord from the socket.
- 2** Connect the PHONO cable to the external output terminals of the unit and the external input terminals of the connected device.
  - When connecting the external output terminals, do not connect the PHONO earth lead.
  - Connecting to the PHONO input terminals of the connected device produces abnormal output, loud and with distorted sound quality.
- 3** Set the external output switch to "ON".
- 4** Connect the AC power supply cord.
  - Confirm the wattage of the AC outlet on the connected equipment before using it for this unit.
  - For the power consumption of this unit, see the specifications. (⇒ 23)



## Connecting the PHONO output terminals

- 1** Turn off the unit and the connected device, and disconnect the AC power supply cord from the socket.
- 2** Connect the PHONO cable and PHONO earth lead to the PHONO input terminals of the connected equipment.
  - Adequate volume and sound quality cannot be obtained when connected to the external input terminals of the connected device.
- 3** Set the external output switch to "OFF".
- 4** Connect the AC power supply cord.
  - Confirm the wattage of the AC outlet on the connected equipment before using it for this unit.  
For the power consumption of this unit, see the specifications. (⇒ 23)



### Attention

- Tighten the PHONO earth terminal using a Phillips head screwdriver.

### Note

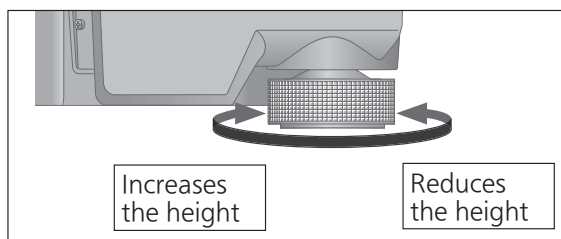
- Although the AC power switch is in the "OFF" position, the unit is not completely disconnected from the mains. Remove the plug from the main electrical outlet if you will not be using the unit for an extended period of time. Place the unit so the plug can be easily removed.

# Connections and installation (continued)

## Installation

Install the unit on a horizontal surface protected from vibrations.  
Keep this unit as far as possible from speakers.

### ■ Adjusting the height to make the unit horizontal



Raise the main unit to turn the insulators and adjust the height.

- **Clockwise:** Reduces the height.
- **Anti-clockwise:** Increases the height.

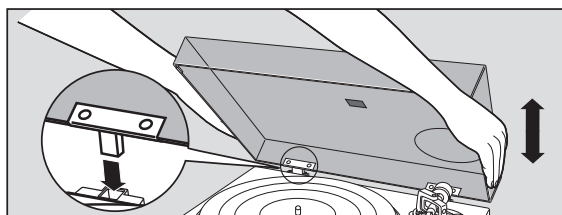
#### Attention

- Do not turn the insulators too far. Doing so may cause them to come off or damage them.

## Fit the dust cover

- 1** Hold the dust cover with both hands and insert it into the dust cover fitting parts (⇒ 9) on the player.

- To remove the dust cover, keep it open and lift it straight above.



#### Attention

- Return the tone arm to the arm rest and fix it with the arm clamp before you attach or detach the dust cover.
- Remove the dust cover while playing.
- When inserting the dust cover, prevent the tip of the hinges from hitting and damaging the main unit.

### ■ Notes for installation

- Before you move the unit, turn the unit off, pull out the power plug and disconnect all connected devices.
- Ensure the unit is not exposed to direct sunlight, dust, humidity, and heat from a heating appliance.
- This unit may pick up interference from a radio if there is one nearby. Keep the unit as far as possible from a radio.
- Do not install the unit on a heat source.
- Avoid a place with large temperature variations.
- Avoid a place with frequent condensation.
- Avoid an unstable place.
- Do not put an object on the unit.
- Do not install the unit in a confined space such as a book shelf.
- Install the unit at a position well away from walls or other devices to ensure effective heat radiation from the inside of the unit.
- Make sure the installation location is sufficiently strong to withstand the total weight of the unit and system. (⇒ 23)
- Note that the unit may be damaged by cigarette smoke or moisture from an ultrasonic humidifier.

### ■ Condensation

Think of taking out a cold bottle from a refrigerator. If you leave it in a room for a while, dewdrops will form on the bottle surface. This phenomenon is called "condensation".

- Conditions causing condensation
  - ◇ Rapid temperature change (caused by moving from a warm place to a cold place or vice versa, rapid cooling or heating, or direct exposure to cooled air)
  - ◇ High humidity in a room with much steam, etc.
  - ◇ Rainy season
- Condensation may damage the unit. If it has occurred, turn the unit off and leave it until it adapts to the ambient temperature (approximately 2 to 3 hours).

# Adjustment

## Horizontal balance

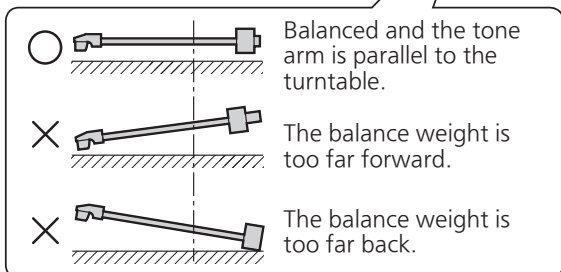
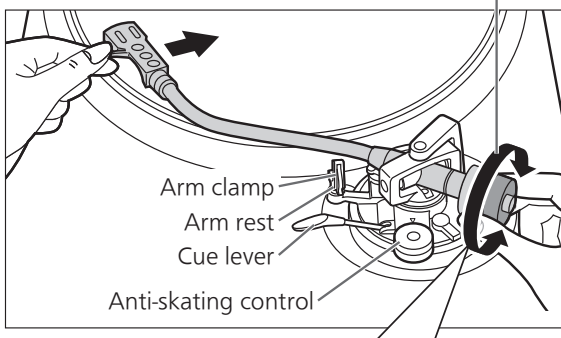
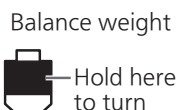
### Preparation

- First, remove the dust cover.
- Remove the stylus cover (⇒ 18), taking care not to damage the stylus, then release the arm clamp.
- Lower the cue lever.
- Turn the anti-skating control to "0".

### 1 Free the tone arm from the arm rest and adjust horizontal balance by turning the balance weight.

Hold the tone arm and turn the balance weight in the arrow direction to adjust the balance until the arm is approximately horizontal.

- Take care not to allow the stylus tip to touch the turntable or main unit.



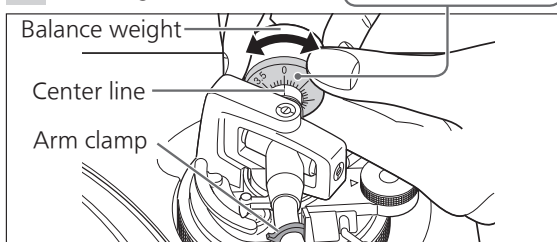
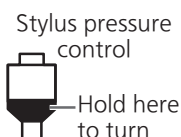
## Stylus pressure

### Preparation

- Return the tone arm to the arm rest and fix it with the arm clamp.

### 1 Turn the stylus pressure control until "0" comes to the center line of the rear of the tone arm.

- Hold the balance weight still during doing this.

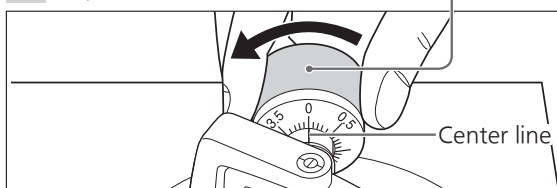
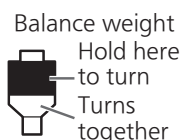


### Note

- Stylus pressure of the supplied cartridge: 1.8 g
- When using a separately sold cartridge, refer to the user's guide for your cartridge for the appropriate stylus pressure.

### 2 Turn the balance weight to adjust to the appropriate stylus pressure for the cartridge.

- The stylus pressure control will turn together with the balance weight.
- Turn until the center line points to the appropriate stylus pressure.

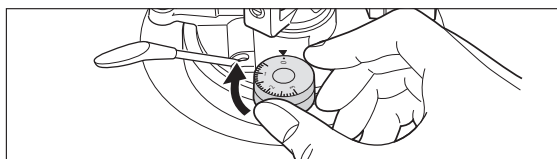


## Anti-skating

### 1 Turn the anti-skating control to adjust it to the same value as the stylus pressure control.

### Note

- For stylus pressures 3 g and above, adjust anti-skating control to "3".



# Adjustment (continued)

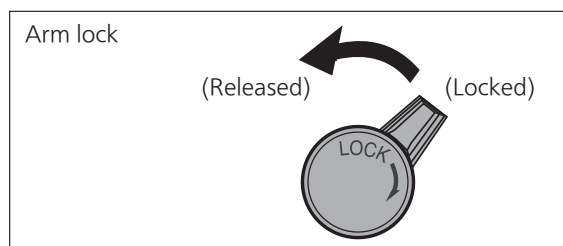
## Tone arm height

Make this adjustment only if the cartridge you are using makes it necessary.

### Preparation

- Put a record on the turntable.

### 1 Release the arm lock.

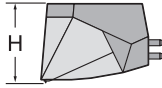


### 2 Adjust the height with the arm-height adjuster.

Adjust the arm height until the tone arm becomes parallel to the record.

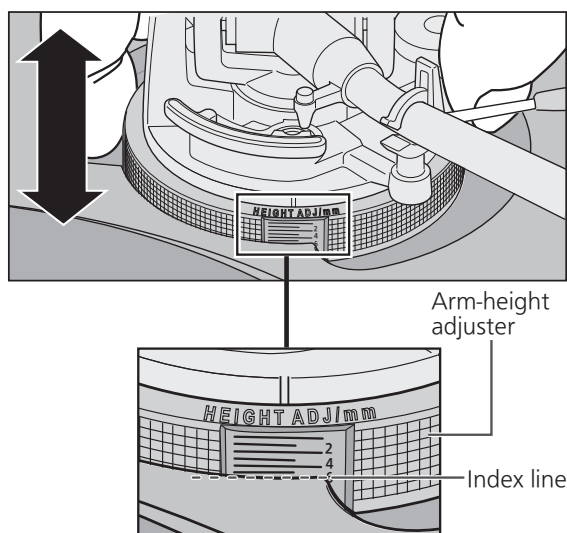
- Use the chart below as reference to find the appropriate position mark for the height of your cartridge.

(For supplied head shell)

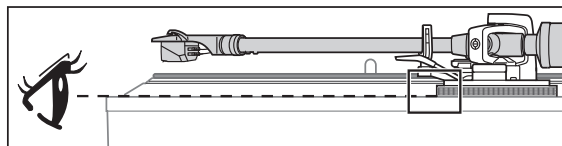
	Cartridge height (H) in millimeters	Height control position
	14	0
	15	1
	16	2
	17	3
	18	4
	19	5
	20	6

- Height of the accessory cartridge  $H = 18$  (mm)  
(Height control position : 4)

- Hold the arm-height adjuster and slide it up or down to align the position mark with the index line. 0 to 6 mm are marked on the arm height adjuster.



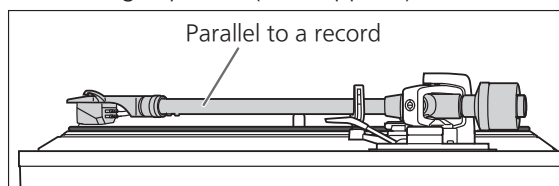
- When checking the index line of the Arm-height adjuster, check with your eyes on the same level.



### ■ When you don't know the cartridge height (H) or when you don't use the accessory head shell

Remove the stylus cover, taking care not to damage the stylus, then release the arm clamp. Lower the cue lever, rest the stylus on the record and adjust the height control until the tone arm and record are parallel.

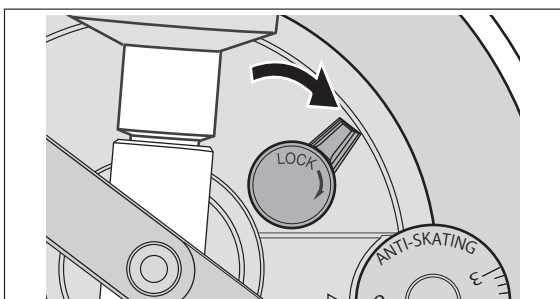
- If the cartridge height (H) is too small to make them parallel to each other, add a "cartridge spacer" (not supplied).





### 3 After arm height adjustment is finished, lock the tone arm by turning the arm lock knob.

- Be sure to turn the arm lock knob to the end as shown in the figure below. You may need to apply some force to do so.



#### Attention

- Be careful not to damage the stylus tip.
- Do not use the product with the arm lock released.
- For finer adjustment, use a level (not included) to adjust the arm height so that the cartridge becomes parallel to a record.

## Armlift height

Make an adjustment according to your cartridge if necessary.

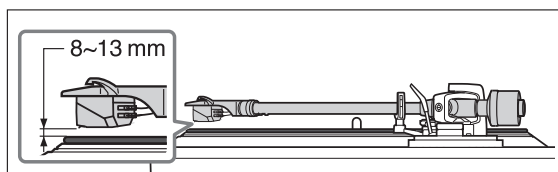
#### Preparation

- Put a record on the turntable.
- Remove the stylus cover (⇒ 18), taking care not to damage the stylus, then release the arm clamp.
- Lift the cue lever and move the tone arm over the record.

### 1 Check the armlift height (distance between the stylus tip and record surface).

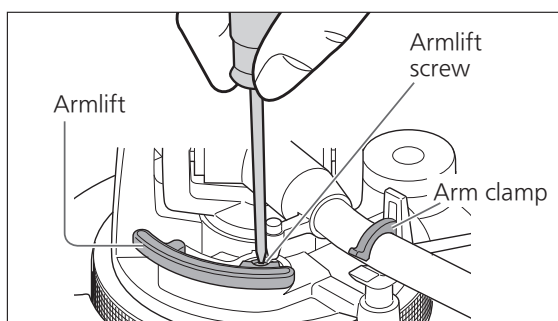
If adjustment is needed, go to step 2.

- The armlift height is factory-adjusted to 8 to 13 mm ( $\frac{5}{16}$ " to  $\frac{33}{64}$ ").



### 2 Return the tone arm to the arm rest and fix it with the arm clamp. Turn the adjustment screw.

- Turning the screw clockwise lowers the armlift.
- Turning the screw anti-clockwise raises the armlift.



# Playing records

## Preparation

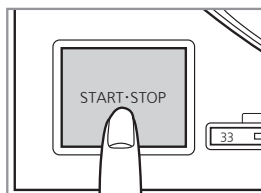
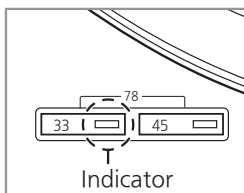
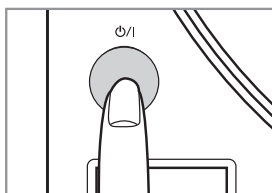
- ★1 Put a record (not included) on the turntable.
- ★2 Take off the stylus cover and release the arm clamp.

### 1 Press [⏻/⏮] to turn the unit on.

33-1/3 rpm is automatically selected and the indicator [33] lights.

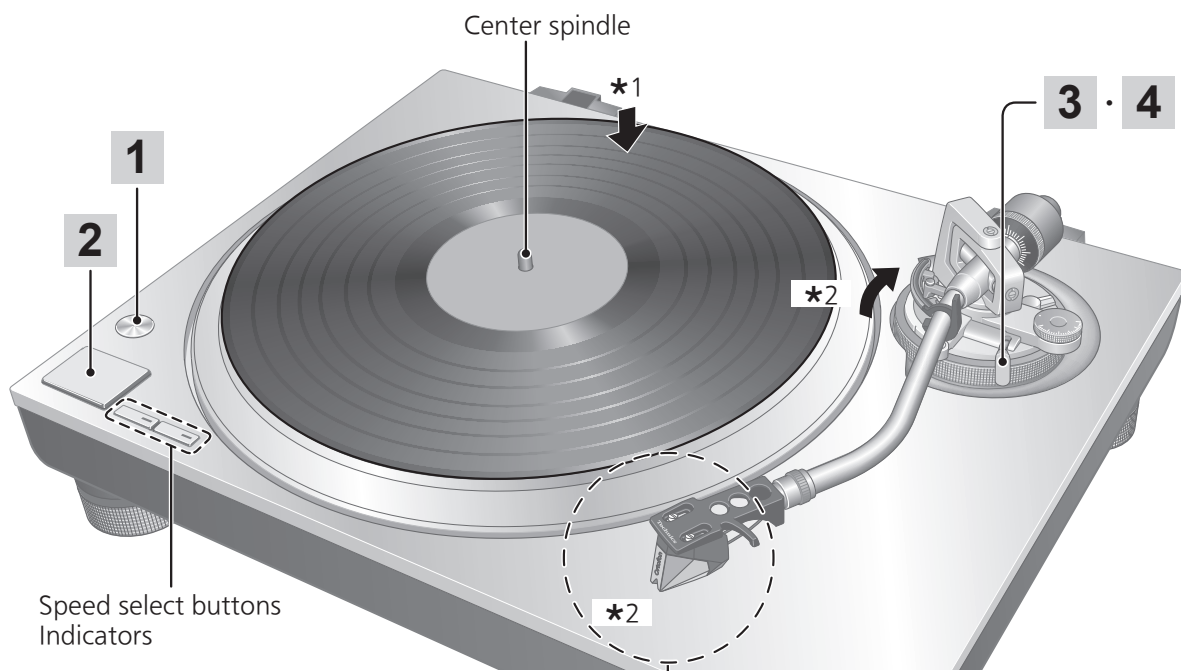
### 2 Press [START-STOP].

The turntable starts revolving.

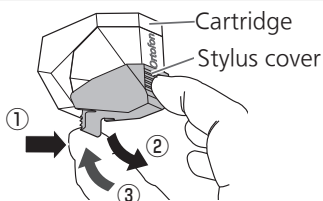


## Attention

- Do not press [START-STOP] when the turntable is removed.  
If you have accidentally pressed [START-STOP]
  - The indicator of the speed select button ([33] or [45]) starts blinking.
  - ⇒ If it is blinking, press [⏻/⏮] to turn the unit off, fit the turntable and then press [⏻/⏮] to turn the unit on.
- Turn the unit on or off with the volume on the connected device set to the minimum.



Speed select buttons  
Indicators



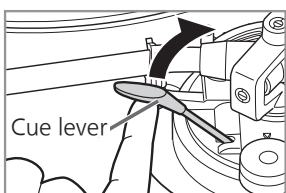
### ■ Removing the stylus cover

Hold the stylus cover from its front and back, and while pushing the latch on the rear part (①), slowly tilt the stylus cover downward (②).

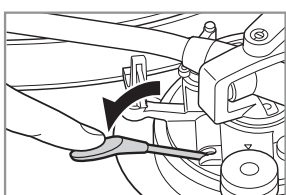
### ■ Attaching the stylus cover

Hold the stylus cover from its front and back, align with the front of the cartridge, and slowly lift it (③) taking care not to damage the stylus.

### 3 Lift the cue lever and move the tone arm over the record.



### 4 Lower the cue lever slowly. The tone arm moves down slowly.



Play starts.

### ■ To temporarily stop play

Lift the cue lever.

- The stylus lifts off the record.
- To start play again, lower the cue lever.

### ■ When play finishes

- ① After lifting the cue lever to return the tone arm to the arm rest, lower it completely.
- ② Press [START-STOP].  
The electronic brake gently stops the turntable.
- ③ Press [⏻/⏮] to turn the unit off.
- ④ Clamp the tone arm with the arm clamp.
- ⑤ Put the stylus cover back on (to protect the stylus tip).

### ■ Auto lift-up function

This function automatically lifts up the tone arm after a record finishes playing. It prevents the last groove from playing back repeatedly. (It does not stop the turntable rotation.)

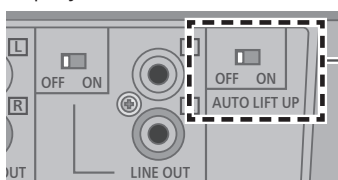
This function requires the following setting to become active.

Setting: With the unit turned off, set the auto lift-up switch on the rear side to "ON".

- After an auto lift-up, be sure to perform the steps ① to ⑤ described above in "When play finishes".

#### Attention

- Depending on the record, it may take some time after the play finishes for the auto lift-up to operate, or it may operate while the record is still playing. If the tone arm is lifted during play, set the auto lift-up switch to "OFF".
- The auto lift-up function may not operate normally. For the auto lift-up function to operate normally, the cue lever must be completely lowered after the tone arm is returned to the arm rest following the end of play.



Auto lift-up switch

### ■ When playing EP records

- Press the speed select button [45] ([45] lights).
- Fit the EP record adaptor over the center spindle.

### ■ When playing SP (78 rpm) records

- Press the speed select buttons [33] and [45] at the same time (78 rpm: [33] and [45] light).

### ■ When using a record stabilizer (not included)

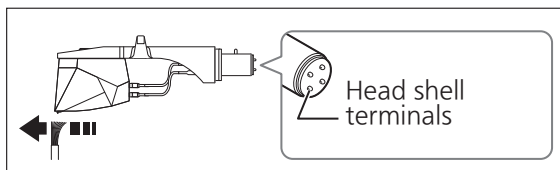
- See the instruction manual of the record stabilizer.
- Maximum weight: 1 kg

# Maintenance

## ■ Care of the parts

Thoroughly clean dust off the stylus and record.

- Take off the head shell with the cartridge and clean the stylus using a soft brush. Brush from the base to the tip.
- Use a record cleaner to keep your records clean.



**Wipe the head shell terminals occasionally.**  
Wipe the head shell terminals with a soft cloth and fit the head shell to the tone arm.

**Turn the amplifier volume down or turn the amplifier off before fitting or removing the head shell.**

Damage to your speakers can occur if the head shell is moved while the volume is turned up.

