Quartz PLL DIRECT DRIVE 2-motor

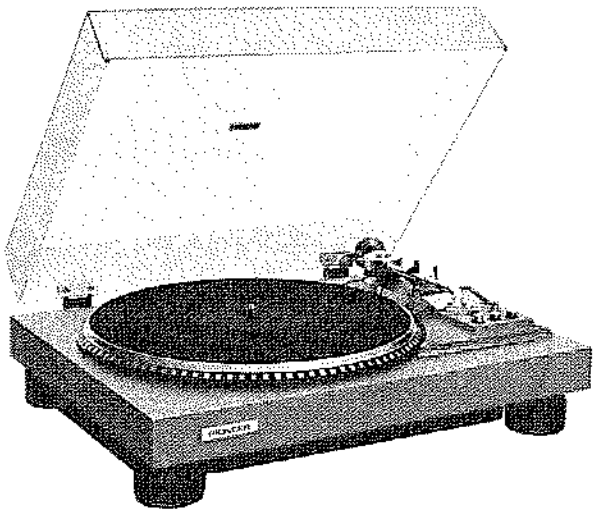
FULL-AUTOMATIC TURNTABLE

PIONEER

PL-560

KCT
KUT

OPERATING INSTRUCTIONS



Metal-like vinyl cabinet.

WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

CONTENTS

IMPORTANT NOTICE

The serial number for this equipment is located on the rear. Please write this serial number on your enclosed warranty card and keep it in a secure area. This is for your security.

FEATURES

Quartz PLL Brushless DC Hall Motor

This turntable's operation is based on Quartz PLL principles. Under this system, the waveform signals from a high-position reference oscillator, which incorporates a quartz oscillator, are compared with the output waveform signals of the frequency generator built into the rotor of the motor, and the rotation speed of the motor is thus controlled. This system is free from both time and temperature drift, and it has an excellent response to changing load requirements. It also ensures that the platter rotates at a precise speed.

Precision Parts for a Superb Rotation Performance

The precision-engineered center shaft and bearings (with a centricity of less than 0.2μ) as well as the high-inertial-mass platter combine with the Quartz PLL brushless DC Hall motor to yield a speed deviation of less than 0.025% (WRMS) and a signal-to-noise ratio of better than 73dB (DIN-B). These are specifications which are every bit as good as those displayed by a professional-use turntable.

Two-motor, Full-automatic Turntable with Precision Geared Motor Mechanisms

The lead-in and return of the tonearm are performed by a special precision geared motor mechanism which does not affect the speed of the platter at all. Furthermore, a speed detection-type auto-return mechanism controls the tonearm for accurate and stable operation every time it is returned to the arm rest.

Specially Designed Cabinet to Enhance Sound Quality and Reduce Occurrence of Howl

The cabinet features newly developed insulators, which the talents of rubber and springs, on the 40mm-thick particle board. This increases the internal loss and makes for superior stability, thereby preventing howl caused by sound pressure from arising and also canceling out vibrations from the floor. The tonearm is mounted on a stand base which employs a large-mass aluminum diecast material for improved sound quality.

BEFORE USE

CHECK THE ACCESSORIES

The accessory box contains the parts shown in the figure. Check that they are all inside. The EP adaptor is used for records with a large center hole, and the screwdriver is required for adjustments and when mounting the cartridge. Store these parts safely.

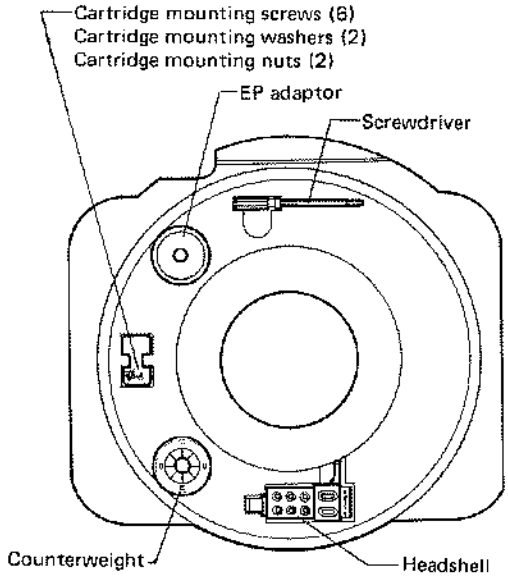


Fig. 1

ATTACH THE CARTRIDGE

You can attach any cartridge to this turntable weighing between 4g and 10g on condition that only the accessory headshell is used with it. Follow the procedure outlined below for attaching the cartridge to the headshell.

1. Take out the headshell, cartridge mounting screws, nuts, washers and small screwdriver from the accessory box.
   The screws come in three different lengths so choose the screws according to the height of the cartridge you intend to attach.
2. The terminals on the accessory headshell are aligned as shown in Fig. 2. Check the location and polarity of each of the cartridge's terminal pins and then connect the lead wires, taking care not to get the polarities mixed up.

NOTE:
Do not solder when you connect the lead wires to the cartridge. If the lead wire lugs are loose, use a pair of tweezers or a similar object to pinch in the end lightly.

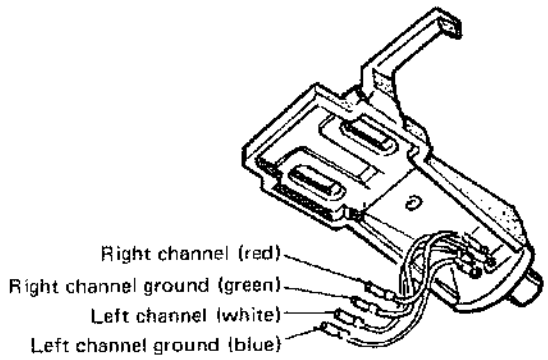


Fig. 2

3. Attach the cartridge lightly to the headshell using the screws, nuts and washers (Fig. 3).

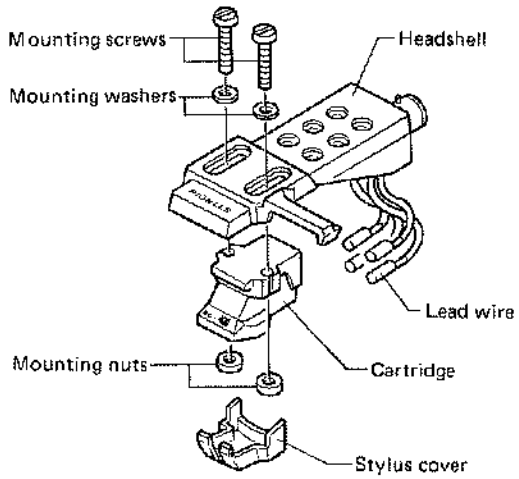


Fig. 3

4. Adjust the position of the cartridge so that the stylus and the connector section of the headshell are 49mm apart and tighten up the screws. Make sure that the cartridge does not tilt to one side when you attach it (see Fig. 4).

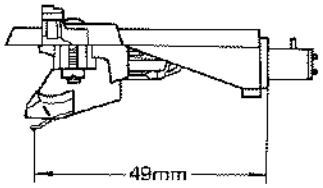
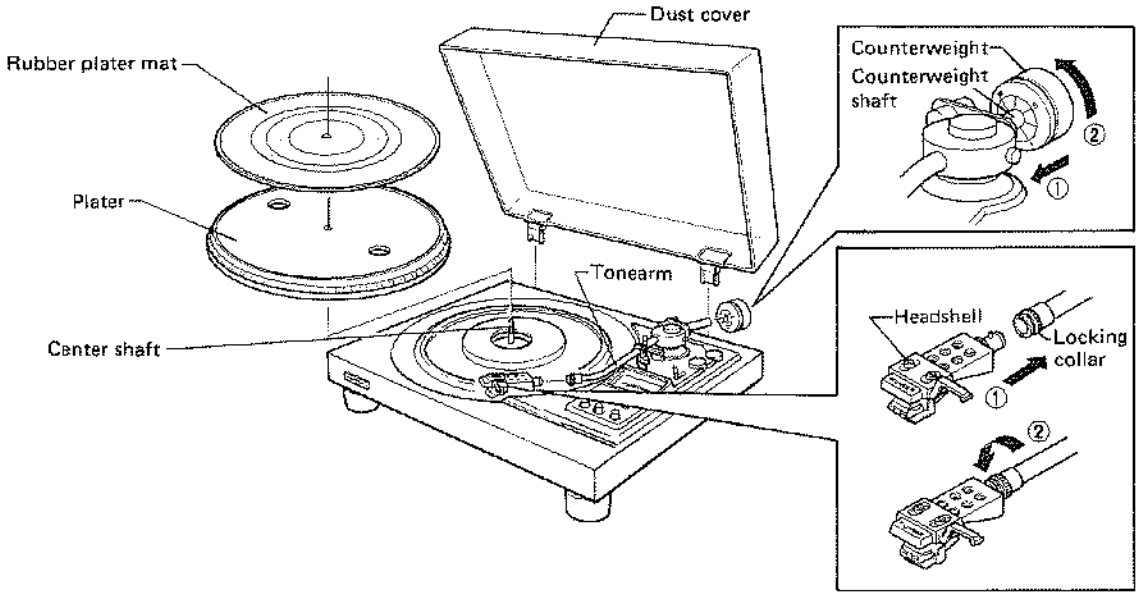