## ■ Cleaning the dust cover and cabinet

Wipe the dust cover and cabinet with a soft cloth.

**Do not touch the board while cleaning. Otherwise, the player may fail.**

When dirt is heavy, wring a wet cloth tightly to wipe the dirt, and then wipe it with a soft cloth.

- Do not use solvents including benzene, thinner, alcohol, kitchen detergent, a chemical wiper, etc. This might cause the exterior case to be deformed or the coating to come off.
- Do not wipe the dust cover when it is in place. Doing so may cause the tone arm to be attracted towards the dust cover as a result of the generated static electricity. Be sure the dust cover is removed while playing a record.

## ■ Moving the unit

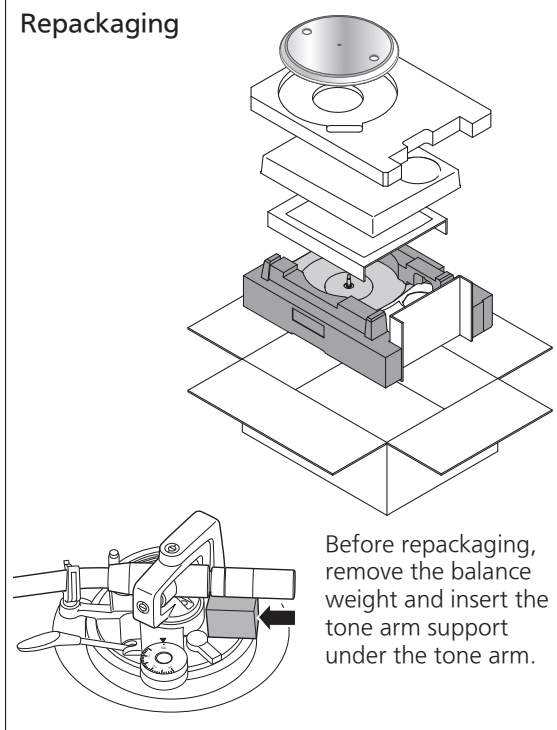
Repackage the unit in the packaging it came in.

Keep the packaging materials after taking out the goods.

If you no longer have the packaging, do the following:

- Take off the turntable and turntable mat and carefully wrap them.
- Remove the head shell and balance weight from the tone arm and carefully wrap them.
- Clamp the tone arm with the arm clamp and tape it in place.
- Carefully wrap the main unit in a blanket or paper.

### Repackaging



## ■ WEEE symbol

### Disposal of the product outside the EU countries



This symbol is valid within the EU only.

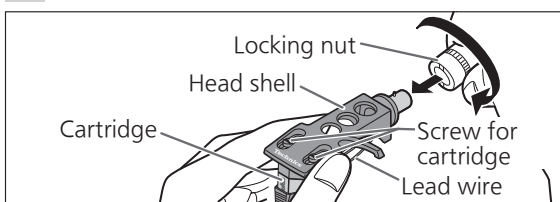
Contact a local governmental office or your dealer to confirm a right manner of disposal.

# Replacing the cartridge

The cartridge can be replaced with one of your preference.

## Removing the supplied cartridge

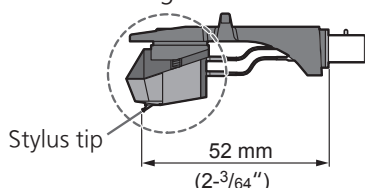
- 1** Attach the stylus cover (⇒18) and loosen the locking nut to remove the tone arm from the head shell.
- 2** Loosen the cartridge mounting screws to remove the supplied cartridge from the head shell.
  - Use a commercially available mini flat screwdriver (4 mm [ $\frac{5}{32}$ "]).
  - Be careful not to touch the stylus tip.
- 3** Remove the leads from the terminals.
  - Be careful not to cut the leads.



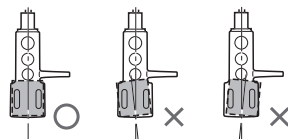
## 2 Adjust the overhang.

- Be careful not to touch the stylus tip.

- ① Move the cartridge to adjust the overhang in such a way that the stylus tip is at 52 mm from the head shell mounting end, as shown in the figure below.

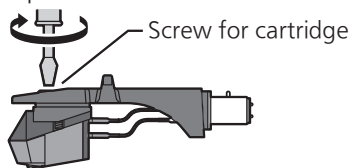


- ② The cartridge should be parallel on the shell head when viewed from the top and side (the illustration is the top view).



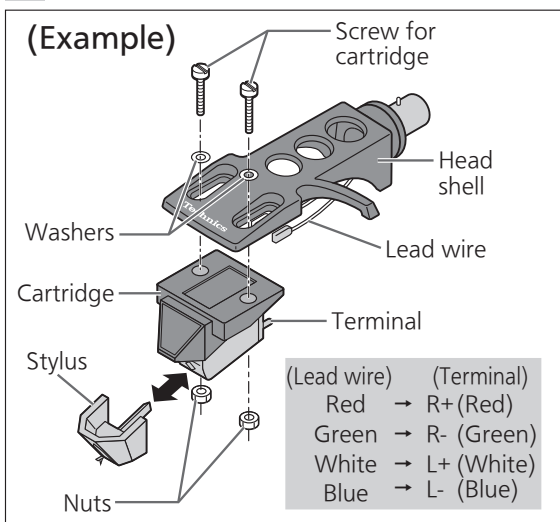
- ③ Tighten the screw for cartridge.

- Be careful not to allow the cartridge to slip out of place.



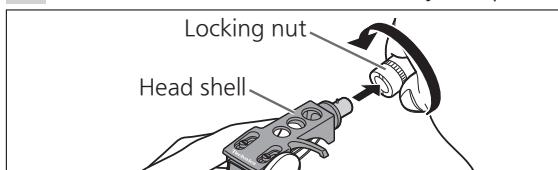
## Attaching the cartridge

- 1** Attach a cartridge tentatively. Follow the instructions of the replacement cartridge to correctly attach it to the head shell, and tighten the screws lightly.
  - If the mounting screws are included in the cartridge, use them.
  - When playing SP records, use a cartridge for SP records.
  - Use a commercially available mini flat screwdriver (4 mm [ $\frac{5}{32}$ "]).
  - Be careful not to touch the stylus tip.



## Attaching the head shell

- 3** Fit the head shell with the cartridge into the tone arm. Keep the head shell horizontal and tighten the locking nut.
  - Be careful not to touch the stylus tip.



### Attention

- Store the removed screws, washers and nuts in such a way that they do not get lost.
- This unit is for use with MM type cartridges. The external output terminals cannot be used when used with an MC type cartridge.

# Troubleshooting guide

Before requesting service, make the below checks. If you are in doubt about some of the check points, or if the remedies indicated in the chart do not solve the problem, contact your dealer.

---

## No power.

- Is the AC power supply cord plugged in?  
→ Plug the AC power supply cord in firmly. (⇒ 12)

---

## There is power but no sound, sound is weak or abnormal, loud and with distorted sound quality.

- Are device connections and PHONO or external output terminal connections correct?  
→ Connect the PHONO output terminals with the amplifier's PHONO input terminals. (⇒ 13)  
→ Connect the external output terminals to the amplifier's external input terminals. (⇒ 12)
- Is the external output switch correctly set?  
→ When connecting the external output terminals, set the external output switch to "ON". (⇒ 12)

---

## Left and right sounds are reversed.

- Are the stereo connection cable connections to the amplifier or receiver reversed?  
→ Double check all connections. (⇒ 12, 13)
- Are connections of the head shell's lead wires to the cartridge terminals correct?  
→ Double check all connections. (⇒ 21)

---

## Low, continuous sound (humming or buzzing sound), noise or popping sound is heard during play.

- Are there other appliances or their AC power supply cord near the stereo connection cable?  
→ Separate the appliances and their AC power supply cord from this unit.
- Is the earth lead connected?  
→ When connecting the PHONO output terminals, correctly connect the PHONO earth lead. (⇒ 13)
- Are both the PHONO terminal output and external output terminals simultaneously connected to the connected device?  
→ Connect one or the other. (⇒ 12, 13)

---

## The indicator on the speed select button [33] or [45] blinks.

Perform the following operations when the indicator on the speed select button [33] or [45] blinks. The symptom may be improved.

- ① Press [⏻/I] to OFF.
  - ② Pull out the power plug, wait for three seconds or more, and then insert the plug again.
  - ③ Press [⏻/I] to turn the unit on and press [START-STOP] to rotate the turntable.
- If the indicator on the speed select button blinks again, check which one is blinking and contact our service representative.



# Specifications

General	
Power supply	AC 120 V, 60 Hz
Power consumption	8.0 W (Power ON) Approx. 0.2 W (Power OFF)
Dimensions (W×H×D)	453 x 169 x 372 mm (17-27/32" × 6-21/32" × 14-21/32" inch)
Mass	Approx. 9.9 kg (21.9 lbs)
Operating temperature range	0 °C to +40 °C
Operating humidity range	35 % to 80 % RH (no condensation)
Turntable section	
Drive method	Direct drive
Motor	Brushless DC motor
Turntable platter	Aluminum diecast Diameter: 332 mm (13-5/64" inch) Weight: About 2.0 kg (4.5 lbs) (including rubber sheet)
Turntable speeds	33-1/3 rpm, 45 rpm, 78 rpm
Starting torque	0.18 N•m (1.8 kg•cm) (1.56 lbs-in)
Build-up characteristics	0.7 s. from standstill to 33-1/3 rpm
Braking system	Electronic brake
Wow and flutter	0.025 % W.R.M.S.

Tone arm section	
Type	Static Balance
Effective length	230 mm (9-1/16")
Overhang	15 mm (19/32")
Tracking error angle	Within 2° 32' (at the outer groove of 30 cm (12") record) Within 0° 32' (at the inner groove of 30 cm (12") record)
Offset angle	22°
Arm-height adjustment range	0 – 6 mm
Stylus pressure adjustment range	0 – 4 g (direct reading)
Head shell weight	Approx. 7.6 g
Applicable cartridge weight range	(Without auxiliary weight) 5.6 – 12.0 g 14.3 – 20.7 g (including the head shell) (With small auxiliary weight) 10.0 – 16.4 g 18.7 – 25.1 g (including the head shell)
Shell terminal	ø1.2 mm 4 pin terminal
Phono equalizer section	
Gain	37 dB
Cartridge section	
Type	MM type
Output voltage	5.5 mV
Mass	7.2 g
Stylus pressure	1.8 g

Specifications are subject to change without notice.

# Limited Warranty (ONLY FOR U.S.A.)

## Technics Products – Limited Warranty

### Limited Warranty Coverage (For USA Only)

If your product does not work properly because of a defect in materials or workmanship, Panasonic Corporation of North America (referred to as "the warrantor") will, for the length of the period indicated on the chart below, which starts with the date of original purchase ("warranty period"), at its option either (a) repair your product with new or refurbished parts, (b) replace it with a new or a refurbished equivalent value product, or (c) refund your purchase price. The decision to repair, replace or refund will be made by the warrantor.

Product or Part Name	Parts	Labor
Technics Turntable System (SL-1500C)	2(two)years	2(two)years

During the "Labor" warranty period there will be no charge for labor. During the "Parts" warranty period, there will be no charge for parts. This Limited Warranty excludes both parts and labor for non-rechargeable batteries, antennas, and cosmetic parts (cabinet). This warranty only applies to products purchased and serviced in the United States. This warranty is extended only to the original purchaser of a new product which was not sold "as is".

**Mail-In Service**—Online Repair Request

#### Online Repair Request

To submit a new repair request and for quick repair status visit our Web Site at

<http://shop.panasonic.com/support>

When shipping the unit, carefully pack, include all supplied accessories listed in the Owner's Manual, and send it prepaid, adequately insured and packed well in a carton box. When shipping Lithium Ion batteries please visit our Web Site at <http://shop.panasonic.com/support> as Panasonic is committed to providing the most up to date information. Include a letter detailing the complaint, a return address and provide a daytime phone number where you can be reached. A valid registered receipt is required under the Limited Warranty.

**IF REPAIR IS NEEDED DURING THE WARRANTY PERIOD, THE PURCHASER WILL BE REQUIRED TO FURNISH A SALES RECEIPT/PROOF OF PURCHASE INDICATING DATE OF PURCHASE, AMOUNT PAID AND PLACE OF PURCHASE. CUSTOMER WILL BE CHARGED FOR THE REPAIR OF ANY UNIT RECEIVED WITHOUT SUCH PROOF OF PURCHASE.**

#### Limited Warranty Limits and Exclusions

This warranty ONLY COVERS failures due to defects in materials or workmanship, and DOES NOT COVER normal wear and tear or cosmetic damage. The warranty ALSO DOES NOT COVER damages which occurred in shipment, or failures which are caused by products not supplied by the warrantor, or failures which result from accidents, misuse, abuse, neglect, mishandling, misapplication, alteration, faulty installation, set-up adjustments, misadjustment of consumer controls, improper maintenance, power line surge, lightning damage, modification, introduction of sand, humidity or liquids, commercial use such as hotel, office, restaurant, or other business or rental use of the product, or service by anyone other than a Factory Service Center or other Authorized Servicer, or damage that is attributable to acts of God.

The model number and serial number of this product can be found on either the back or the bottom of the unit. Please note them in the space provided below and keep for future reference.

MODEL NUMBER SL-1500C

SERIAL NUMBER

THERE ARE NO EXPRESS WARRANTIES EXCEPT AS LISTED UNDER "LIMITED WARRANTY COVERAGE". THE WARRANTOR IS NOT LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OF THIS PRODUCT, OR ARISING OUT OF ANY BREACH OF THIS WARRANTY.

(As examples, this excludes damages for lost time, travel to and from the servicer, loss of or damage to media or images, data or other memory or recorded content. The items listed are not exclusive, but for illustration only.)

**ALL EXPRESS AND IMPLIED WARRANTIES, INCLUDING THE WARRANTY OF MERCHANTABILITY, ARE LIMITED TO THE PERIOD OF THE LIMITED WARRANTY.**

Some states do not allow the exclusion or limitation of incidental or consequential damages, or limitations on how long an implied warranty lasts, so the exclusions may not apply to you.

This warranty gives you specific legal rights and you may also have other rights which vary from state to state. If a problem with this product develops during or after the warranty period, you may contact your dealer or Service Center. If the problem is not handled to your satisfaction, then write to:

Consumer Affairs Department  
Panasonic Corporation of North America  
661 Independence Pkwy  
Chesapeake, VA 23320

**PARTS AND SERVICE, WHICH ARE NOT COVERED BY THIS LIMITED WARRANTY, ARE YOUR RESPONSIBILITY.**

## Shop Accessories!

for all your Technics gear

Go to

<http://shop.panasonic.com/support>

Get everything you need to get the most out of your Technics products

Accessories & Parts for your Camera, Phone, A/V products, TV, Computers & Networking, Personal Care, Home Appliances, Headphones, Batteries, Backup Chargers & more...

#### Customer Services Directory

For Product Information, Operating Assistance, Parts, Owner's Manuals, Dealer and Service info go to <http://shop.panasonic.com/support>

For the hearing or speech impaired TTY: 1-877-833-8855

As of February 2019

User memo:

DATE OF PURCHASE	_____
DEALER NAME	_____
DEALER ADDRESS	_____
TELEPHONE NUMBER	_____

# Limited Warranty (ONLY FOR CANADA)

Panasonic Canada Inc.

5770 Ambler Drive, Mississauga, Ontario L4W 2T3

## TECHNICS PRODUCT - LIMITED WARRANTY

Panasonic Canada Inc. warrants this product to be free from defects in material and workmanship under normal use and for a period as stated below from the date of original purchase agrees to, at its option either (a) repair your product with new or refurbished parts, (b) replace it with a new or a refurbished equivalent value product, or (c) refund your purchase price. The decision to repair, replace or refund will be made by Panasonic Canada Inc.

Technics Turntable System (SL-1500C)	2 (two) years parts and labour
---	--------------------------------

This warranty is given only to the original purchaser, or the person for whom it was purchased as a gift, of a Technics brand product mentioned above sold by an authorized Panasonic dealer in Canada and purchased and used in Canada, which product was not sold "as is", and which product was delivered to you in new condition in the original packaging.

**IN ORDER TO BE ELIGIBLE TO RECEIVE WARRANTY SERVICE HEREUNDER, A PURCHASE RECEIPT OR OTHER PROOF OF DATE OF ORIGINAL PURCHASE, SHOWING AMOUNT PAID AND PLACE OF PURCHASE IS REQUIRED**

### LIMITATIONS AND EXCLUSIONS

This warranty ONLY COVERS failures due to defects in materials or workmanship, and DOES NOT COVER normal wear and tear or cosmetic damage. The warranty ALSO DOES NOT COVER damages which occurred in shipment, or failures which are caused by products not supplied by Panasonic Canada Inc., or failures which result from accidents, misuse, abuse, neglect, mishandling, misapplication, alteration, faulty installation, set-up adjustments, misadjustment of consumer controls, improper maintenance, power line surge, lightning damage, modification, introduction of sand, humidity or liquids, commercial use such as hotel, office, restaurant, or other business or rental use of the product, or service by anyone other than an Authorized Servicer, or damage that is attributable to acts of God.

Dry cell batteries are also excluded from coverage under this warranty.

THIS EXPRESS, LIMITED WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT WILL PANASONIC CANADA INC. BE LIABLE FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OF THIS PRODUCT OR ARISING OUT OF ANY BREACH OF ANY EXPRESS OR IMPLIED WARRANTY. (As examples, this warranty excludes damages for lost time, travel to and from the Authorized Servicer, loss of or damage to media or images, data or other memory or recorded content. This list of items is not exhaustive, but for illustration only.)

In certain instances, some jurisdictions do not allow the exclusion or limitation of incidental or consequential damages, or the exclusion of implied warranties, so the above limitations and exclusions may not be applicable. This warranty gives you specific legal rights and you may have other rights which vary depending on your province or territory.

### WARRANTY SERVICE

For product operation, repairs and information assistance, please visit our Support page on:  
[www.panasonic.ca/english/support](http://www.panasonic.ca/english/support)

### **IF YOU SHIP THE PRODUCT TO A SERVICENTRE**

Carefully pack and send prepaid, adequately insured and preferably in the original carton.  
Include details of the defect claimed, and proof of date of original purchase.

---

**Panasonic Corporation of North America**  
Two Riverfront Plaza, Newark, NJ 07102-5490  
<http://www.panasonic.com>

**Panasonic Canada Inc.**  
5770 Ambler Drive,  
Mississauga, Ontario,  
L4W 2T3  
[www.panasonic.com](http://www.panasonic.com)



# Service Manual

## Direct Drive Turntable System

Model No. **SL-1500CEB**  
**SL-1500CEG**  
**SL-1500CPP**




Product Color: (S)...Silver  
(K)...Black (For EB, EG)

### **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.

### **IMPORTANT SAFETY NOTICE**

There are special components used in this equipment which are important for safety. These parts are marked by  in the Schematic Diagrams, Circuit Board Diagrams, Exploded Views and Replacement Parts List. It is essential that these critical parts should be replaced with manufacturer's specified parts to prevent shock, fire or other hazards. Do not modify the original design without permission of manufacturer.

## TABLE OF CONTENTS

	PAGE		PAGE
<b>1 Safety Precautions</b> -----	<b>3</b>	<b>6 Disassembly and Assembly Instructions</b> -----	<b>19</b>
1.1. General Guidelines-----	3	6.1. Types of Screws-----	20
1.2. Caution For AC Cord (For EB)-----	4	6.2. Disassembly Flow Chart -----	21
1.3. Safety Parts Information -----	4	6.3. Main Components and P.C.B. Locations-----	21
<b>2 Warning</b> -----	<b>5</b>	6.4. Disassembly of T/T Rubber Mat and Turntable Ass'y-----	22
2.1. Prevention of Electrostatic Discharge (ESD) to Electrostatically Sensitive (ES) Devices-----	5	6.5. Disassembly of Insulator Unit-----	22
2.2. General description about Lead Free Solder (PbF)-----	5	6.6. Disassembly of Bottom Chassis Ass'y-----	22
<b>3 Specifications</b> -----	<b>7</b>	6.7. Disassembly of DC Motors -----	23
<b>4 Location of Controls and Components</b> -----	<b>8</b>	6.8. Disassembly of Phono Out P.C.B. -----	23
<b>5 Troubleshooting Guide</b> -----	<b>9</b>	6.9. Disassembly of Tone Arm All Unit Ass'y, Queuing Knob and Armrest Ass'y -----	24
5.1. No Power -----	9	6.10. Disassembly of Main P.C.B. -----	26
5.2. LED Blinking-----	11	6.11. Disassembly of SMPS P.C.B. -----	26
5.3. No sound (Large humming noise)-----	12	6.12. Disassembly of Panel P.C.B. -----	27
5.4. Turntable Does Not Operate (No rotation) -----	15	<b>7 Measurements and Adjustments</b> -----	<b>28</b>
5.5. LED No Illumination-----	16	7.1. Service Mode Startup Procedure -----	28
5.6. Auto lift-up function does not operate correctly ---	18	7.2. Auto lift-up function Adjustment -----	29

7.3. Automatic Adjustment-----	31
<b>8 Block Diagram -----</b>	<b>32</b>
<b>9 Wiring Connection Diagram -----</b>	<b>33</b>
<b>10 Exploded View and Replacement Parts List -----</b>	<b>34</b>
10.1. Electrical Replacement Parts List-----	34
10.2. Mechanical Replacement Part List -----	35
10.3. Cabinet Parts Location 1 -----	37
10.4. Cabinet Parts Location 2 -----	38
10.5. Packaging-----	39



# 1 Safety Precautions

## 1.1. General Guidelines

### 1. IMPORTANT SAFETY NOTICE

- There are special components used in this equipment which are important for safety. These parts are marked by  $\triangle$  in the Schematic Diagrams, Circuit Board Layout, Exploded Views and Replacement Parts List. It is essential that these critical parts should be replaced with manufacturer's specified parts to prevent X-RADIATION, shock, fire, or other hazards. Do not modify the original design without permission of manufacturer.
2. An Isolation Transformer should always be used during the servicing of AC Adaptor whose chassis is not isolated from the AC power line. Use a transformer of adequate power rating as this protects the technician from accidents resulting in personal injury from electrical shocks. It will also protect AC Adaptor from being damaged by accidental shorting that may occur during servicing.
  3. When servicing, observe the original lead dress. If a short circuit is found, replace all parts which have been overheated or damaged by the short circuit.
  4. After servicing, see to it that all the protective devices such as insulation barriers, insulation papers shields are properly installed.
  5. After servicing, make the following leakage current checks to prevent the customer from being exposed to shock hazards.