Fig. 4

ATTACHING HEADSHELLS NOT MADE BY PIONEER

You can attach headshells made by other companies as long as the coupling portion has the same dimensions as the headshell supplied with your PL-560. However, you should check whether the terminals on the other headshell are aligned in the same way. When attaching, make sure that you do not neglect to carry out the four steps described on the left.

ASSEMBLY PROCEDURE



1. MOUNTING THE PLATTER AND RUBBER PLATTER MAT

Refer to the assembly figure, and place both the platter and the rubber mat down over the center shaft. The platter is heavy, so use both hands to lift it horizontally over the shaft and into position.

2. MOUNTING THE HEADSHELL

Insert the headshell (with the cartridge) into the end of the tonearm, and rotate the locking collar in the direction indicated by the arrow in the figure until it stops. Then secure it.

3. MOUNTING THE COUNTERWEIGHT

Slide the counterweight onto the counterweight shaft on the rear of the tonearm and push it forward. Then rotate it two or three turns in the direction of the arrow.

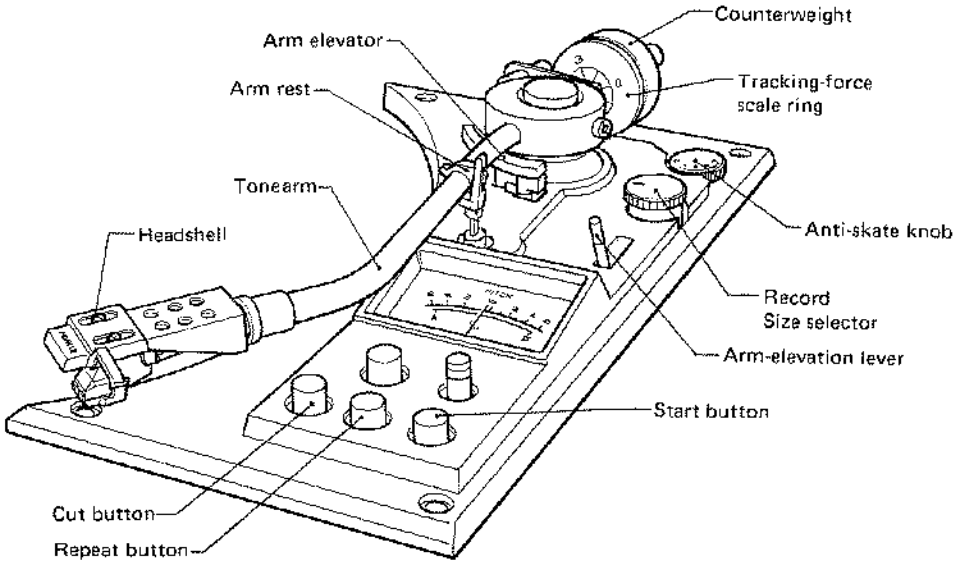
INSTALLATION PRECAUTIONS

When installing this turntable, make sure that you avoid the following conditions:

Conditions to be avoided	Possible problems caused
(1) Exposure to direct sunlight, high temperatures or high humidity.	(1) Can cause rust or interfere with insulation.
(2) Unstable surfaces.	(2) Will interfere with normal operation of turntable (stylus will jump, etc.).
(3) Dirty or dusty locations.	(3) Can cause scratches.
(4) Exposure to heavy vibrations, such as on the top of speakers, etc.	(4) Can cause howl.
(5) Proximity to power transformer of the amplifier.	(5) Can cause hum.
(6) Locations where alcohol, insecticides, or flammable substances are frequently used.	(6) Can corrode dust cover or outside of cabinet.

If the turntable is brought into the warm from previously cold surroundings, or if the room temperature rises suddenly, moisture will form on the operating sections and the turntable will not be able to display its performance to the full. If confronted with a situation like this, leave the turntable in its new environment for about an hour or try and increase the room temperature gradually before operation.

ADJUSTING THE TONEARM



RELEASING THE AUTO MECHANISM

Before adjusting the tonearm, release the auto mechanism as follows:

1. Plug the power cord into an AC outlet.
2. Set the RECORD SIZE selector to MANUAL.
3. Push the START button.
4. About 10 seconds after the platter has started to rotate, the arm elevator will descend. Then, disconnect the power cord from the AC outlet. Do NOT press the CUT button. This operation releases the auto mechanism and the tonearm can now be operated as you wish.

LEVEL BALANCE ADJUSTMENT

1. Set the ANTI-SKATE knob to "0" (Fig. 5).
2. Remove the cartridge stylus cover.
3. Set the ARM-ELEVATION lever to the DOWN ▼ position.
4. Release the arm clamp and move the tonearm to the space between the arm rest and the platter, taking care not to damage the stylus.
5. Support the headshell's finger lift with one hand and attain the level balance by turning the counterweight either clockwise or counterclockwise. "Level balance" means that the tonearm is parallel to the record on the platter, and that the tonearm pipe, therefore, should not tilt toward the counterweight side or the headshell side (See Fig. 6).
6. Return the tonearm to the arm rest and fasten the arm clamp.
7. Attach the stylus cover to protect the stylus.

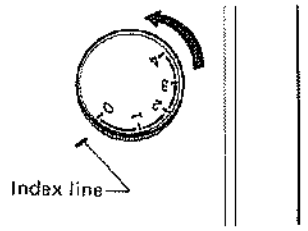


Fig. 5

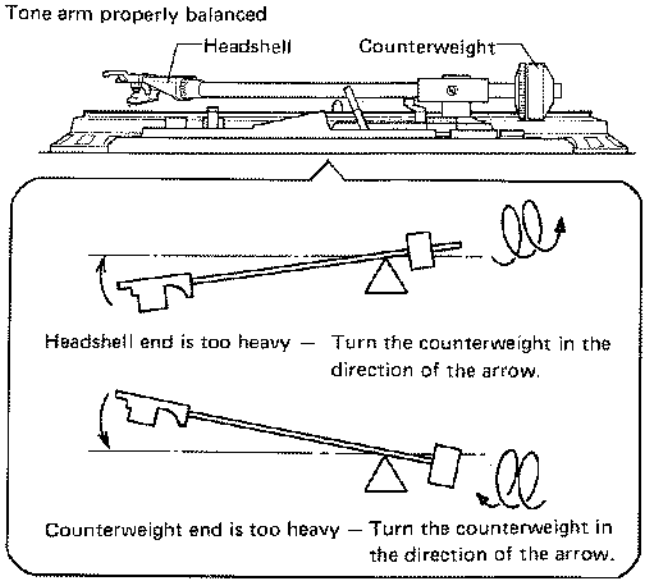


Fig. 6

8. Since the tracking force is zero when the tonearm is balanced level, turn just the tracking-force scale ring in front of the counterweight, and set the "0" on the scale to the index line on the shaft (Fig. 7).

TRACKING FORCE ADJUSTMENT

Turning the counterweight, set the correct tracking force opposite to the index line on the counterweight shaft (Fig. 8).
The tracking-force scale ring has 0.5g steps, and one full turn of the counterweight will yield a tracking force of 4g.

ANTI-SKATING ADJUSTMENT

To adjust the anti-skating mechanism, turn the ANTI-SKATE knob so that the number corresponding to the required tracking force is opposite the index line (Fig. 9).
The numbers on the ANTI-SKATE knob correspond to the same number of tracking force.