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

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.

### 1.1.1. Leakage Current Cold Check

1. Unplug the AC cord and connect a jumper between the two prongs on the plug.
2. Measure the resistance value, with an ohmmeter, between the jumpered AC plug and each exposed metallic cabinet part on the equipment such as screwheads, connectors, control shafts, etc. When the exposed metallic part has a return path to the chassis, the reading should be between  $1M\Omega$  and  $5.2M\Omega$ .

When the exposed metal does not have a return path to the chassis, the reading must be  $\infty$

### 1.1.2. Leakage Current Hot Check

1. Plug the AC cord directly into the AC outlet. Do not use an isolation transformer for this check.
2. Connect a  $1.5k\Omega$ , 10 watts resistor, in parallel with a  $0.15\mu F$  capacitors, between each exposed metallic part on the set and a good earth ground such as a water pipe, as shown in Figure 1-1.
3. Use an AC voltmeter, with 1000 ohms/volt or more sensitivity, to measure the potential across the resistor.
4. Check each exposed metallic part, and measure the voltage at each point.
5. Reverse the AC plug in the AC outlet and repeat each of the above measurements.
6. The potential at any point should not exceed 0.75 volts RMS. A leakage current tester (Simpson Model 229 or equivalent) may be used to make the hot checks, leakage current must not exceed 1/2 milliamp. In case a measurement is outside of the limits specified, there is a possibility of a shock hazard, and the equipment should be repaired and rechecked before it is returned to the customer.

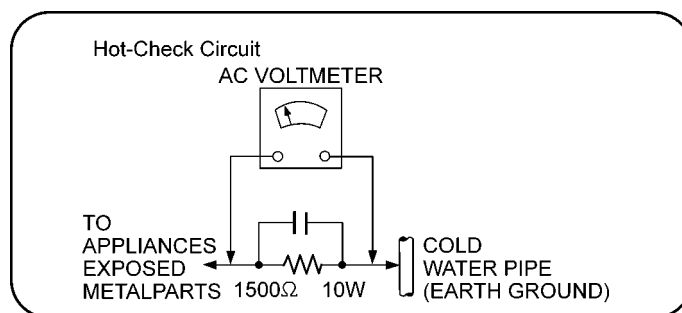


Figure 1-1



## 1.2. Caution For AC Cord (For EB)

### (For the AC mains plug of three pins)

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 10-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.

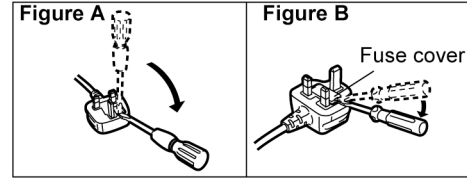
#### Before use

Remove the connector cover.

### How to replace the fuse

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

1. Open the fuse cover with a screwdriver.



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

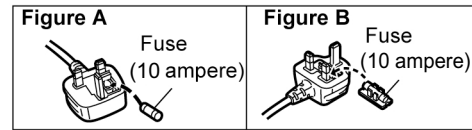















Figure 1-2

## 1.3. Safety Parts Information

### Safety Parts List:

There are special components used in this equipment which are important for safety.

These parts are marked by  in the Schematic Diagrams, Exploded View & Replacement Parts List. It is essential that these critical parts should be replaced with manufacturer's specified parts to prevent shock, fire or other hazards. Do not modify the original design without permission of manufacturer.

Safety	Ref No.	Part No.	Part Name & Description	Remarks
	12	TKFE46501	AC HOLDER	
	28	TZTKF02BE7E	TOP PANEL ASS'Y (BLACK)	EB-K EG-K
	28	TZTKF01BC2E	TOP PANEL ASS'Y (SILVER)	EG-S PP-S EB-S
	30	TZTKF01BE7E	BOTTOM CABINET ASS'Y	EB-K EG-K EG-S EB-S
	30	TZTKF01AH8U	BOTTOM CABINET ASS'Y	PP-S
	A1	K2CT3YY00096	AC CORD	EB-K EB-S
	A1	K2CG3YY00219	AC CORD	PP-S
	A1	K2CM3YY00055	AC CORD	EG-S EG-K
	A2	TQBM0414	OI (En)	EB-K EB-S
	A2	TQBM0413	OI (En/Ge/Fr/It/Sp/Da/Du/Sw/Fi/Po)	EG-K EG-S
	A2	TQBM0415	OI (En/Cf)	PP-S
	PCB4	TNPA7015AB	SMPS P.C.B.	

## 2 Warning

### 2.1. Prevention of Electrostatic Discharge (ESD) to Electrostatically Sensitive (ES) Devices

Some semiconductor (solid state) devices can be damaged easily by static electricity. Such components commonly are called Electrostatically Sensitive (ES) Devices.

Examples of typical ES devices are IC (integrated circuits) and some field-effect transistors and semiconductor "chip" components.

The following techniques should be used to help reduce the incidence of component damage caused by electrostatic discharge (ESD).


1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any ESD on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging ESD wrist strap, which should be removed for potential shock reasons prior to applying power to the unit under test.
2. After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge buildup or exposure of the assembly.
3. Use only a grounded-tip soldering iron to solder or unsolder ES devices.
4. Use only an anti-static solder removal device. Some solder removal devices not classified as "anti-static (ESD protected)" can generate electrical charge sufficient to damage ES devices.
5. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ES devices.
6. Do not remove a replacement ES device from its protective package until immediately before you are ready to install it. (Most replacement ES devices are packaged with leads electrically shorted together by conductive foam, aluminum foil or comparable conductive material).
7. Immediately before removing the protective material from the leads of a replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.

**CAUTION:**

Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.

8. Minimize bodily motions when handling unpackaged replacement ES devices. (Otherwise harmless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity (ESD) sufficient to damage an ES device).

#### IMPORTANT SAFETY NOTICE

There are special components used in this equipment which are important for safety. These parts are marked by  in the Schematic Diagrams, Circuit Board Diagrams, Exploded Views and Replacement Parts List. It is essential that these critical parts should be replaced with manufacturer's specified parts to prevent shock, fire or other hazards. Do not modify the original design without permission of manufacturer.

### 2.2. General description about Lead Free Solder (PbF)

The lead free solder has been used in the mounting process of all electrical components on the printed circuit boards used for this equipment in considering the globally environmental conservation.

The normal solder is the alloy of tin (Sn) and lead (Pb). On the other hand, the lead free solder is the alloy mainly consists of tin (Sn), silver (Ag) and Copper (Cu), and the melting point of the lead free solder is higher approx.30 degrees C (86°F) more than that of the normal solder.

#### Definition of PCB Lead Free Solder being used

The letter of "PbF" is printed either foil side or components side on the PCB using the lead free solder.

(See right figure)

PbF

### Service caution for repair work using Lead Free Solder (PbF)

- The lead free solder has to be used when repairing the equipment for which the lead free solder is used.  
(Definition: The letter of "PbF" is printed on the PCB using the lead free solder.)
- To put lead free solder, it should be well molten and mixed with the original lead free solder.
- Remove the remaining lead free solder on the PCB cleanly for soldering of the new IC.
- Since the melting point of the lead free solder is higher than that of the normal lead solder, it takes the longer time to melt the lead free solder.
- Use the soldering iron (more than 70W) equipped with the temperature control after setting the temperature at 350±30 degrees C (662±86°F).

### Recommended Lead Free Solder (Service Parts Route.)

- The following 3 types of lead free solder are available through the service parts route.  
RFKZ03D01K----- (0.3mm 100g Reel)  
RFKZ06D01K----- (0.6mm 100g Reel)  
RFKZ10D01K----- (1.0mm 100g Reel)

### Note

\* Ingredient: tin (Sn), 96.5%, silver (Ag) 3.0%, Copper (Cu) 0.5%, Cobalt (Co) / Germanium (Ge) 0.1 to 0.3%

## 2.2.1. Precautions for servicing

### ■ Note for assembly and disassembly

- When turning the unit over, be sure to close the dust cover or put a cardboard as a base, and place the unit on a soft thick cloth or cushion, etc, to prevent cracking.
- When removing the DC motors and tone arm unit, be sure to attach a soft cloth inside the dust cover beforehand to prevent cracking.

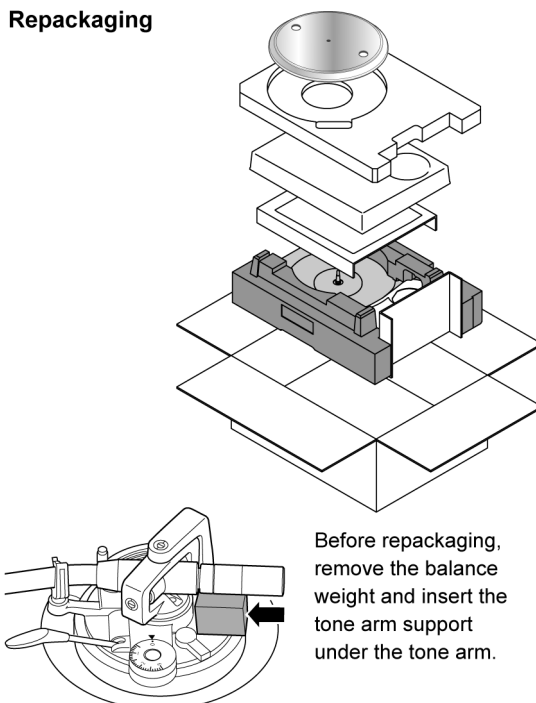
### ■ Note when moving the unit

#### Repackage the unit in the packaging it came in.

If you no longer have the packaging, do the following:

- Take off the turntable and turntable mat and carefully wrap them.
- Remove the head shell and balance weight from the tone arm and carefully wrap them.
- Clamp the tone arm with the arm clamp and tape it in place.
- Carefully wrap the main unit in a blanket or paper.

### Repackaging



# 3 Specifications

## ■ General

Power supply	AC 110 V to 240 V, 50/60 Hz (EB/EG) AC 120 V, 60 Hz (PP)
Power consumption	8.0 W (Power ON) Approx 0.2 W (Power OFF)
Dimensions (W x H x D)	453 mm x 169 mm x 372 mm (17 - $\frac{27}{32}$ " x 6 - $\frac{21}{32}$ " x 14 - $\frac{21}{32}$ " inch)
Mass	Approx 9.9 kg (21.9 lbs)
Operating temperature range	0 °C to +40 °C
Operating humidity range	35% to 80% RH (no condensation)

## ■ Turntable section

Drive method	Direct drive
Motor	Brushless DC motor
Turntable platter	Aluminum diecast Diameter: 332 mm (13 - $\frac{5}{64}$ ") Weight: About 2.0 kg (4.5 lbs) (including rubber sheet)
Turntable speeds	33 - $\frac{1}{3}$ rpm, 45 rpm, 78 rpm
Starting torque	0.18 N•m 1.8 kg•cm) (1.56 lbs-in)
Build-up characteristics	0.7 s. from standstill to 33 - $\frac{1}{3}$ rpm
Braking system	Electronic brake
Wow and flutter	0.025% W.R.M.S.

## ■ Tone arm section

Type	Static Balance
Effective length	230 mm (9 - $\frac{1}{16}$ ")
Overhang	15 mm ( $\frac{19}{32}$ ")
Tracking error angle	Within 2° 32' (at the outer groove of 30 cm (12") record) Within 0° 32' (at the inner groove of 30 cm (12") record)
Offset angle	22°
Arm-height adjustment range	0 – 6 mm (0 - $\frac{15}{64}$ ")
Stylus pressure adjustment range	0 – 4 g (direct reading)
Head shell weight	Approx. 7.6 g
Applicable cartridge weight range	(Without the auxiliary weight) 5.6 – 12.0 g 14.3 – 20.7 g (including the head shell) (With the small auxiliary weight) 10.0 – 16.4 g 18.7 – 25.1 g (including the head shell)
Shell terminal	Ø1.2 mm 4 pin terminal

## ■ Phono equalizer section

Gain	37 dB
------	-------

## ■ Cartridge section

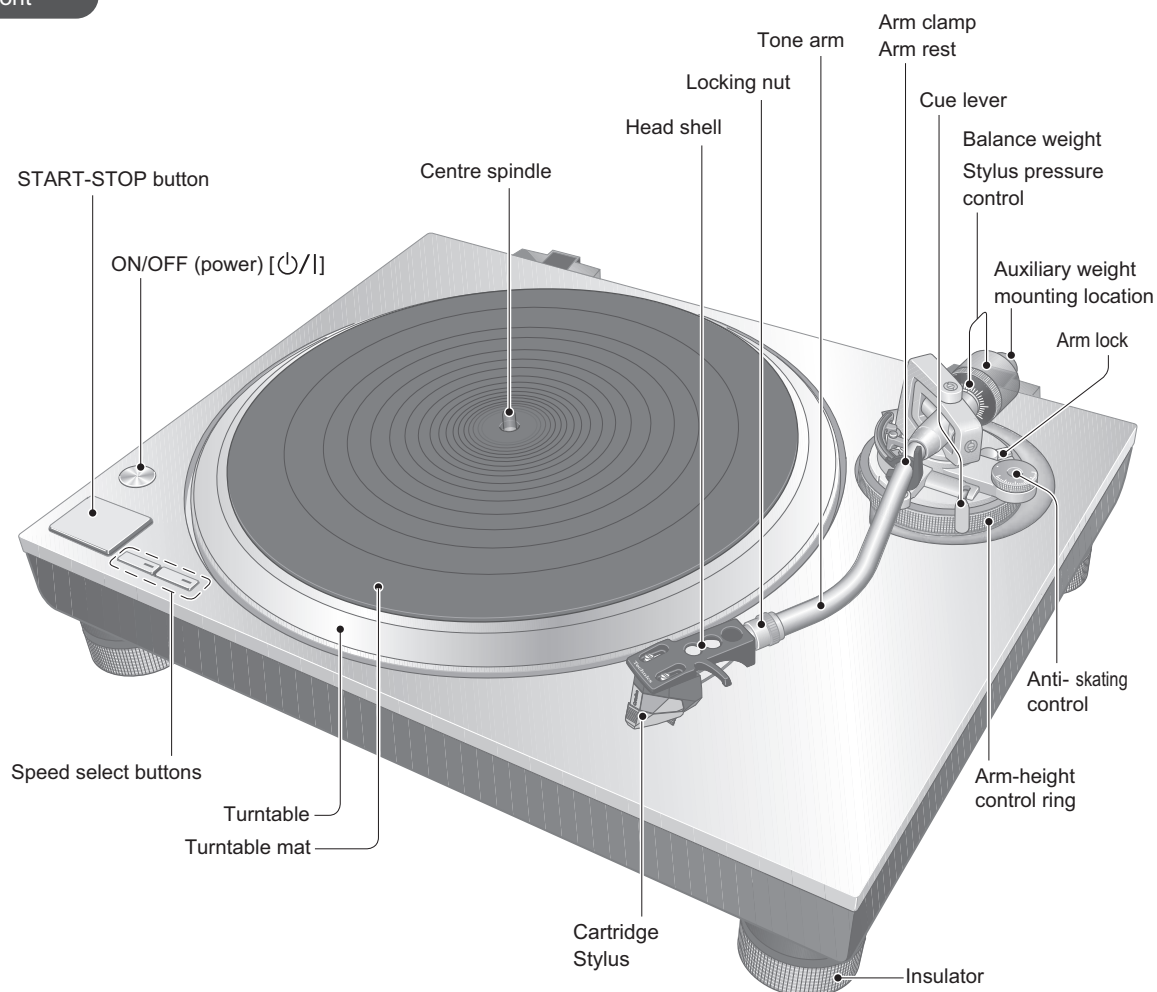
Type	MM type
Output voltage	5.5 mV
Mass	7.2 g
Stylus pressure	1.8 g

Note:

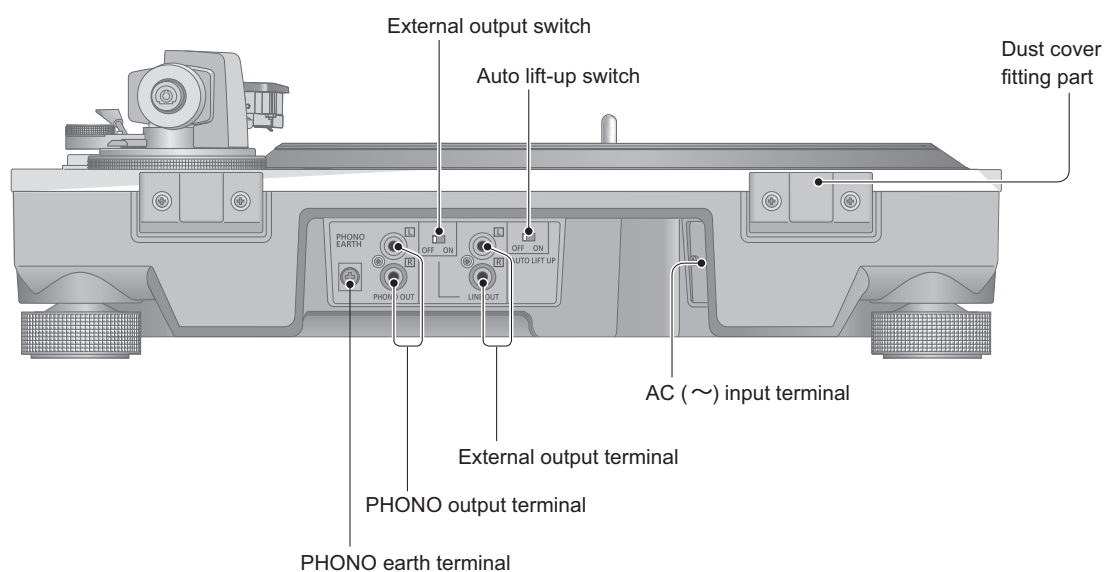
Specifications are subject to change without notice.

## 4 Location of Controls and Components

Front

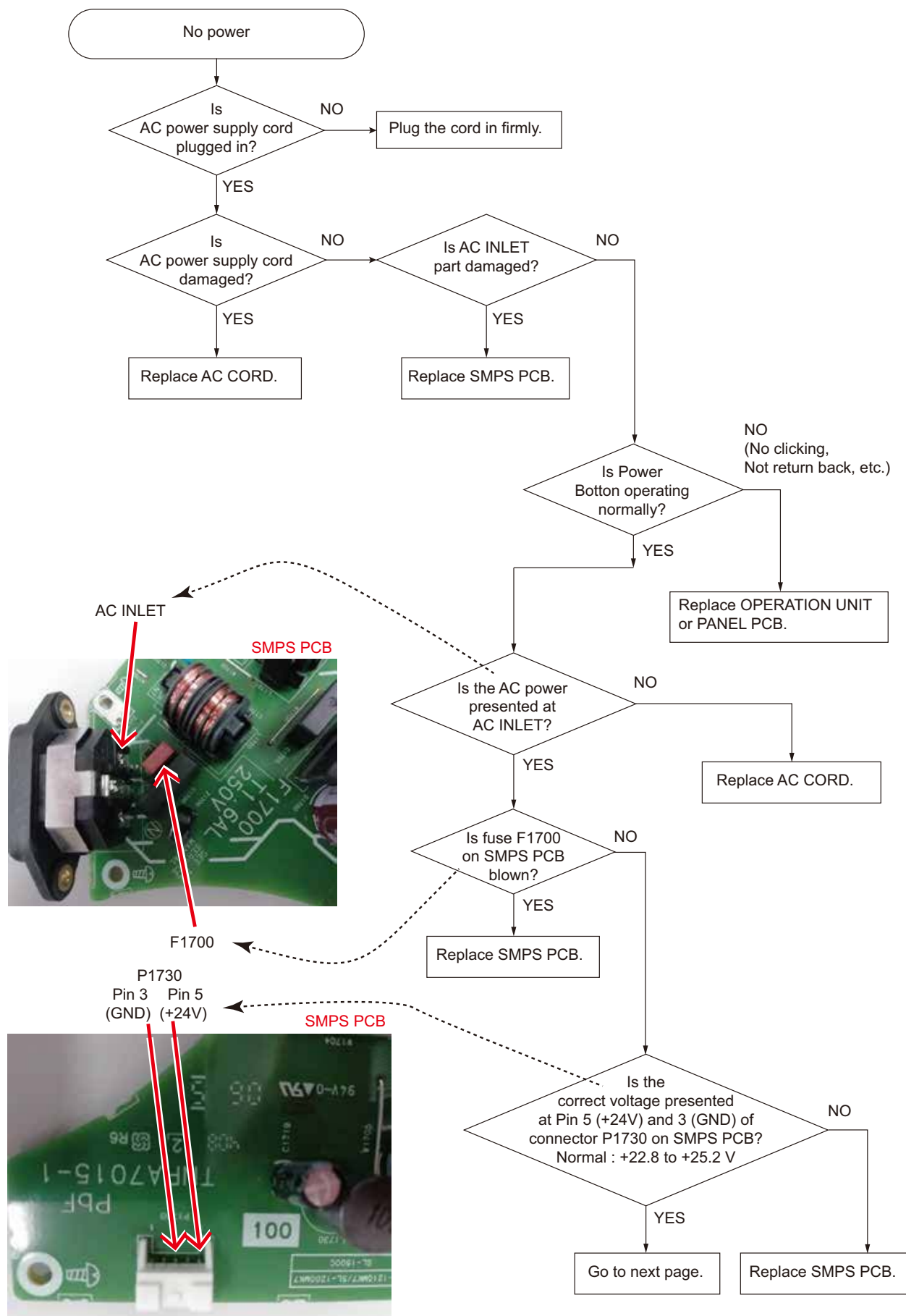


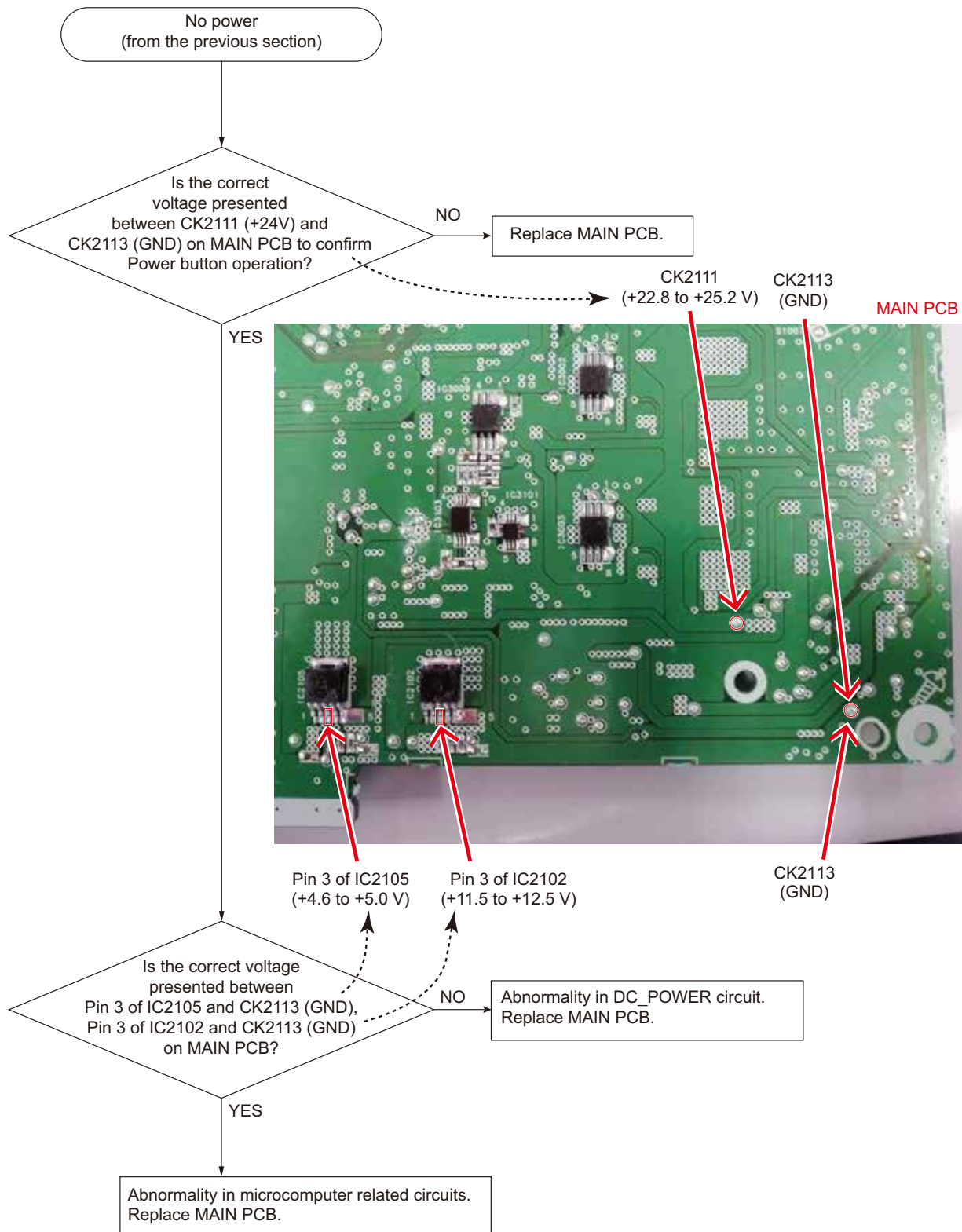
Back



# 5 Troubleshooting Guide

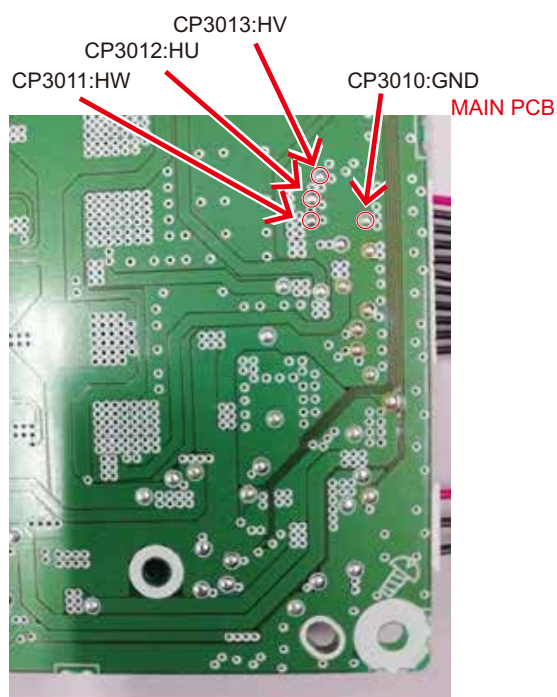
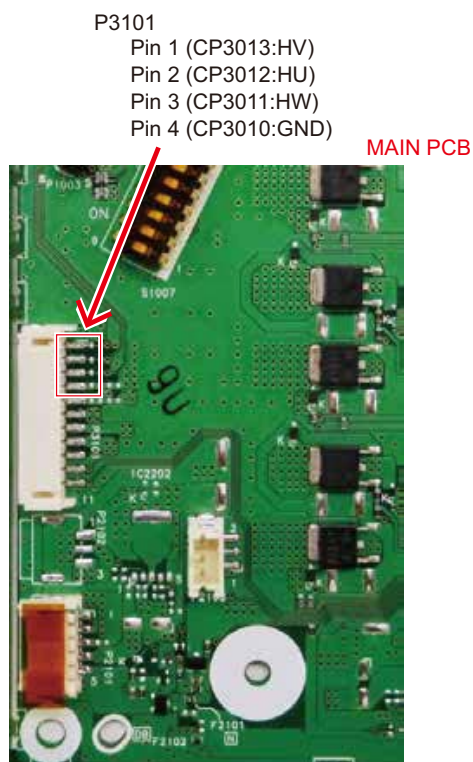
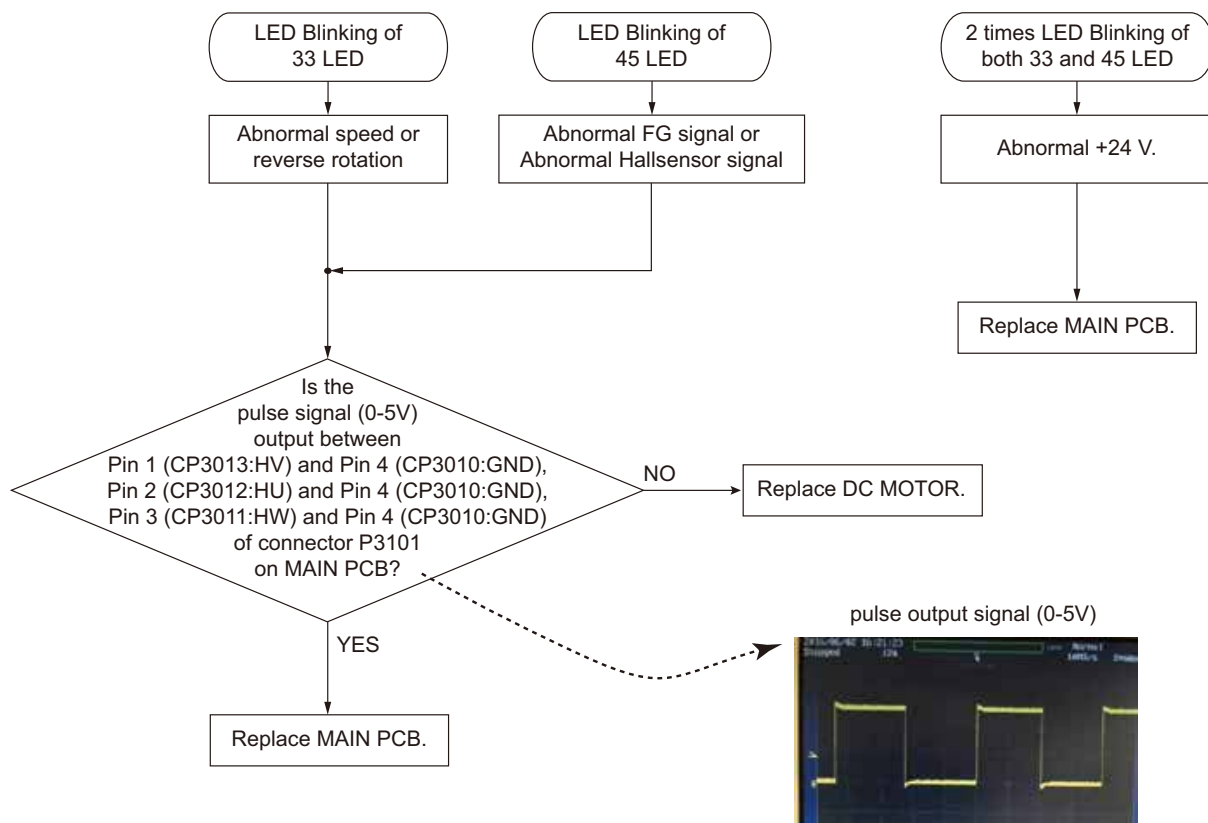
## 5.1. No Power





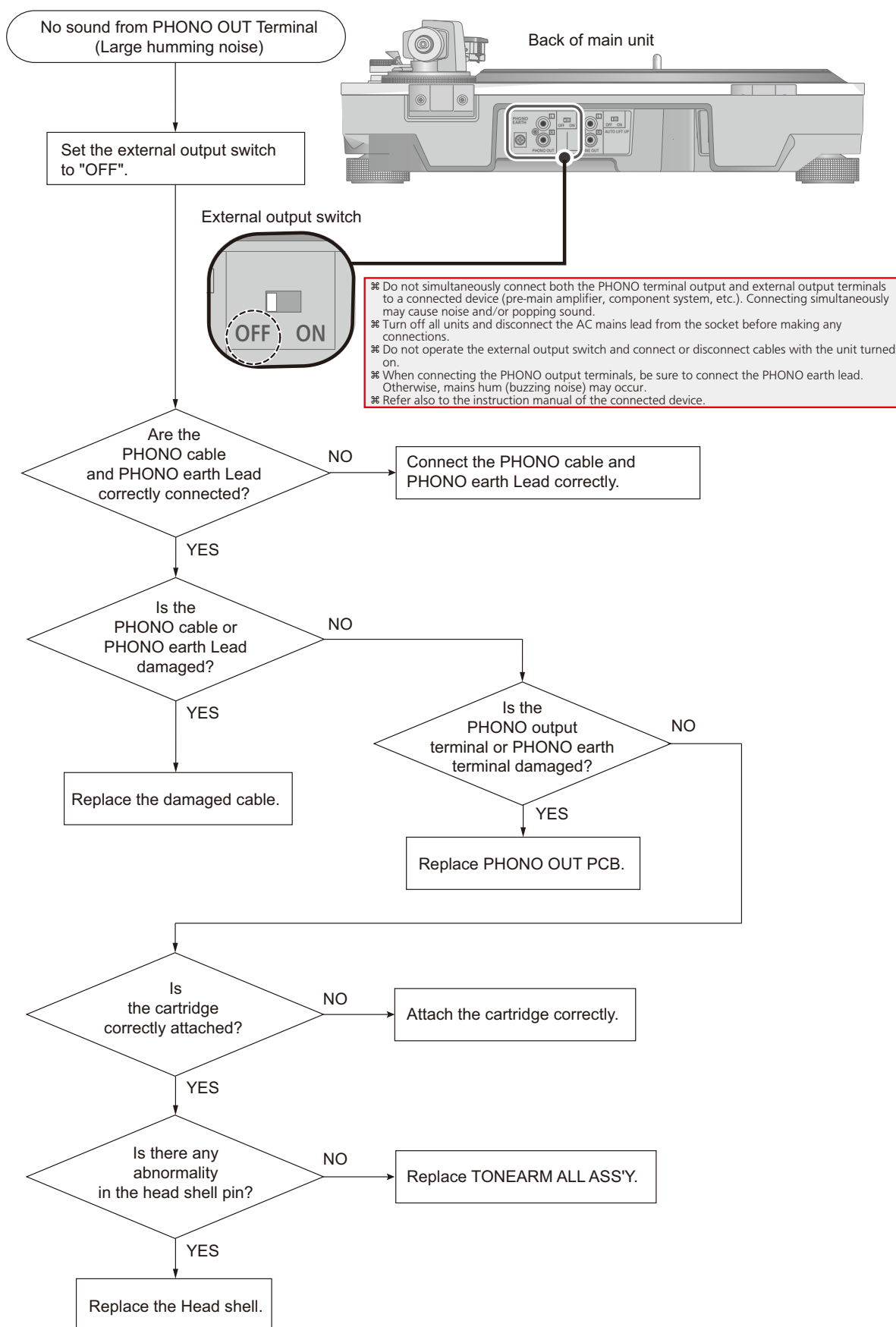


## 5.2. LED Blinking

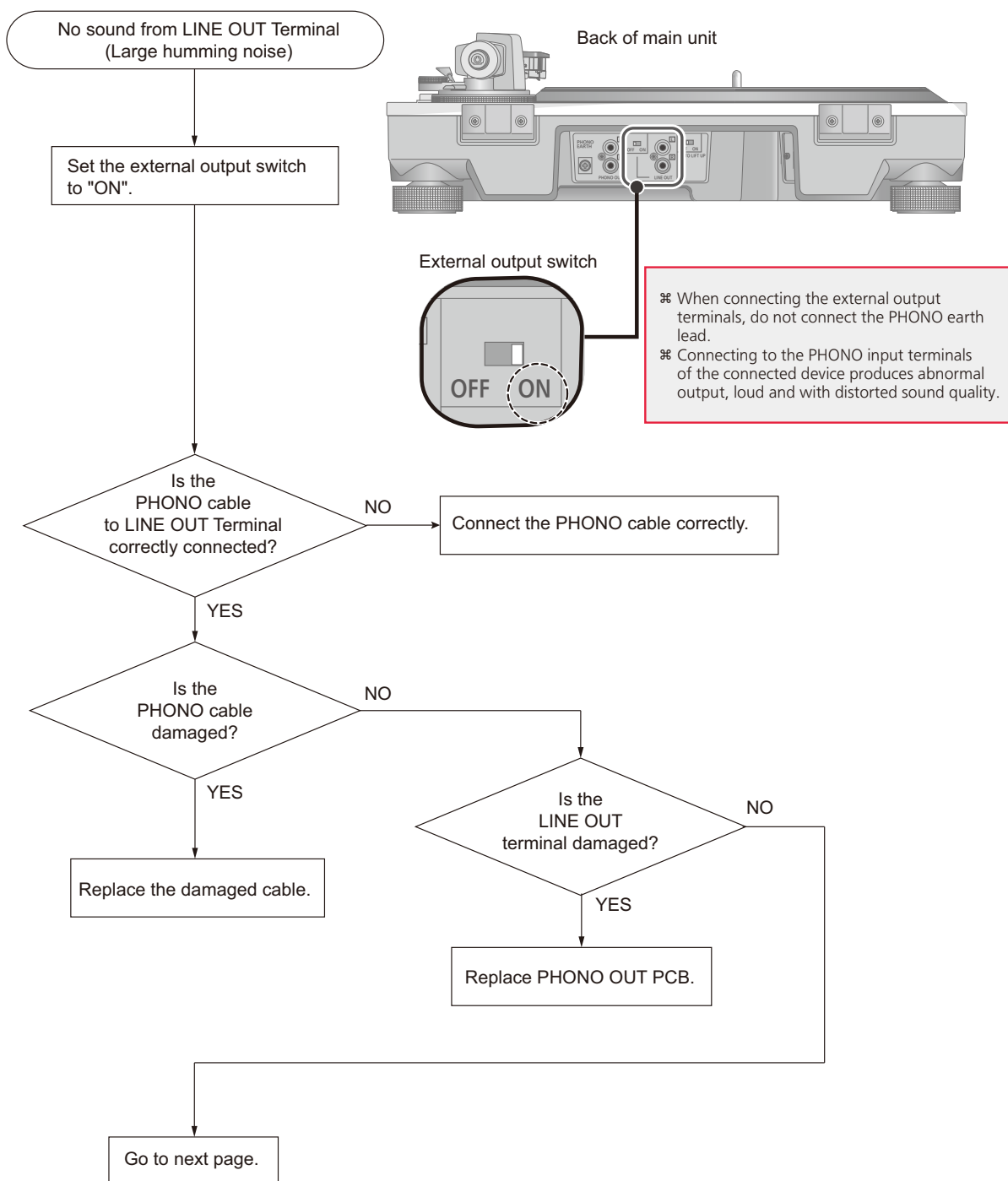


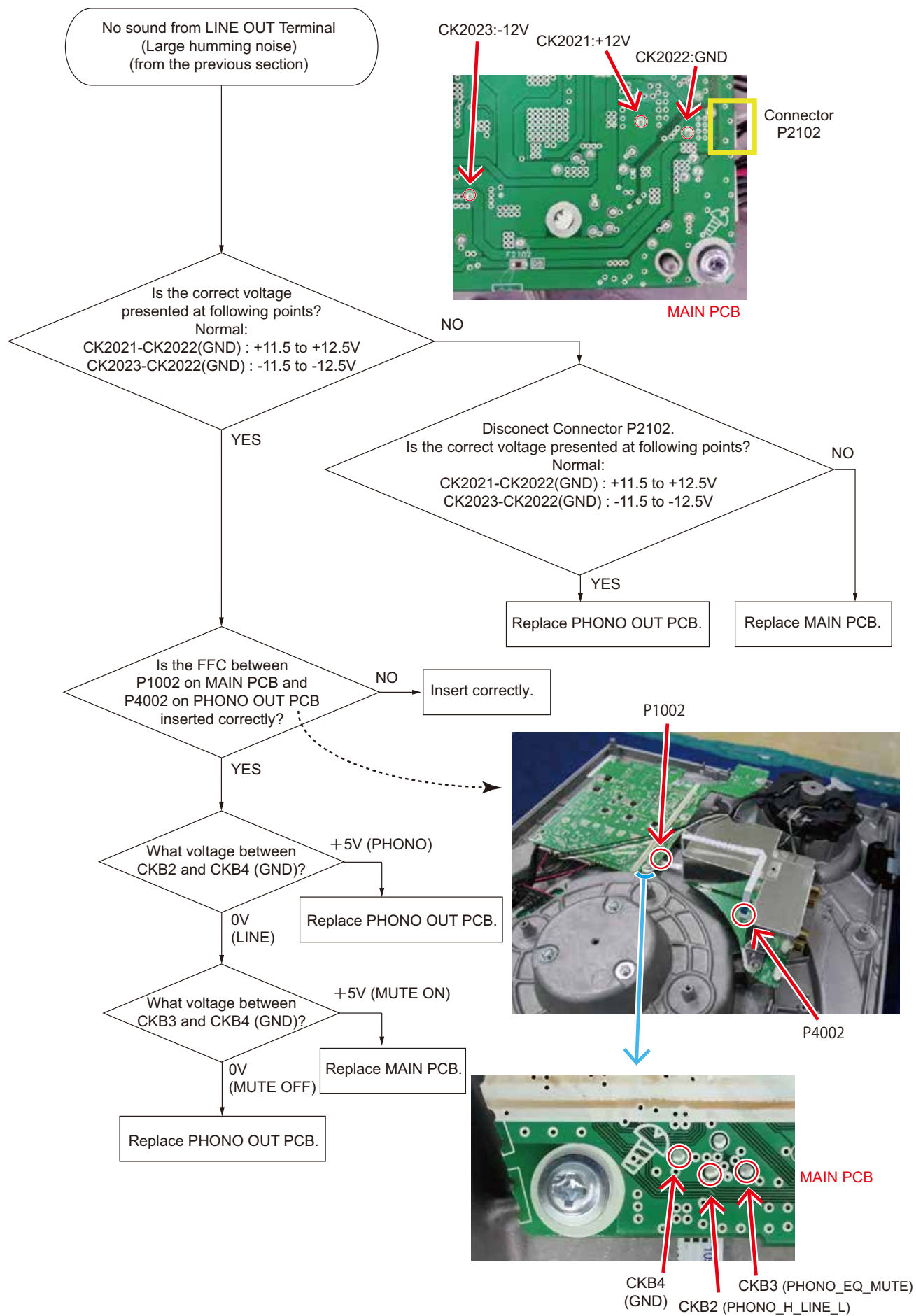
## 5.3. No sound (Large humming noise)