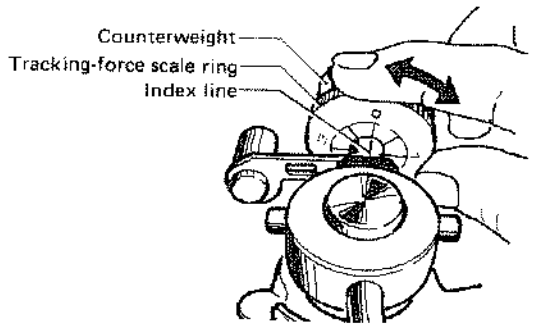


Fig. 7

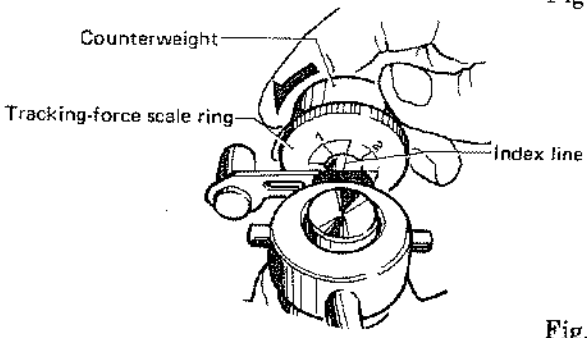


Fig. 8

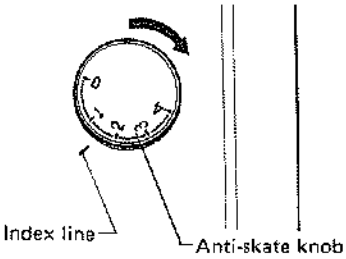


Fig. 9

CONNECTIONS TO STEREO AMPLIFIER

Perform the connections after you have completed the tonearm adjustments.

BEFORE CONNECTING, CHECK THE FOLLOWING:

- Switch the power "off" of the amplifier to safeguard against damage to the speaker system.
- If you are using a low-output moving coil (MC) cartridge, you will need a special MC transformer or a head amplifier, or you will require a stereo amplifier with a built-in MC amplifier.

CONNECTION PROCEDURE (Fig. 10)

1. Insert the phono cables (white and red) into the PHONO input jacks of the stereo amplifier (white for left channel into L jack, and red for right channel into R jack).
2. Connect the ground lead with the Y-shaped lug connector at the end to the ground terminal.
3. Insert the power plug into the convenience AC outlet of the amplifier.

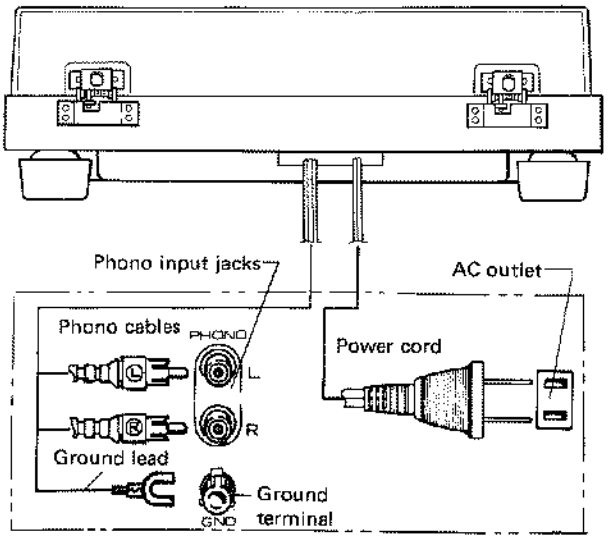


Fig. 10

PANEL FACILITIES

① CUT BUTTON

Push this button to stop the record play. When pushed, the tonearm will rise and return to the arm rest. The power to the turntable will then be switched off and a few seconds later, the platter will stop rotating.

NOTE:
If the REPEAT button is pushed, the tonearm will return to the arm rest and then move across again to the record.

② REPEAT BUTTON

Push this button when you want to listen to the same record again. Press the button once more to release.

NOTE:
All you have to do for repeat play is to press the REPEAT button. There is no need to push the START button again.

③ START BUTTON

The power to the turntable is turned on and the platter starts to rotate when this button is depressed.