### 5.3.1. No sound from PHONO OUT Terminal

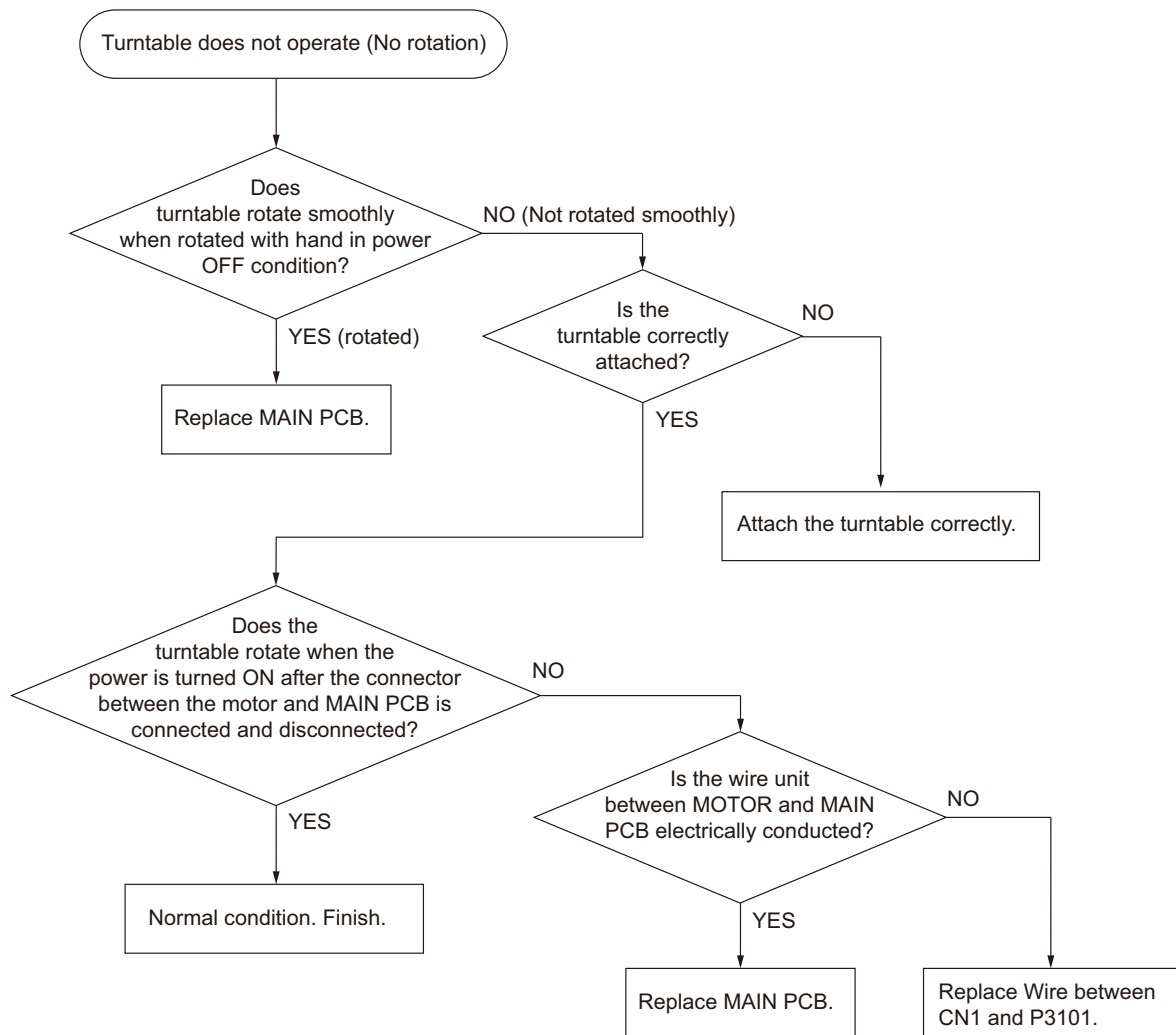


### 5.3.2. No sound from LINE OUT Terminal



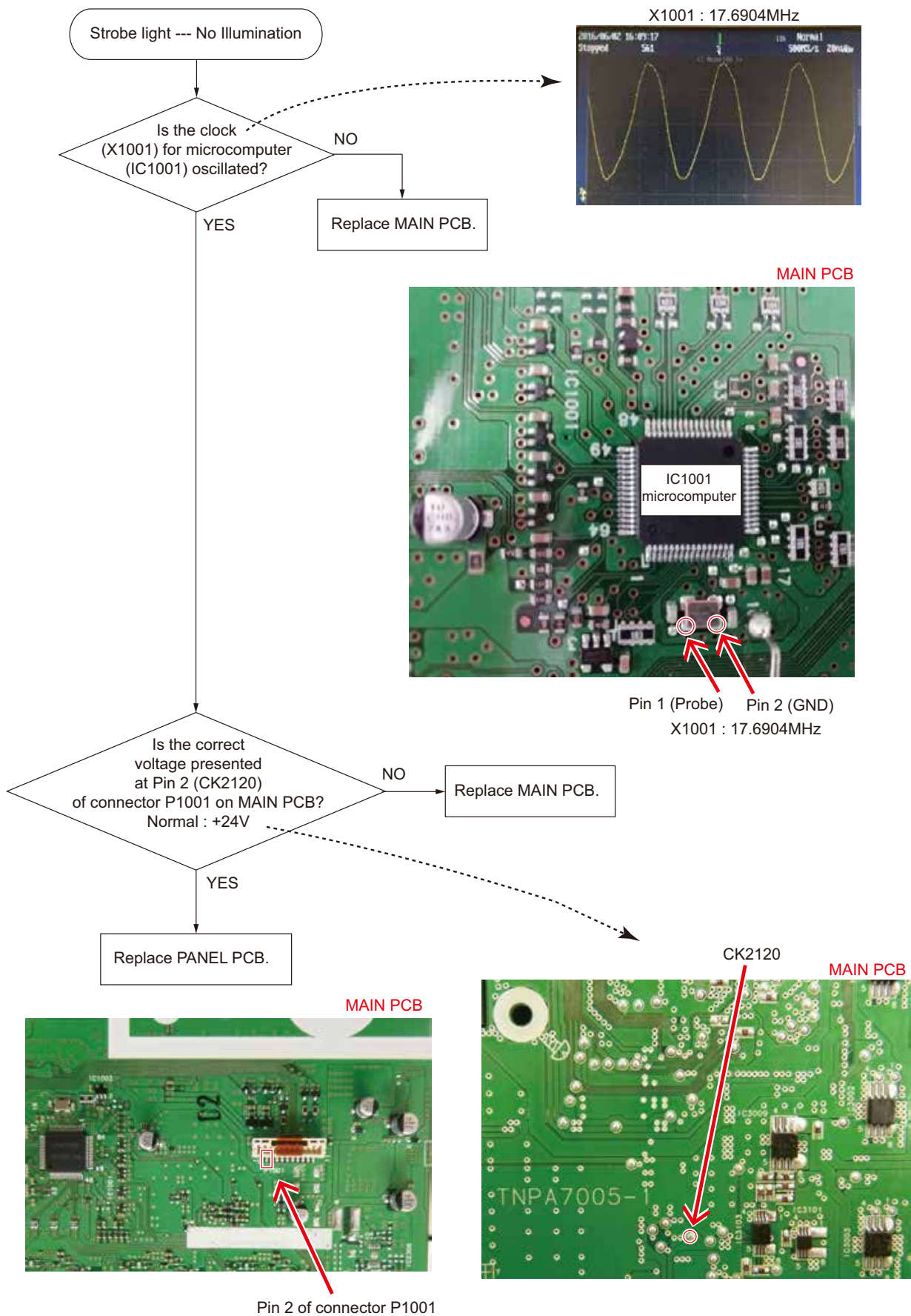


## 5.4. Turntable Does Not Operate (No rotation)



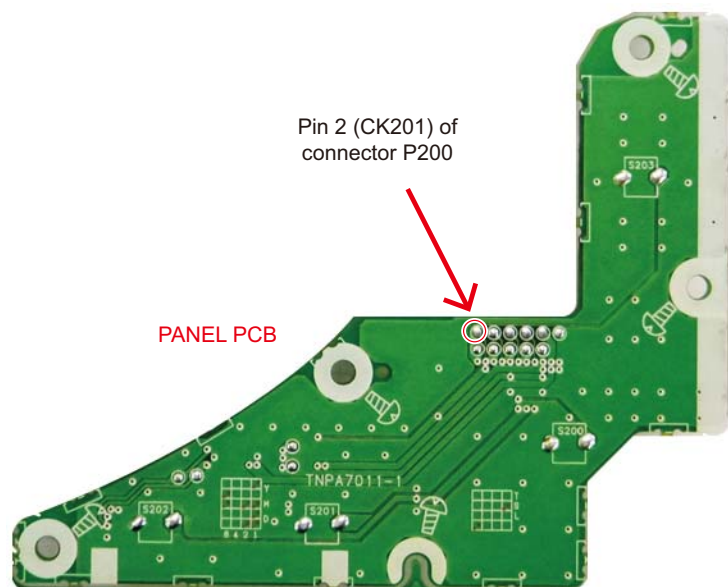
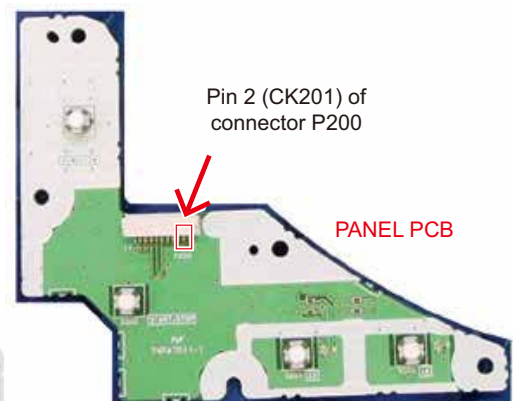
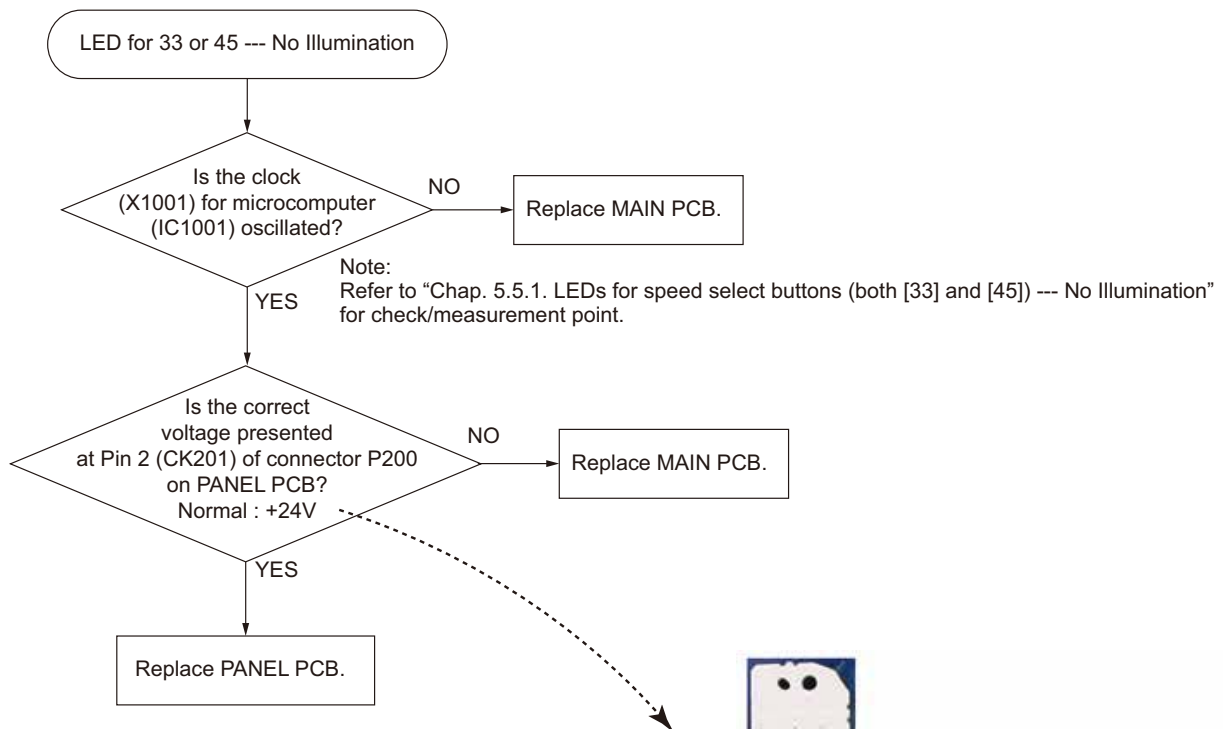
## 5.5. LED No Illumination

### 5.5.1. LEDs for speed select buttons (both [33] and [45]) --- No Illumination

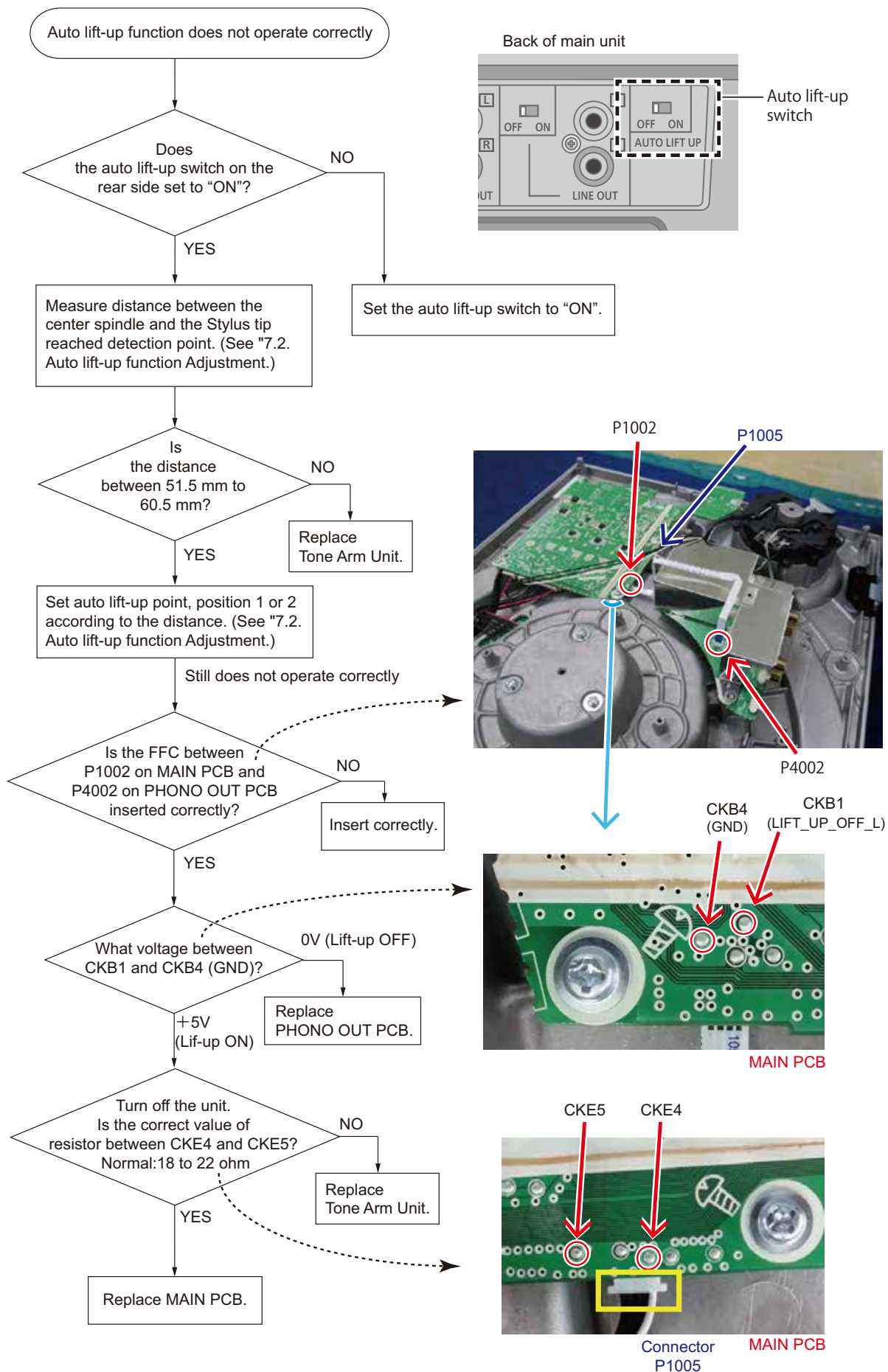




### 5.5.2. LED for speed select button ([33] or [45]) --- No Illumination



## 5.6. Auto lift-up function does not operate correctly





## 6 Disassembly and Assembly Instructions

### Caution Note:

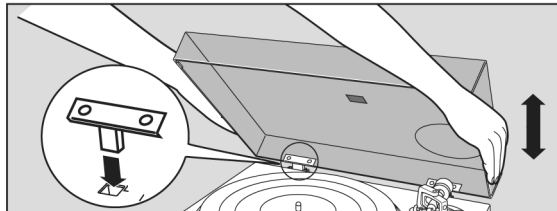
- This section describes the disassembly and/or assembly procedures for all major printed circuit boards & main components for the unit. (You may refer to the section of “Main components and P.C.B Locations” as described in the service manual)
- Before carrying out the disassembly process, please ensure all the safety precautions & procedures are followed.
- During the disassembly and/or assembly process, please handle with care as there may be chassis components with sharp edges.
- Avoid touching heatsinks due to its high temperature after prolong use. (See caution as described below)

**CAUTION: HOT!!  
PLEASE DO NOT  
TOUCH THE HEAT SINK**

- During disassembly and assembly, please ensure proper service tools, equipments or jigs is being used.
- During replacement of component parts, please refer to the section of “Replacement Parts List” as described in the service manual.
- Select items from the following indexes when disassembly or replacement are required.
- Disassembly of T/T Rubber Mat and Turntable Ass'y
- Disassembly of Insulator Unit
- Disassembly of Bottom Chassis Ass'y
- Disassembly of DC Motors
- Disassembly of Phono Out P.C.B.
- Disassembly of Tone Arm All Unit Ass'y, Queuing Knob and Armrest Ass'y
- Disassembly of Main P.C.B.
- Disassembly of SMPS P.C.B.
- Disassembly of Panel P.C.B.

### ■ Note when removing the dust cover unit

- Keep it open and lift it straight above..

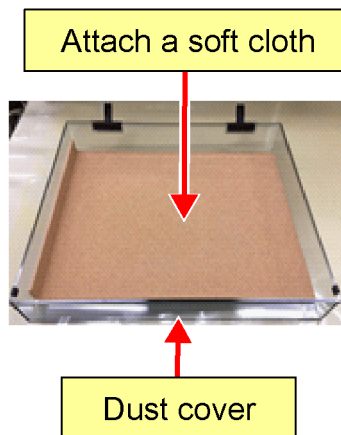
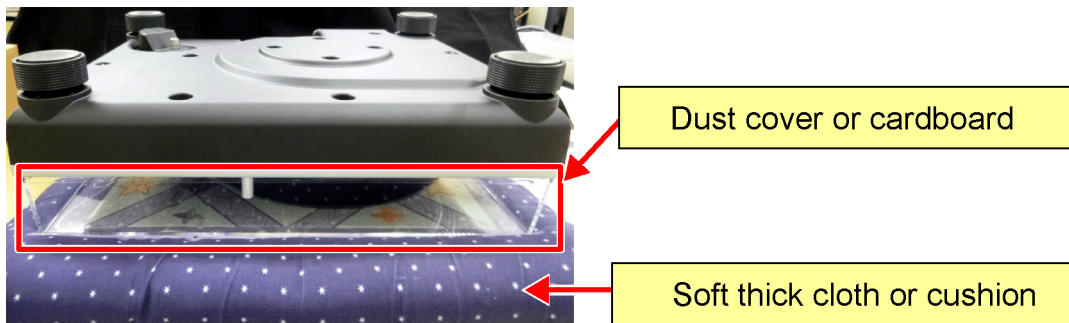


### Attention

- Return the tone arm to the arm rest and fix it with the arm clamp before you attach or detach the dust cover.
- Remove the dust cover while playing.
- Be sure the stylus light is pressed down when attaching the dust cover. If the dust cover is attached with the stylus light raised, it may touch the dust cover.

#### ■ Note for assembly and disassembly

- Replace the PCB, etc. from the bottom cover side.
- When turning the unit over, be sure to close the dust cover or put a cardboard as a base, and place the unit on a soft thick cloth or cushion, etc, to prevent cracking.
- When removing the DC Motors and tone arm unit, be sure to attach a soft cloth inside the dust cover beforehand to prevent cracking.



## 6.1. Types of Screws

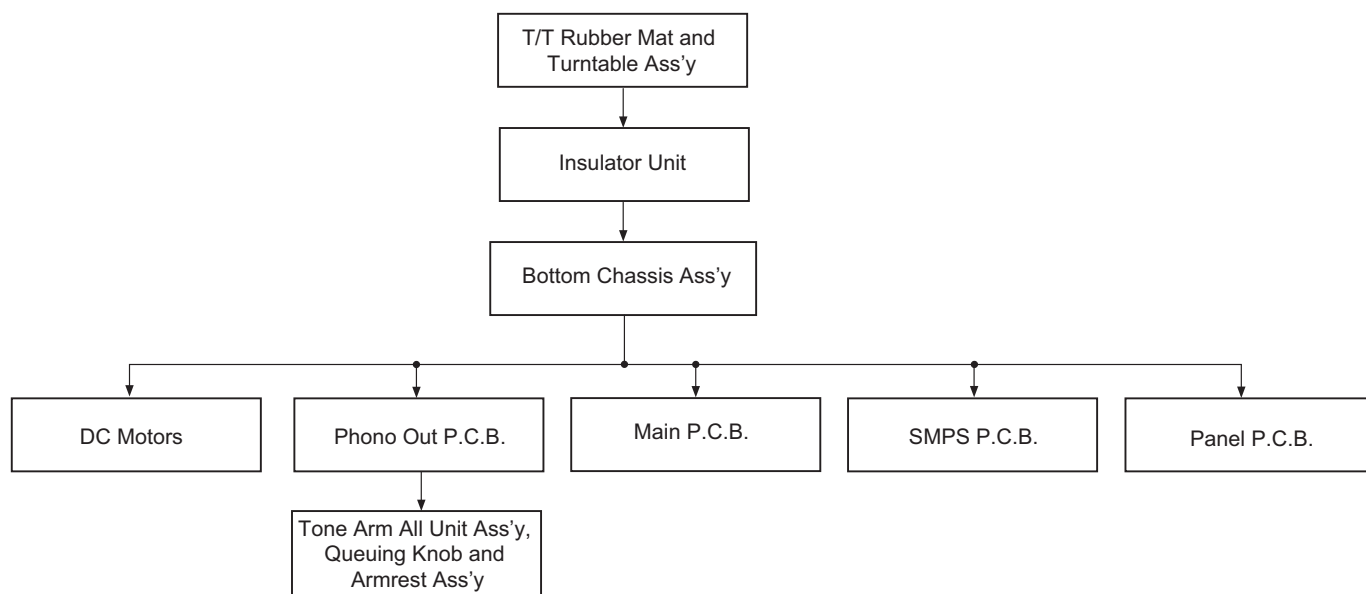
### CAUTION NOTE:

Please use original screw and at correct locations.

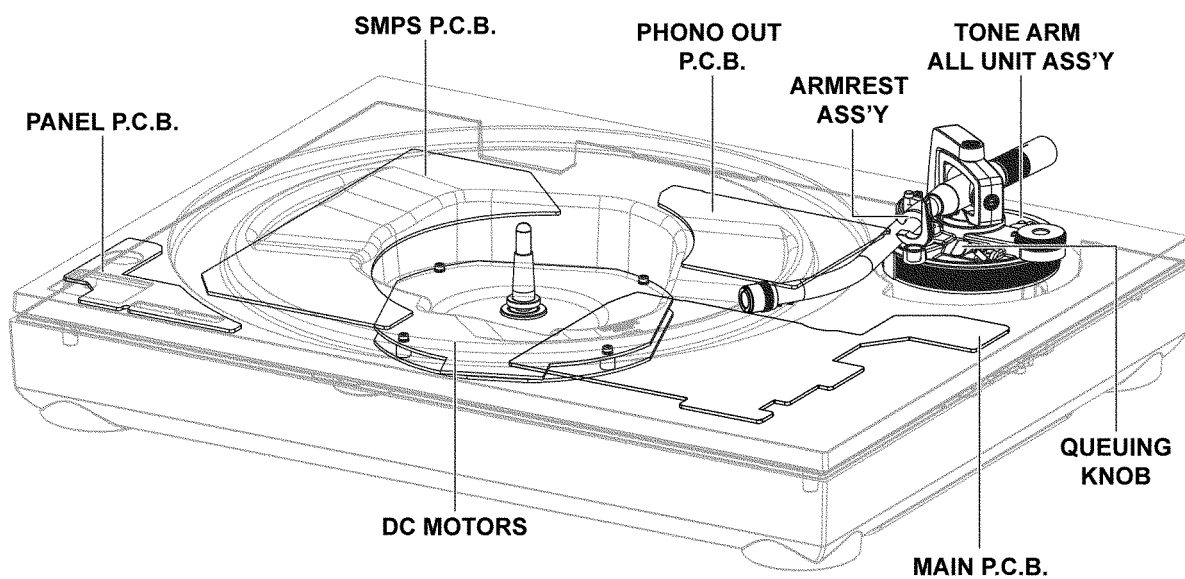
Below shown is part no. of different screw types used:

- |                      |                       |
|----------------------|-----------------------|
| <b>a</b> :THTF021J   | <b>e</b> :RHD30111-31 |
| <b>b</b> :RHD30248   | <b>f</b> :XTW26+6SFJ  |
| <b>c</b> :XTB3+8JFJK | <b>g</b> :TZSM04009   |
| <b>d</b> :XTB3+8JFJ  | <b>h</b> :XYN3+C8FJK  |

## 6.2. Disassembly Flow Chart



## 6.3. Main Components and P.C.B. Locations

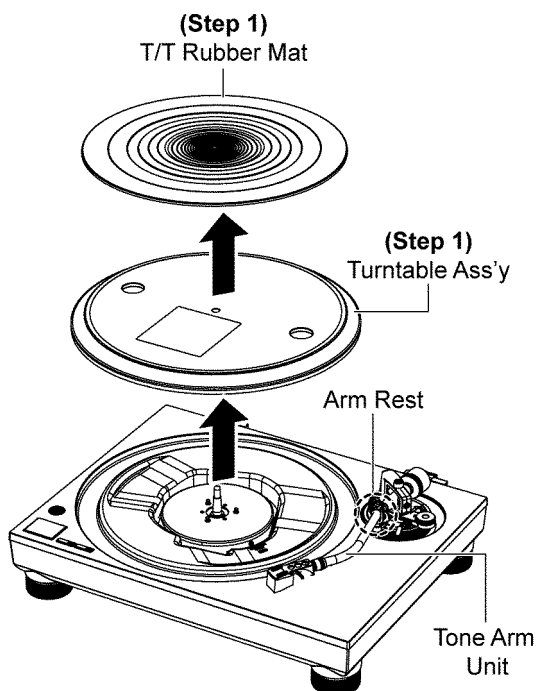


## 6.4. Disassembly of T/T Rubber Mat and Turntable Ass'y

**Step 1** Remove T/T Rubber Mat and Turntable Ass'y as arrow shown.

**Note:**

- The Tone Arm Unit should be supported by Arm Rest.
- Take care not to stick the dust or iron powder to the magnet attached to back inner side of turntable.



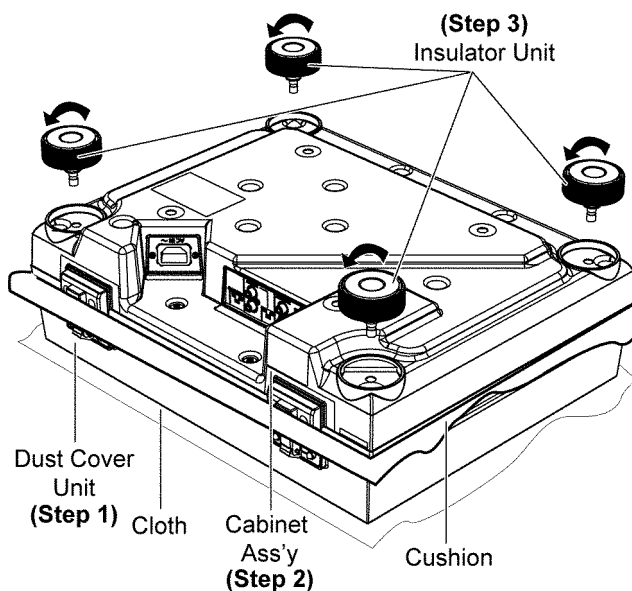
## 6.5. Disassembly of Insulator Unit

- Refer to "Disassembly of T/T Rubber Mat and Turntable Ass'y".

**Step 1** Place the Dust Cover Unit on Cloth.

**Step 2** Flip Cabinet Ass'y and put it on Cushion to prevent scratch.

**Step 3** Turn the 4 Insulator Unit in the direction of arrow and remove them.

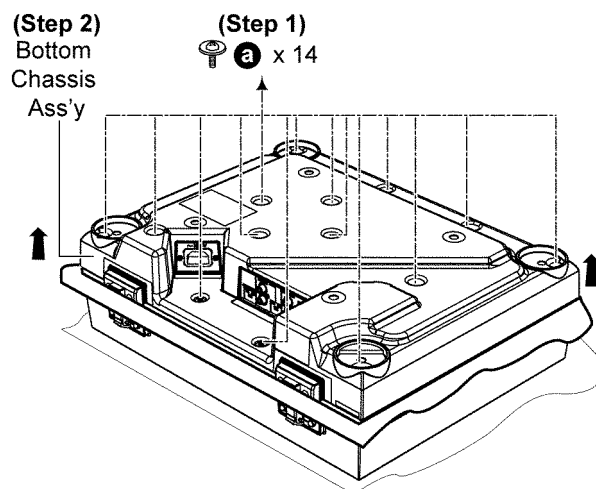


## 6.6. Disassembly of Bottom Chassis Ass'y

- Refer to "Disassembly of T/T Rubber Mat and Turntable Ass'y".
- Refer to "Disassembly of Insulator Unit".

**Step 1** Remove 14 screws.

**Step 2** Remove Bottom Chassis Ass'y as arrow shown.



## 6.7. Disassembly of DC Motors

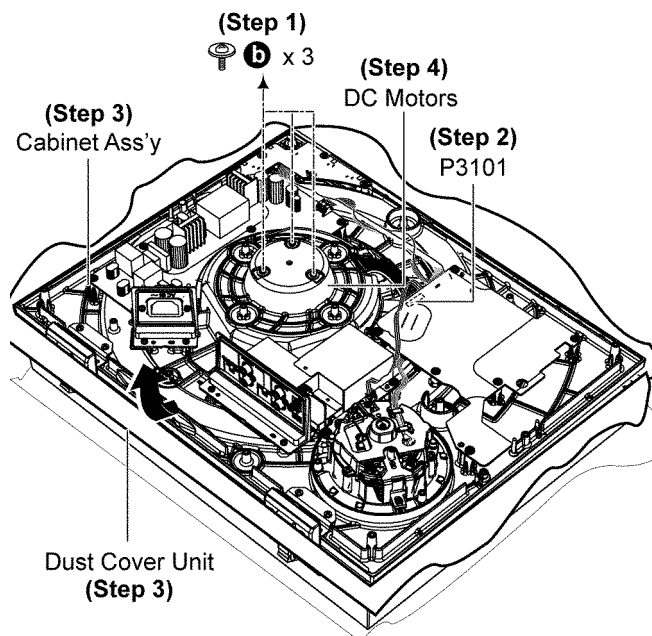
- Refer to “Disassembly of T/T Rubber Mat and Turntable Ass’y”.
- Refer to “Disassembly of Insulator Unit”.
- Refer to “Disassembly of Bottom Chassis Ass’y”.

**Step 1** Remove 3 screws.

**Step 2** Detach 11P Wire at connector (P3101) on Main P.C.B..

**Step 3** Separate the Cabinet Ass’y from the Dust Cover Unit.

**Step 4** Remove the DC Motors.



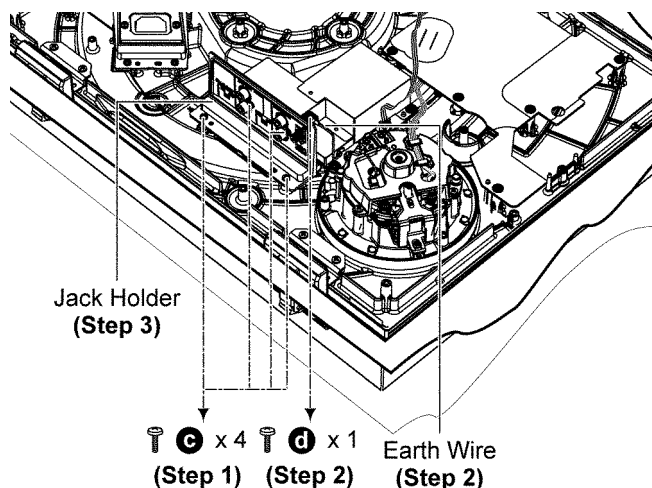
## 6.8. Disassembly of Phono Out P.C.B.

- Refer to “Disassembly of T/T Rubber Mat and Turntable Ass’y”.
- Refer to “Disassembly of Insulator Unit”.
- Refer to “Disassembly of Bottom Chassis Ass’y”.

**Step 1** Remove 4 screws.

**Step 2** Remove screw and Earth Wire.

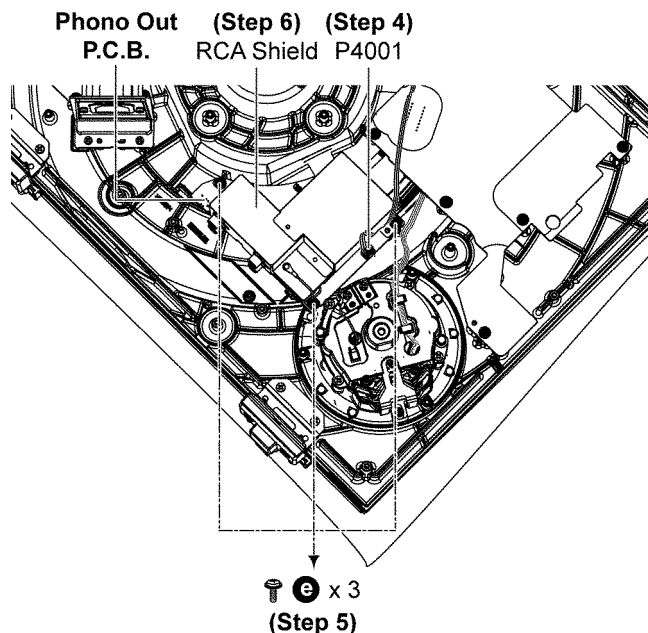
**Step 3** Remove Jack Holder.



**Step 4** Detach 3P Wire at connector (P4001) on Phono Out P.C.B..

**Step 5** Remove 3 screws.

**Step 6** Remove RCA Shield.

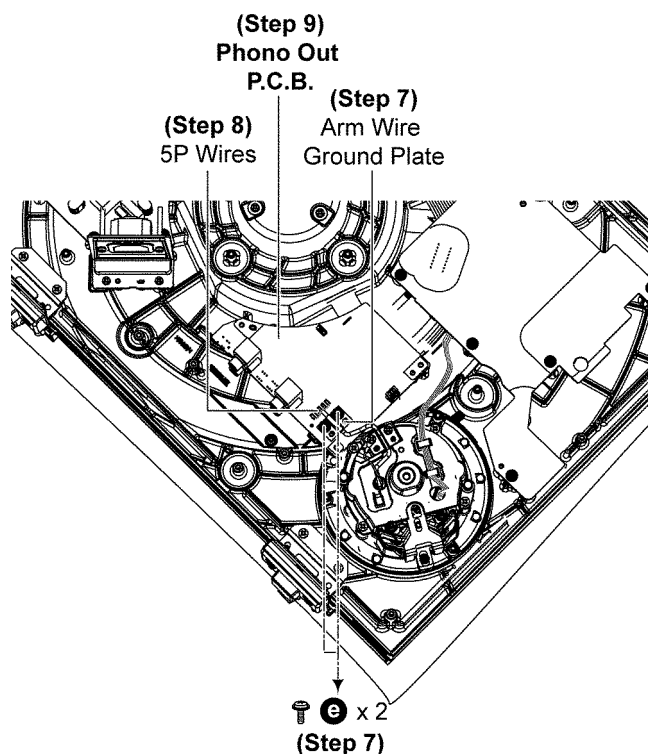


**Step 7** Remove 2 screws and Arm Wire Ground Plate.

**Step 8** Unsolder 5P Wires on Phono Out P.C.B..

**Step 9** Remove Phono Out P.C.B..

**Caution:** During assembling of 5P Wires, ensure wires properly seated on top of arm wire cushion.



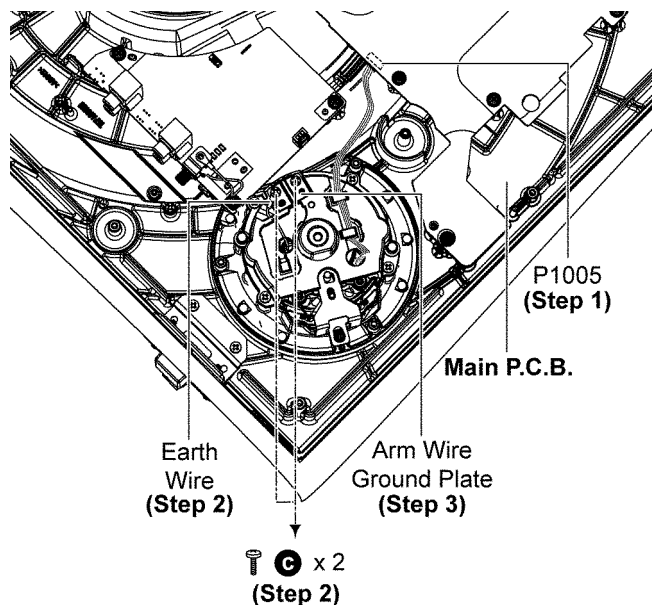
## 6.9. Disassembly of Tone Arm All Unit Ass'y, Queuing Knob and Armrest Ass'y

- Refer to "Disassembly of T/T Rubber Mat and Turntable Ass'y".
- Refer to "Disassembly of Insulator Unit".
- Refer to "Disassembly of Bottom Chassis Ass'y".
- Refer to "Disassembly of Phono Out P.C.B.". (Step 1 - 8).

**Step 1** Detach 5P Wire at connector (P1005) on Main P.C.B..

**Step 2** Remove 2 screws and Earth Wire.

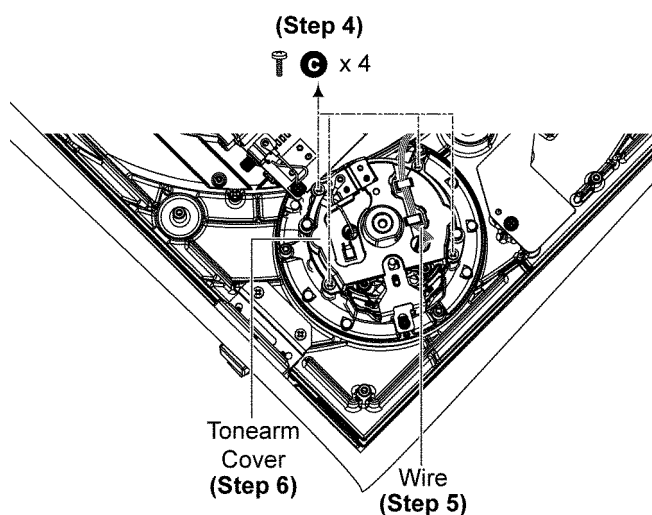
**Step 3** Remove Arm Wire Ground Plate.



**Step 4** Remove 4 screws.

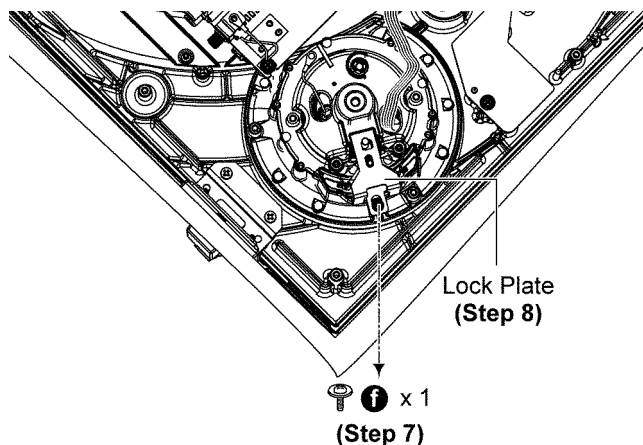
**Step 5** Remove Wire.

**Step 6** Remove Tonearm Cover.



**Step 7** Remove screw.

**Step 8** Remove Lock Plate.



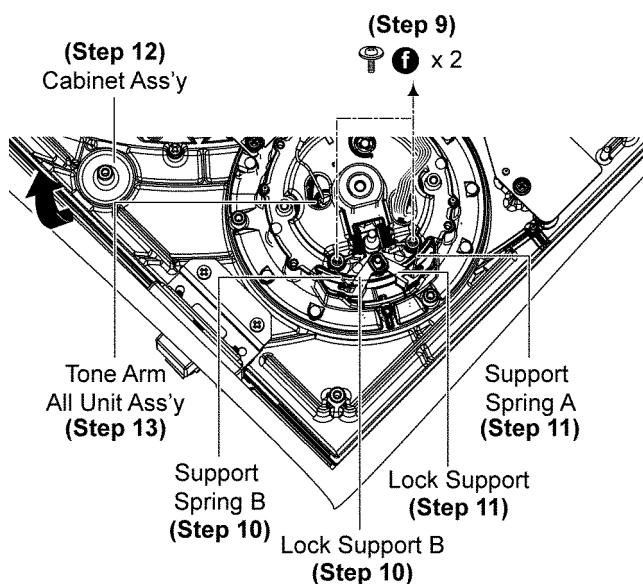
**Step 9** Remove 2 screws.

**Step 10** Remove Support Spring B and Lock Support B.

**Step 11** Remove Support Spring A and Lock Support.

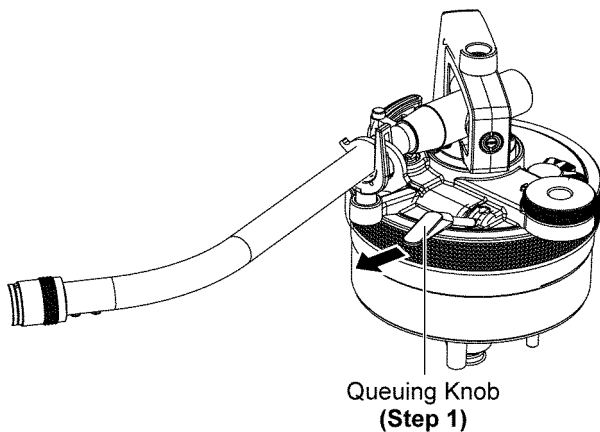
**Step 12** Separate the Cabinet Ass'y from the Dust Cover Unit.