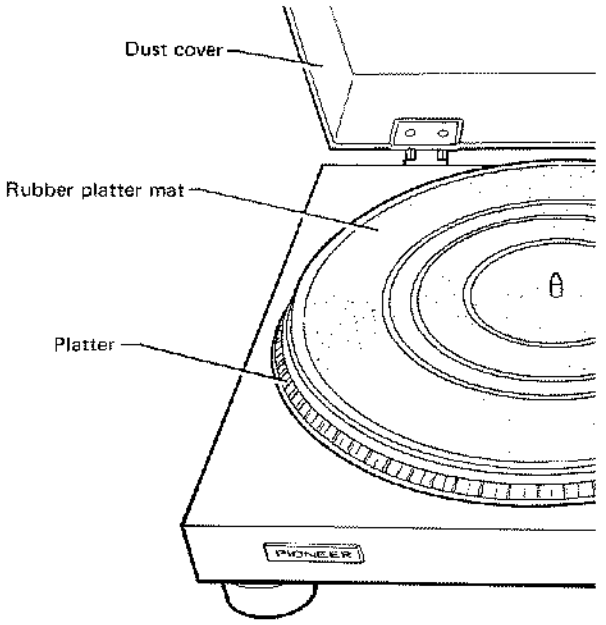
④ SPEED SELECT SWITCH

45 . . . . When this switch is depressed, the platter will rotate at 45rpm. Depress for playing 45rpm records, singles or EP's.

33 . . . . When this switch is set to the released position, the platter will rotate at 33-1/3rpm. Release for playing 33-1/3rpm records like LP's.

⑤ QUARTZ LOCK SWITCH/PITCH CONTROL KNOB

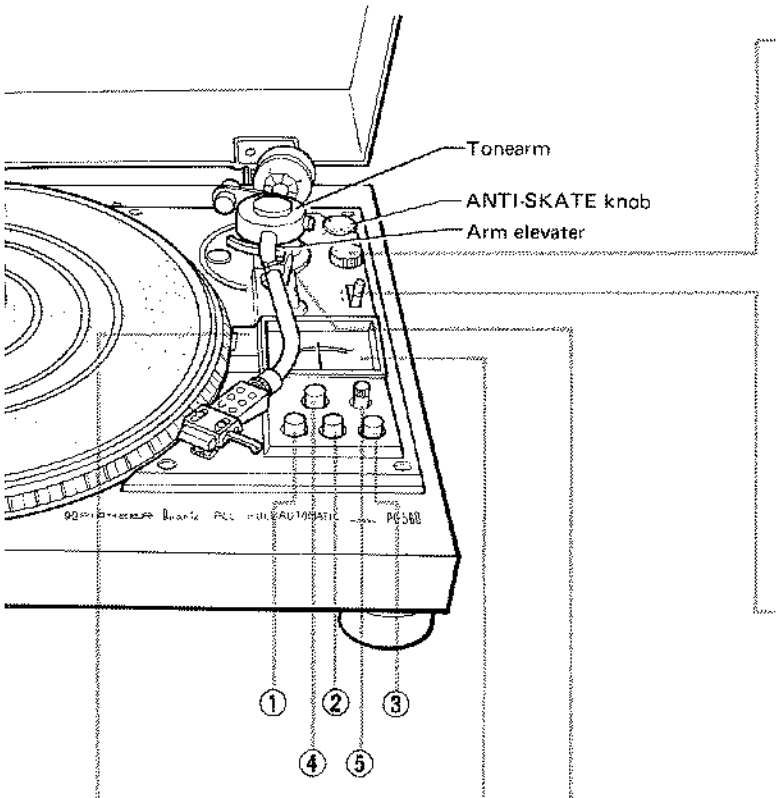
- When the Quartz LOCK switch is pushed downward, the Quartz PLL will actuate and the strobe light comes on. Normally use it in this position.
  The turntable will rotate at the precisely rated speed according to the SPEED SELECT switch.
- When the Quartz LOCK switch is pulled upward, the Quartz PLL will be released and the strobe light goes off and pitch meter lamp will light up.
  If the PITCH CONTROL knob is turned at this position, the rotating speed of the turntable will be adjusted up to 6% faster or slower than its rated speed. If the knob is turned in the (+) direction, the turntable rotates faster, and if the knob is turned in the (–) direction, the turntable rotates slower than its rated speed. The variation of the rotating speed can be read out on the PITCH METER.
  (Refer to "PITCH CONTROL")



PITCH CONTROL

In normal circumstances, the platter rotates at the rated speed when the Quartz LOCK switch is kept at ON. If you want to vary the speed, set this switch to OFF and turn the PITCH CONTROL knob. If the platter rotates faster than its rated speed, the musical intervals of the reproduced sound will be come higher, and if it rotates slower, they will become lower.