**Step 13** Remove Tone Arm All Unit Ass'y.



### 6.9.1. Removing the Queuing Knob

**Step 1** Remove the Queuing Knob as arrow shown.

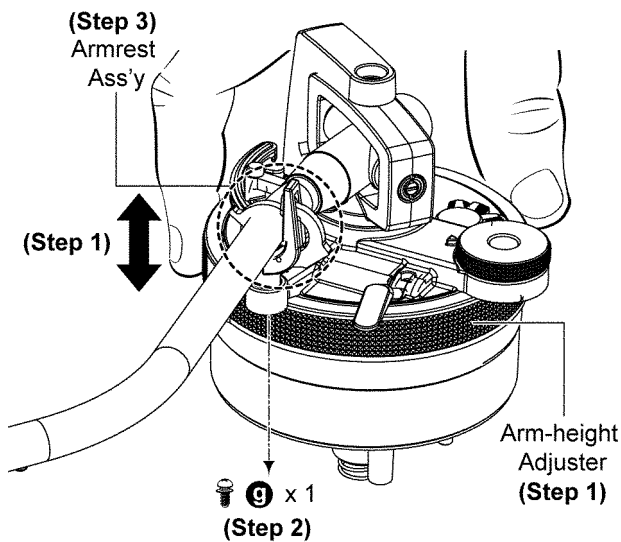


### 6.9.2. Removing the Armrest Ass'y

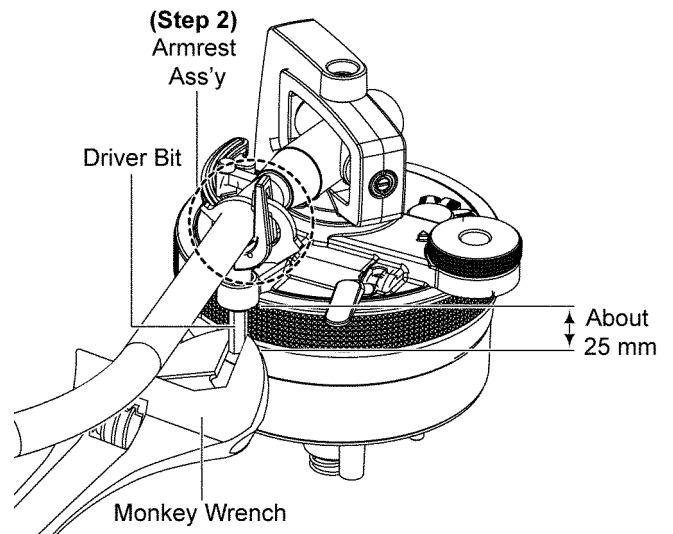
**Step 1** Hold the Arm-height Adjuster to lift up to 6 mm.

**Step 2** Remove screw.

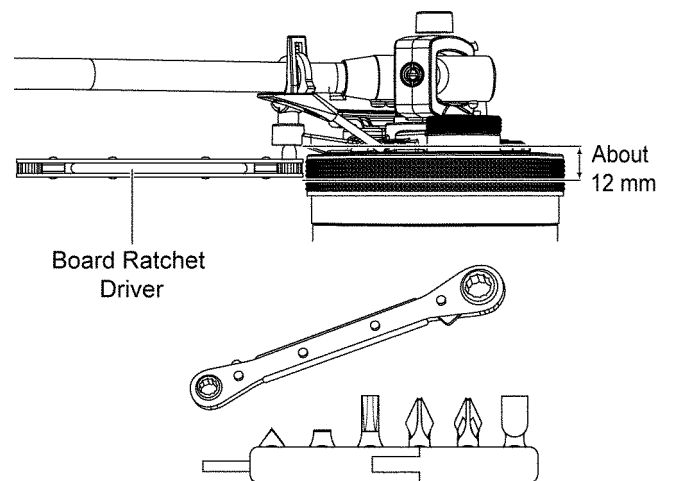
**Step 3** Remove Armrest Ass'y.



**Note:** When attaching and removing the Armrest Ass'y, use a Driver Bit (No. 2) or small type of Monkey Wrench, etc. to remove the screw because of the narrow gap (max 25 mm) of the fixing screw part of the Armrest Ass'y. Do the same when attaching.



**Note:** When using a commercially sold Board Ratchet Driver, use a driver suitable for working in the gap of 25 mm.



## 6.10. Disassembly of Main P.C.B.

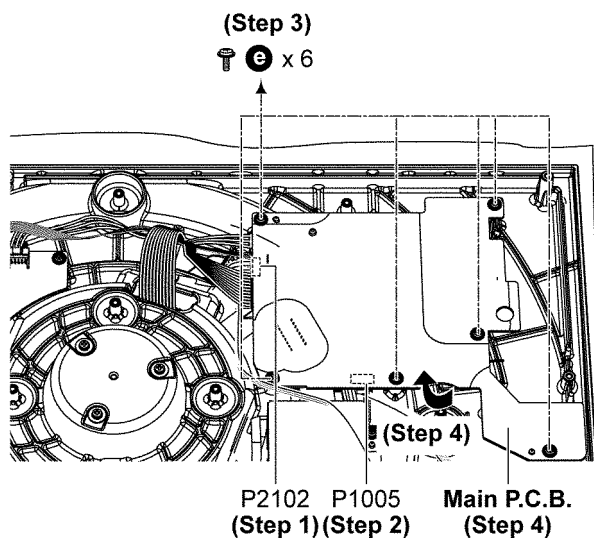
- Refer to “Disassembly of T/T Rubber Mat and Turntable Ass’y”.
- Refer to “Disassembly of Insulator Unit”.
- Refer to “Disassembly of Bottom Chassis Ass’y”.

**Step 1** Detach 3P Wire at connector (P2102) on Main P.C.B..

**Step 2** Detach 5P Wire at connector (P1005) on Main P.C.B..

**Step 3** Remove 6 screws.

**Step 4** Flip Main P.C.B..



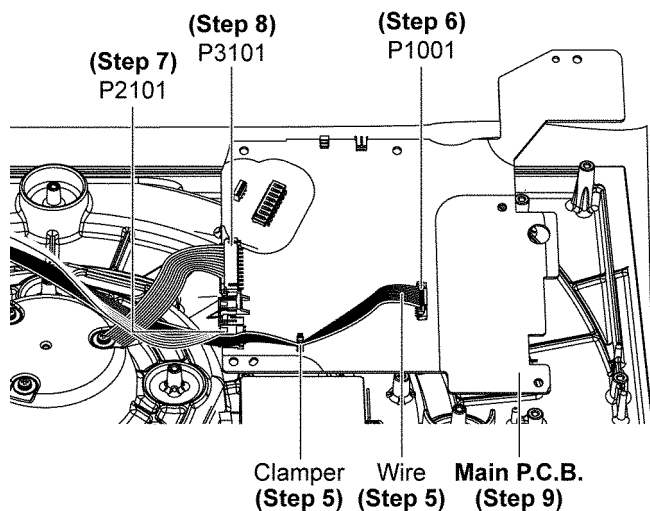
**Step 5** Remove Wire from Clamper.

**Step 6** Detach 11P Wire at connector (P1001) on Main P.C.B..

**Step 7** Detach 5P Wire at connector (P2101) on Main P.C.B..

**Step 8** Detach 11P Wire at connector (P3101) on Main P.C.B..

**Step 9** Remove Main P.C.B..



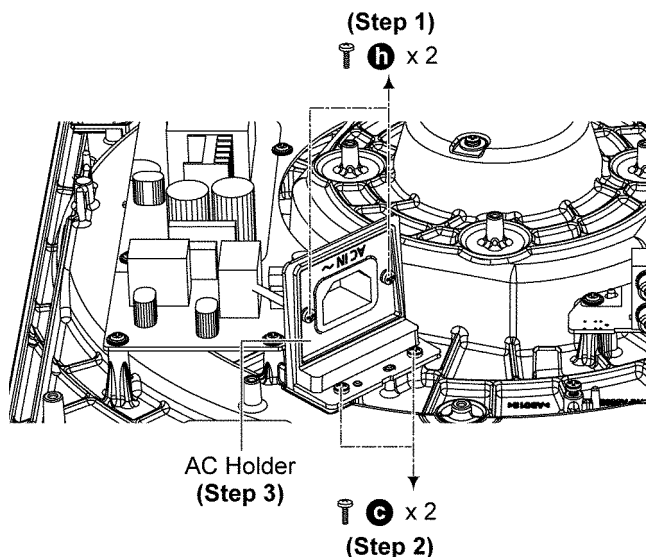
## 6.11. Disassembly of SMPS P.C.B.

- Refer to “Disassembly of T/T Rubber Mat and Turntable Ass’y”.
- Refer to “Disassembly of Insulator Unit”.
- Refer to “Disassembly of Bottom Chassis Ass’y”.

**Step 1** Remove 2 screws.

**Step 2** Remove 2 screws.

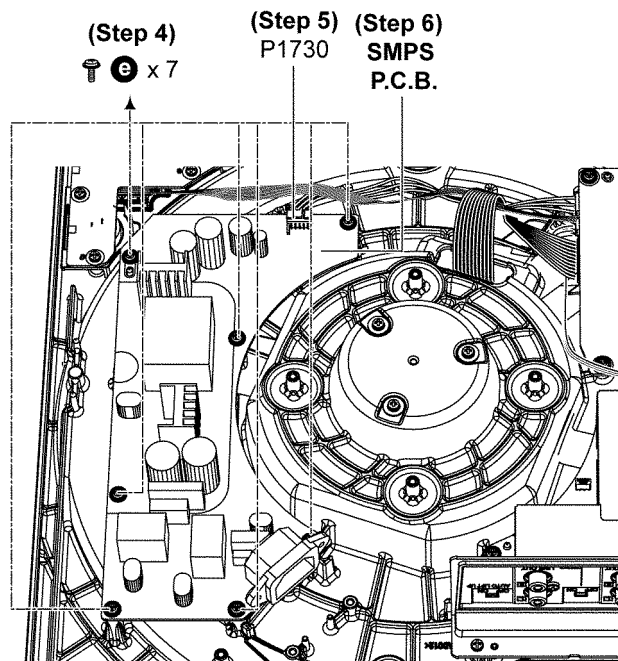
**Step 3** Remove AC Holder.



**Step 4** Remove 7 screws.

**Step 5** Detach 5P Wire at connector (P1730) on SMPS P.C.B..

**Step 6** Remove SMPS P.C.B..





## 6.12. Disassembly of Panel P.C.B.

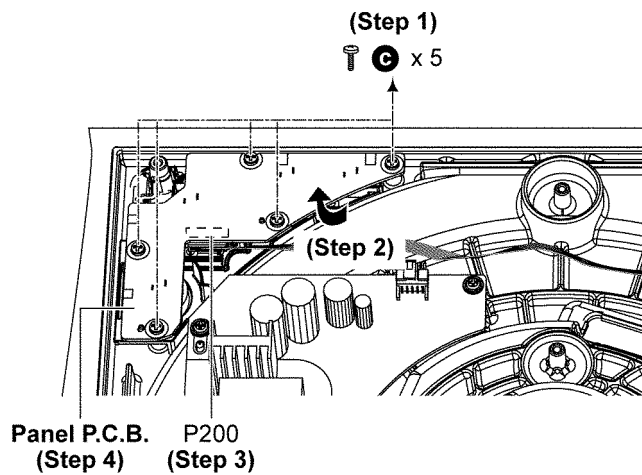
- Refer to “Disassembly of T/T Rubber Mat and Turntable Ass’y”.
- Refer to “Disassembly of Insulator Unit”.
- Refer to “Disassembly of Bottom Chassis Ass’y”.

**Step 1** Remove 5 screws.

**Step 2** Lift up the Panel P.C.B..

**Step 3** Detach 11P Wire at connector (P200) on Panel P.C.B..

**Step 4** Remove Panel P.C.B..



## 7 Measurements and Adjustments

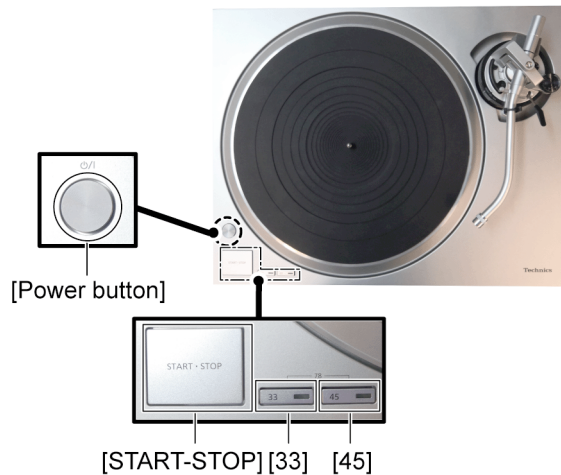
Use the Service Mode to adjust this unit (Auto lift-up function Adjustment and Automatic Adjustment).

- Auto lift-up function Adjustment:  
Perform this adjustment when TONE ARM UNIT, MAIN PCB or MOTOR is replaced.
- Automatic Adjustment:  
Perform this adjustment when the DC Motor Unit or MAIN PCB is replaced.

### 7.1. Service Mode Startup Procedure

#### <Service Mode Startup Procedure>

1. While holding down [Start-Stop] button, turn [ON/OFF(power)] switch to turn the unit, and then press Speed select button [33], [33], [45], [45], [33], [33] in turn.
2. Release [Start-Stop] button.



#### <Service Mode Startup Check>

- If [45] LED flashes, the Service Mode has started up.



#### <How to finish the Service Mode>

- Turn the power "OFF" with [POWER SW], or pull out the AC cord.

## 7.2. Auto lift-up function Adjustment

This function automatically lifts up the tone arm after a record finishes playing. It prevents the last groove from playing back repeatedly.

Perform this adjustment when TONE ARM UNIT, MAIN PCB or MOTOR is replaced.

Measure a detection point of the record end and then set auto lift-up point according to the detection point.

### <Status Check before Adjustment>

- Check if the unit is in the following conditions.

Item	Condition
Turntable Unit	Attached to the main unit
T/T Rubber Mat	Attached to the main unit
Record	Not present
Tone Arm	Not fixed to the arm rest
Cue lever	Lift the cue lever and move the tone arm over the Turntable sheet.
Auto lift-up switch	With the unit turned off, set the auto lift-up switch on the rear side to "ON".

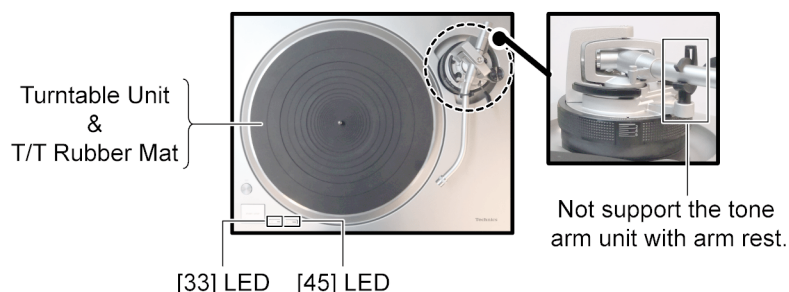
### <Overall procedure>

1. Start up the Service Mode.
2. Go into Auto lift-up function Adjustment mode.
3. Measurement of a detection point of the record end.
4. Set auto lift-up point according to the detection point.
5. Exit the Adjustment Mode and Service Mode.

### <Adjustment Procedure>

1. Start up the Service Mode. (See "7.1. Service Mode Startup Procedure".)
  - At startup of the Service Mode, check the following conditions.

Item	Condition
LED of Speed select button [45]	Flashing



2. Go into Auto lift-up function Adjustment mode.
 

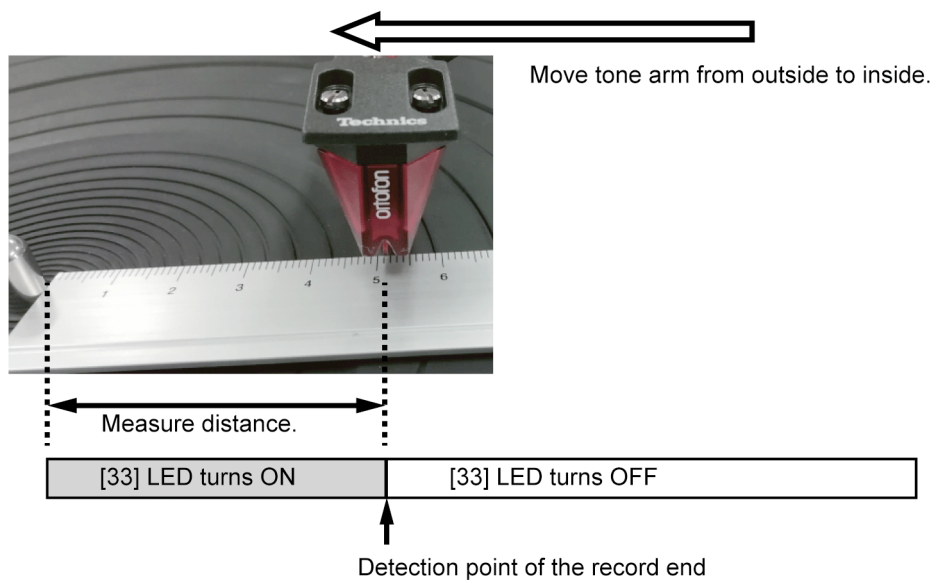
Press and hold the Speed select button [45] for 3 seconds or more.

During in Auto lift-up function Adjustment mode, LED of Speed select button [45] is flashing as 1 sec. period Duty 50%. (500ms:ON, 500ms:OFF continuously) (It differs from blinking in service mode.).
3. Measurement of a detection point of the record end.
 

Move tone arm from outside to inside.

When tone arm reaches a detection point of the record end, LED of Speed select button [33] turns on.

Measure distance between the center spindle and the Stylus tip reached detection point.



4. Set auto lift-up point according to the distance.  
 Distance : 51.5 mm to 56.5 mm ---- position 1  
 Distance : 57.0 mm to 60.5 mm ---- position 2

To confirm setting 1 or 2,  
 press Speed select button [33] briefly. [33]LED flashing shows which position is setting for 3 seconds as follows.

Position 1 : 1 sec. period Duty 50% (500ms:ON, 500ms:OFF --- 3 times)



Position 2 : 2 flashing within 1 second (100ms:ON, 100ms:OFF, 100ms:ON, 700ms:OFF --- 3 times)



To set the position 1 or 2 according to the distance, press and hold the Speed select button [33] for 3 seconds or more.

5. Exit the Adjustment Mode and Service Mode.  
 Turn the power "OFF" with [POWER SW], or pull out the AC cord.

## 7.3. Automatic Adjustment

This adjustment is automatically performed based on the learning function of the microcomputer.  
The following items of measurement/adjustment are automatically performed.

- Rotation accuracy (The reference voltage value)
- Start-up time
- FG Wow and flutter
- Stop angle
- Save adjustment data

### <Status Check before Adjustment>

- Check if the unit is in the following conditions.

Item	Condition	Remarks
Turntable Unit	Attached to the main unit	
T/T Rubber Mat	Attached to the main unit	
Record	Not present	
Tone Arm	Fixed to the arm rest	



### ■ Note for adjustment

- Place the unit on a flat vibration-free table, etc. for adjustment.

### <Automatic Adjustment Procedure>

1. Start up the Service Mode. (See "7.1. Service Mode Startup Procedure".)
  - At startup of the Service Mode, check the following conditions.

Item	Condition	Remarks
LED of Speed select button [45]	Flashing	

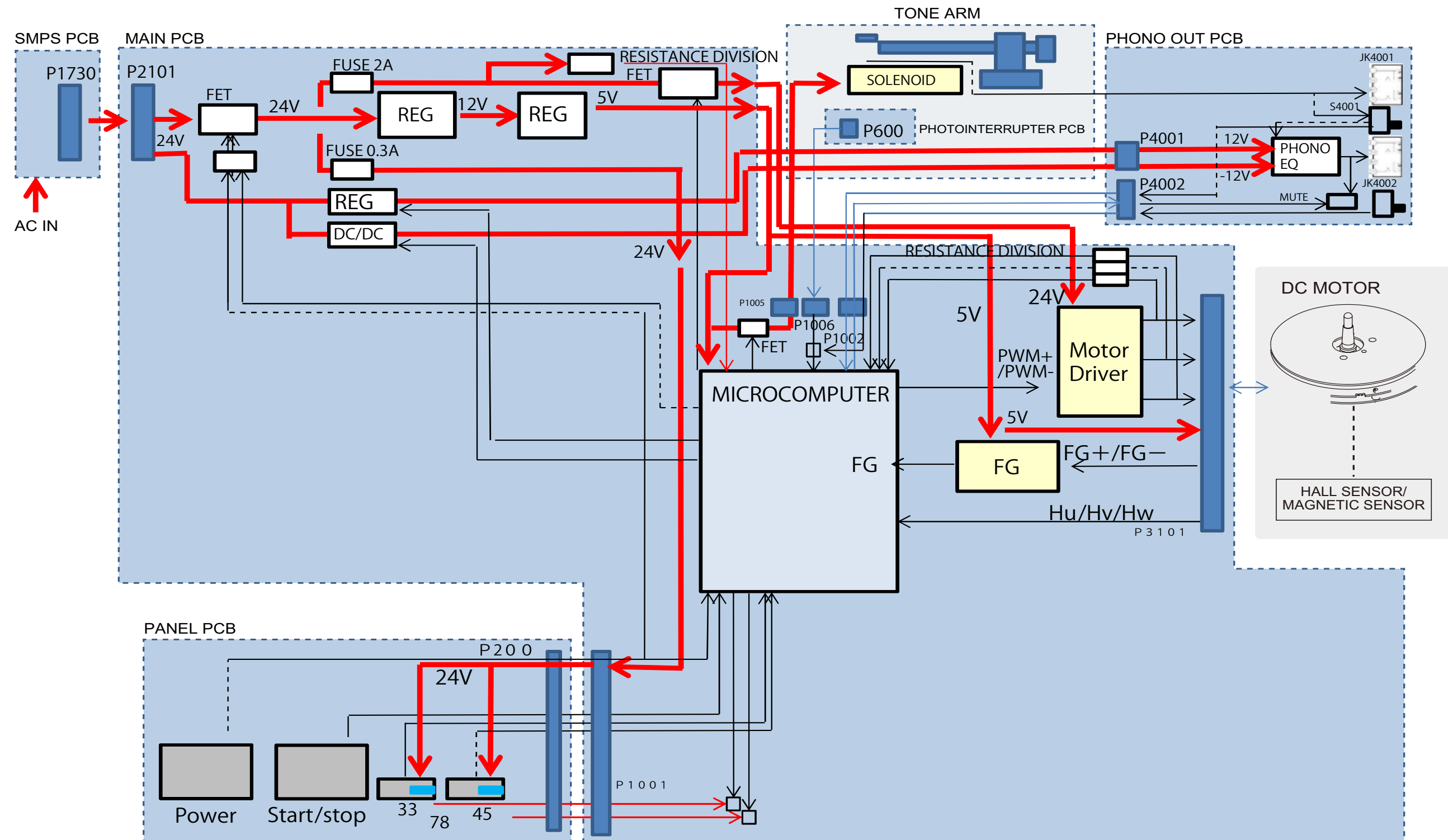


1. Press and hold the [START/STOP] button for 3 seconds or more.
  - Confirm that the turntable rotates, pauses once, and rotates again.  
(The adjustment is automatically performed. The LED of the [33] button flashes during adjustment.)
  - The turntable automatically stops when the data is acquired.  
(When the LED of the [33] button illuminate, the adjustment is complete. [Adjustment time: approx. 1 minute])

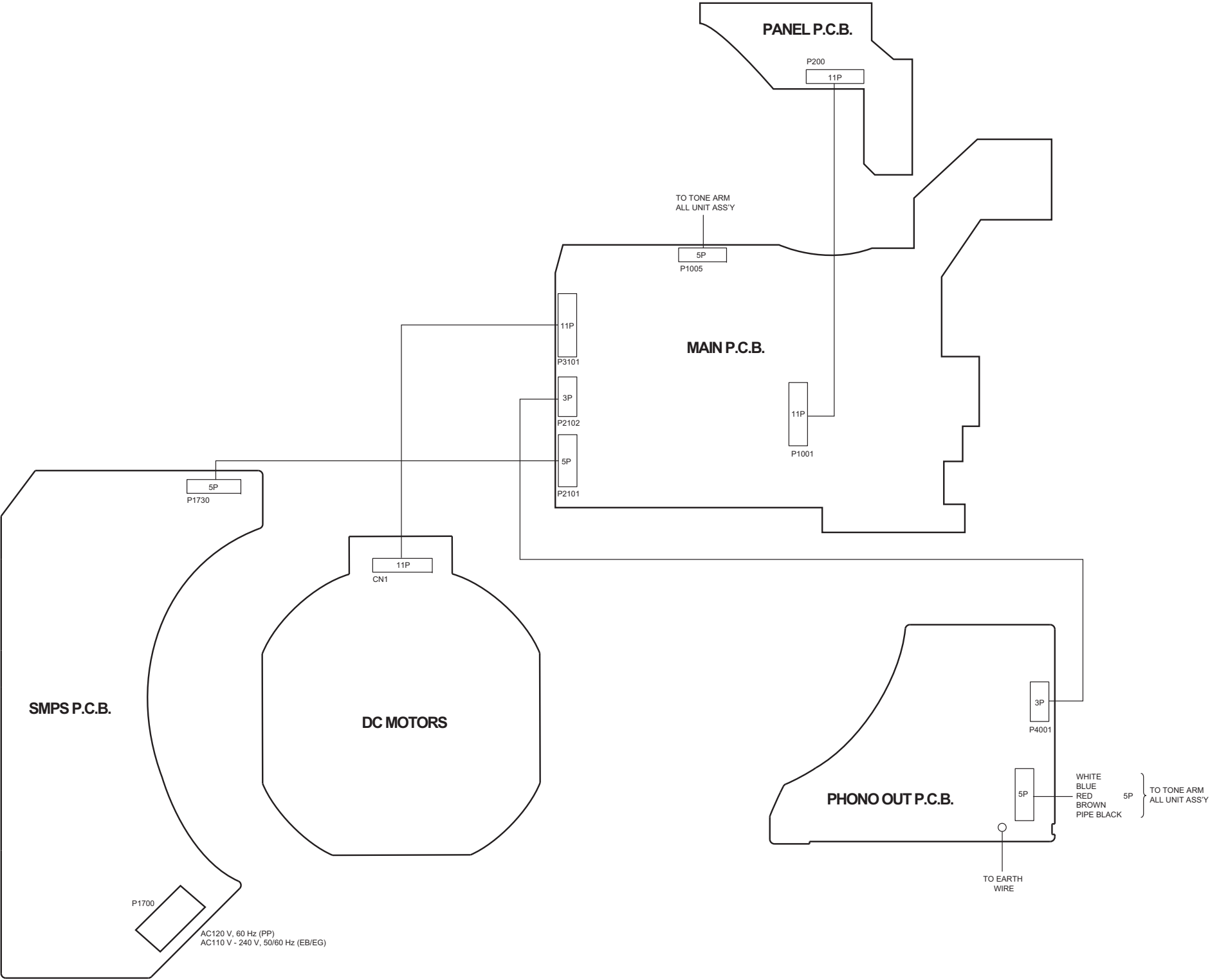
### Notes:

- If the LED of the [33] button turns off or flashes, or rotates backward (anticlockwise) even if 2 minutes has elapsed after adjustment, the adjustment is not complete normally. Perform readjustment.  
(For readjustment, press and hold the [START/STOP] button again for 3 seconds or more.)
- Do not touch the main unit while rotating.
- Do not press and hold the [45] button for 3 seconds or more in the Service Mode.  
(Doing so will erase the result.)

## 8 Block Diagram



9   Wiring Connection Diagram



SL-1500CEB/EG/PP WIRING CONNECTION DIAGRAM

# 10 Exploded View and Replacement Parts List

## 10.1. Electrical Replacement Parts List

### Important Safety Notice

*Components identified by  $\triangle$  mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.*

#### RTL (Retention Time Limited)

**Note:** The marking (RTL) indicates that the Retention Time is Limited for this item.

After the discontinuation of this assembly in production, the item will continue to be available for a specific period of time. The retention period of availability is dependant on the type of assembly, and in accordance with the laws governing part and product retention. After the end of this period, the assembly will no longer be available.

**Note:**

- When replacing any of these components, be sure to use only manufacturer's specified parts shown in the replacement part list.
- The parenthesized indications on the Remarks column specify the destination & product color (Refer to the cover page for the information).
- Parts without these indications shall be used for all areas.
- This product uses a laser diode. Refer to "Precaution of Laser Diode".
- Capacitor value are in microfarads ( $\mu$ F) unless specified otherwise, P=Pico-farads (pF), F=Farads.
- Resistance values are in ohms, unless specified otherwise, 1K=1000 (OHM).
- All parts mentioned are supplied by PAVCJM unless indicated likewise.
- Parts mentioned [SPG] in the Remarks column are supplied by JAPAN.

**E.S.D. standards for Electrostatically Sensitive Devices, refer to "PREVENTION OF ELECTROSTATIC DISCHARGE (ESD) TO ELECTROSTATIC SENSITIVE (ES) DEVICES" section.**

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
			PRINTED CIRCUIT BOARDS		
	PCB1	TNPA7005AB	MAIN P.C.B.	1	
			PRINTED CIRCUIT BOARDS		
	PCB2	TNPA7011AA	PANEL P.C.B.	1	
			PRINTED CIRCUIT BOARDS		
	PCB3	TNPA7014AB	PHONO OUT P.C.B.	1	
			PRINTED CIRCUIT BOARDS		
$\triangle$	PCB4	TNPA7015AB	SMPS P.C.B.	1	



## 10.2. Mechanical Replacement Part List

### Important Safety Notice

Components identified by  $\triangle$  mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.

#### RTL (Retention Time Limited)

**Note:** The marking (RTL) indicates that the Retention Time is Limited for this item.

After the discontinuation of this assembly in production, the item will continue to be available for a specific period of time. The retention period of availability is dependant on the type of assembly, and in accordance with the laws governing part and product retention. After the end of this period, the assembly will no longer be available.

#### Note:

- When replacing any of these components, be sure to use only manufacturer's specified parts shown in the replacement part list.
- The parenthesized indications on the Remarks column specify the destination & product color (Refer to the cover page for the information).
- Parts without these indications shall be used for all areas.
- This product uses a laser diode. Refer to "Precaution of Laser Diode".
- All parts mentioned are supplied by PAVCJM unless indicated likewise.
- Reference for O/I book languages are as follows:

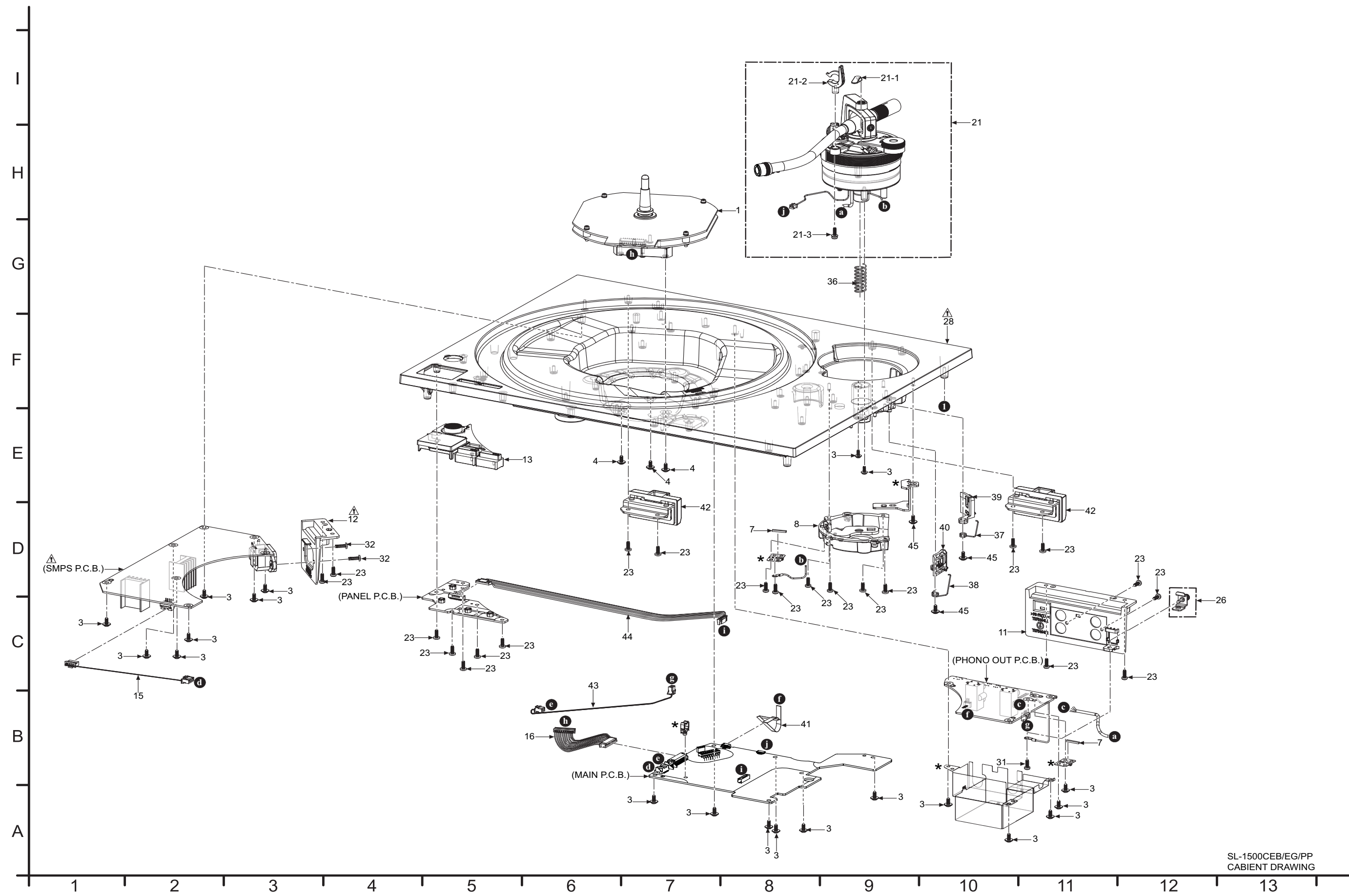
Ar:	Arabic	Du:	Dutch	It:	Italian	Sp:	Spanish
Cf:	Canadian French	En:	English	Ko:	Korean	Sw:	Swedish
Cz:	Czech	Fr:	French	Po:	Polish	Co:	Traditional Chinese
Da:	Danish	Ge:	German	Ru:	Russian	Cn:	Simplified Chinese
Pe:	Persian	Ur:	Ukraine	Pr:	Portuguese	Fi:	Finnish

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
			CABINET AND CHASSIS		
	1	L6YZYJ000004	DC MOTORS	1	
	3	RHD30111-31	SCREW	20	
	4	RHD30248	SCREW	3	
	7	TEFX5020	ARM WIRE CUSHION	2	
	8	TEKX119	TONEARM COVER	1	
	9	THTF021J	SPECIAL SCREW	25	
	11	TKFE46402	JACK HOLDER	1	
$\triangle$	12	TKFE46501	AC HOLDER	1	
	13	TTD0014	OPERATION UNIT	1	EB-K EG-K
	13	TTD0011	OPERATION UNIT	1	EG-S PP-S EB-S
	15	TXJ/05BC5E	5PIN WIRE (SMPS-MAIN )	1	
	16	TXJ/11BC5E	11PIN WIRE (MOTOR -MAIN)	1	
	21	TZTYL01BE7E	TONE ARM ALL UNIT ASS'Y	1	EB-K EG-K
	21	TZTYL01BC4E	TONE ARM ALL UNIT ASS'Y	1	EG-S PP-S EB-S
	21-1	RMH0241-K1	QUEUEING KNOB	1	
	21-2	RYQ1630-K1	ARMREST ASSY	1	
	21-3	TZSM04009	ARM REST SCREW KIT	1	
	22	TYL0296	INSULATOR UNIT	4	
	23	XTB3+8JFJK	SCREW	21	

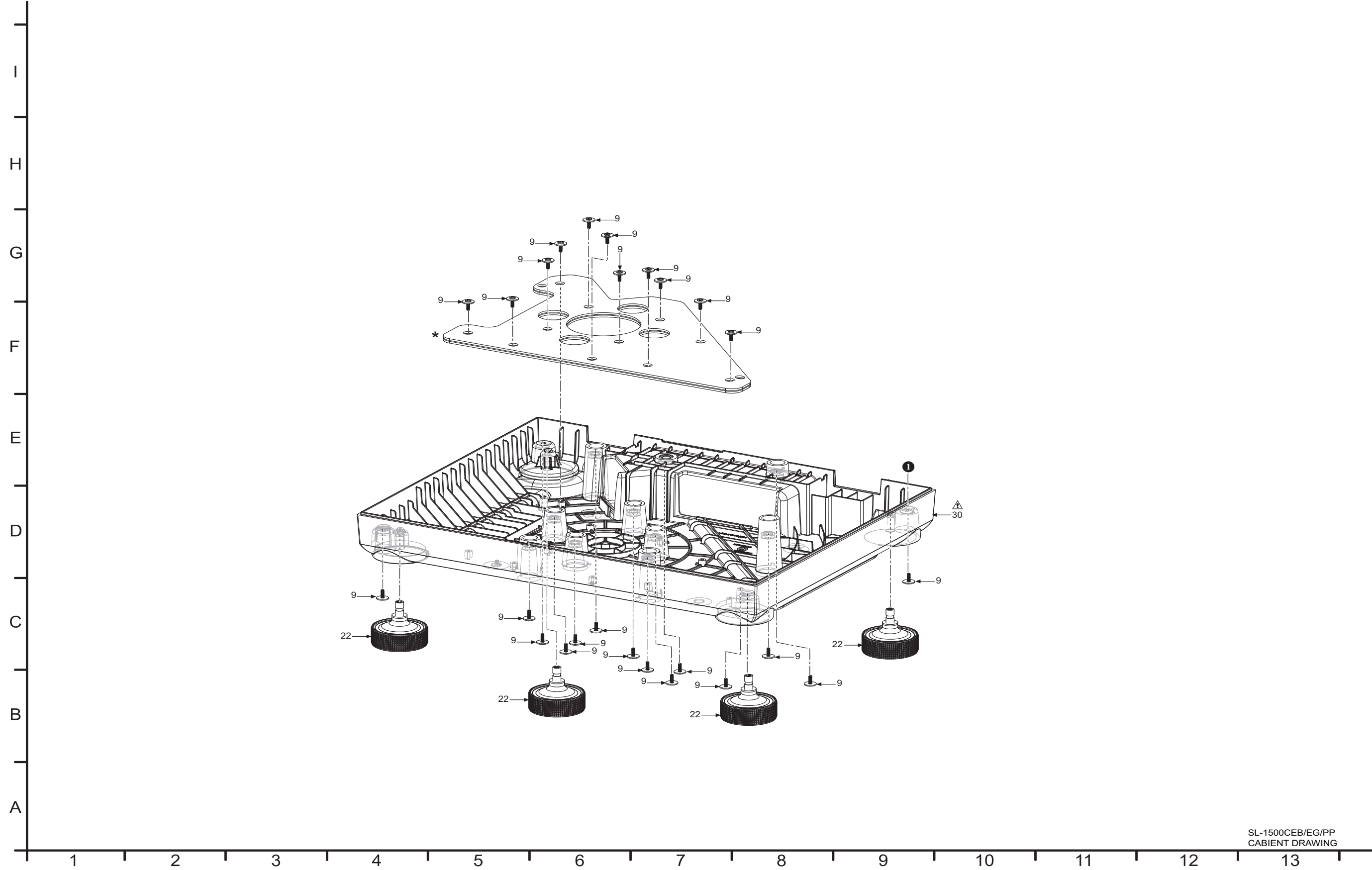
Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
	26	TZTKF01BC3E	GROUND PLATE WITH TERMINAL	1	
$\triangle$	28	TZTKF02BE7E	TOP PANEL ASS'Y (BLACK)	1	EB-K EG-K
$\triangle$	28	TZTKF01BC2E	TOP PANEL ASS'Y (SILVER)	1	EG-S PP-S EB-S
$\triangle$	30	TZTKF01BE7E	BOTTOM CABINET ASS'Y	1	EB-K EG-K EG-S EB-S
$\triangle$	30	TZTKF01AH8U	BOTTOM CABINET ASS'Y	1	PP-S
	31	XTB3+8JFJ	SCREW	1	
	32	XYN3+C8FJK	SCREW	2	
	36	TESD162	CENTER SHAFT SPRING	1	
	37	TESD167	SUPPORT SPRING A	1	
	38	TESD168	SUPPORT SPRING B	1	
	39	TKKH51381	LOCK SUPPORT	1	
	40	TKKH51451	LOCK SUPPORT B	1	
	41	TSXM548	4PIN WIRE (MAIN - PHONO OUT)	1	
	42	TTD0015	HINGE PLATE UNIT	2	
	43	TXJ//3BE8E	3PIN WIRE (MAIN - PHONO OUT)	1	
	44	TXJ/11BE8E	11PIN WIRE (MAIN - PANEL)	1	
	45	XTW26+6SFJ	SCREW	3	
			PACKING MATERIALS		
	P1	TPCE30701	PACKING CASE	1	EB-K
	P1	TPCE30401	PACKING CASE	1	EG-S

Safety	Ref. No.	Part No.	Part Name & Description	Qty	Remarks
	P1	TPCE30501	PACKING CASE	1	EG-K
	P1	TPCE30801	PACKING CASE	1	PP-S
	P1	TPCE30601	PACKING CASE	1	EB-S
	P2	TPDA34201	TOP CUSHION	1	
	P3	TPEH964-1	PE BAG (450X550MM)	1	
	P4	TPEH965-1	PE BAG (600X600MM)	1	
	P5	TPEH966	PROTECTION SHEET (450X750MM)	1	
	P6	TPEH980	PE BAG (MIRAMAT 600X500)	1	
	P7	TPH0284	CUSHION UNIT	1	
	P8	TPDA34211	PICK UP CUSHION	1	
			ACCESSORIES		
⚠	A1	K2CT3YY00096	AC CORD	1	EB-K EB-S
⚠	A1	K2CG3YY00219	AC CORD	1	PP-S
⚠	A1	K2CM3YY00055	AC CORD	1	EG-S EG-K
⚠	A2	TQBM0414	OI (En)	1	EB-K EB-S
⚠	A2	TQBM0413	OI (En/Ge/Fr/It/Sp/Da/Du/Sw/Fi/Po)	1	EG-K EG-S
⚠	A2	TQBM0415	OI (En/Cf)	1	PP-S
	A3	TAQ0036	SIGNAL AND GND CABLE ASSY	1	
	A4	TPH0339	EP ADAPTER UNIT BLACK	1	EB-K EG-K
	A4	TPH0340	EP ADAPTER UNIT SILVER	1	EG-S PP-S EB-S
	A5	TTFA0457	DUST COVER UNIT	1	
	A7	TYL0295	BALANCE WEIGHT ASSY	1	EB-K EG-K
	A7	TYL0361	BALANCE WEIGHT ASSY	1	EG-S PP-S EB-S
	A8	TYL0359	TURNTABLE ASS'Y	1	EB-K EG-K
	A8	TYL0302	TURNTABLE ASS'Y	1	EG-S EB-S
	A8	TYL0375	TURNTABLE ASS'Y	1	PP-S
	A10	TYL0360	SHELL ASSY	1	
	A12	RGS0008	T/T RUBBER MAT	1	
	A13	TYL0362	AUX WEIGHT ASS'Y	1	

10.3. Cabinet Parts Location 1



10.4. Cabinet Parts Location 2



SL-1500CEB/EG/PP  
CABINET DRAWING

10.5. Packaging