Nowadays, there are slight variations in the orchestra and other tuning sounds recorded on discs. Furthermore, pianos and other musical instruments for the home are tuned to high international standards and so there are slight discrepancies in the musical intervals when practicing on the piano along with a record. This turntable features a pitch control which allows you to compensate for the slight variations in the musical intervals by making the platter rotate up to 6% faster or slower than its rated speed. The compensation can be checked by ear. An adjustment of ±6% is equivalent to about a semitone.



RECORD SIZE SELECTOR

This selector selects the size of the record for automatic play and also selects manual play.

17 7" . . . . For the automatic play of 17cm (7-inch) LP and EP records.

25 10" . . . . . For the automatic play of 25cm (10-inch) LP records.

30 12" . . . . . For the automatic play of 30cm (12-inch) LP records.

MANUAL . . . For the manual play of records.

NOTE:
The tonearm will not be actuated when the RECORD SIZE selector is at the MANUAL position for play, even if the START button and the REPEAT button are pushed.

ARM ELEVATION LEVER

This lever controls the ascent and descent of the tonearm.

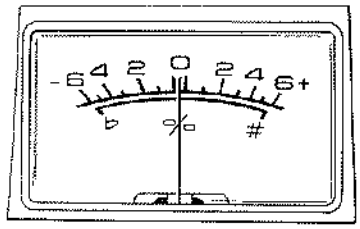
▲(UP) . . . . . The tonearm rises.

▼(DOWN) . . . The tonearm descends gently. Set to this position for auto play, auto repeat and other automatic operations.

NOTE:
When the ARM ELEVATION lever is set to the UP position for automatic play, the tonearm will move over as far as the lead-in groove on the record but it will not descend and the record will therefore not be played.

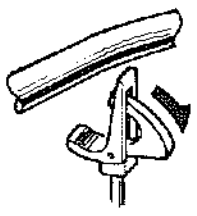
PITCH METER

When the Quartz LOCK switch is set to OFF, the pitch meter lamp will light up, and the variation in the rotational speed of the platter in respect to its rating (33-1/3 or 45rpm) can be read out on the meter.

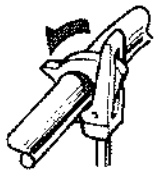


ARM REST

The arm rest supports the tonearm when it is not being used. Set the tonearm on its rest when it is not playing records. Clamp it into position if you don't have any immediate plans to play records (see Figure).



Releasing the arm clamp

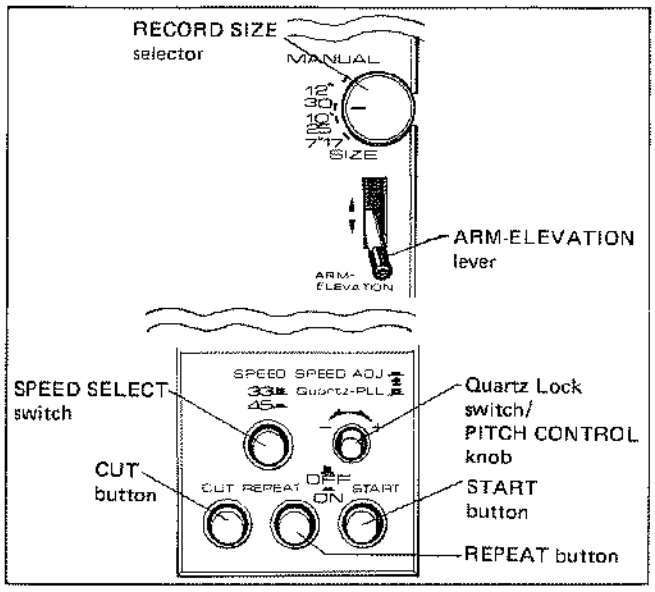


Securing the arm clamp

STROBE LIGHT

When the Quartz LOCK is set to ON, this light comes on and lights stroboscopically. Then, the turntable rotates at its rated speed and so the strobe dots remain stationary.

OPERATION



AUTOMATIC PLAY

1. First, place the record on the platter.
2. Set the SPEED SELECT switch to the speed at which the record is to be played.
3. Set the Quartz LOCK switch to Quartz-PLL. Refer to "PITCH CONTROL" if you plan to leave the switch at SPEED ADJ. and adjust the rotational speed of the platter.
4. Set the ARM ELEVATION lever to the DOWN position.
5. Set the RECORD SIZE selector in accordance with the size of the record on the platter.
6. Remove the stylus cover and release the arm clamp.
7. Press the START button slowly (until you hear the sound of the start mechanism being actuated). The strobe light comes on and the platter rotates.
   When the platter rotates, the tonearm moves, the stylus tip settles down gently into the lead-in groove of the record, and play begins.
8. Adjust the volume and tone controls on the amplifier to the preferred levels, and then sit back and enjoy your record.
9. After the record has been played, the auto-return mechanism is actuated and the tonearm returns to the arm rest. At the same time, the power to the turntable is turned off, and the platter comes to rest a few seconds later.
10. Secure the tonearm to the arm rest with the clamp and attach the stylus cover to protect the stylus.

MANUAL PLAY

1. Place the record on the platter.
2. Set the SPEED SELECT switch to the speed at which the record is to be played.
3. Set the Quartz LOCK switch to Quartz-PLL. Refer to "PITCH CONTROL" if you plan to leave the switch at SPEED ADJ. and adjust the rotational speed of the platter.
4. Set the ARM ELEVATION lever to the UP position.
5. Set the RECORD SIZE selector to the MANUAL position.
6. Remove the stylus cover and release the arm clamp.
7. Press the START button slowly (until you hear the sound of the start mechanism being actuated). The strobe light comes on and the platter rotates.
8. Hold the headshell by the finger lift and move the stylus across the record to the track you want played.
9. Set the ARM ELEVATION lever to the DOWN position. The stylus will descend slowly to the record and play will begin.
10. Adjust the volume and tone controls on the amplifier to the preferred levels, and then sit back and enjoy your record.
11. After the record has been played, the auto return mechanism is actuated and the tonearm returns to the arm rest. At the same time, the power to the turntable is turned off, and the platter comes to rest a few seconds later.
12. Secure the tonearm to the arm rest with the clamp and attach the stylus cover to protect the stylus.

REPEAT PLAY

Proceed as follows if you want to listen to the same record again and again:

- Press the REPEAT button. The strobe light comes on and the platter rotates.
  When the platter rotates, the tonearm moves, the stylus tip settles down gently into the lead-in groove of the record, and play begins.
- After the record has been played, the auto-return mechanism is actuated, and the tonearm returns to the arm rest. A few seconds later the tonearm moves over to the record again, and play begins.
  The turntable will remain in the repeat mode until the REPEAT button is released, which releases the turntable from the repeat mode.

STOPPING THE TURNTABLE DURING PLAY

Press the CUT button gently (until you hear the sound of the return mechanism being actuated). The stylus will rise slowly from the surface of the record and the tonearm will return to the arm rest. The power to the turntable is then turned off and the platter comes to rest a few seconds later.

NOTE:
If you push the CUT button during repeat play, the tonearm will return to the arm rest and back again to the record for repeat play.

INTERRUPTING RECORD PLAY

Set the ARM ELEVATION lever to the UP position. The arm elevation mechanism is independent of the auto mechanism and so the tonearm will ascend and descend irrespective of whether the turntable is set to auto play or to manual play. This is a convenient function since it allows you to choose just the tracks you want to hear from an LP.

RELEASING REPEAT-PLAY MECHANISM

The repeat mechanism only is released when you push the REPEAT button during repeat play and then take your finger off the button. The turntable is then set to the normal auto play mode.

OPERATION PRECAUTIONS

- Always set the RECORD SIZE selector before you push the START and REPEAT button when you want to set the turntable to the auto play or repeat play modes. This is because the stylus will not descend where you want it to descend if you change the setting of the RECORD SIZE selector while the tonearm is moving. You may also damage the stylus and the record.
- Always clean the stylus both before and after playing a record with a soft brush and try to make it a rule to clean the records with a good quality cleaner.
- When changing over the headshell, clamp the tonearm to the arm rest so that the tonearm shaft is not strained in any way.
- Be careful not to make the turntable vibrate while a record is playing since this can result in damage to the stylus and record.
- Do not force the tonearm closer than 40mm to the center shaft or away from the arm rest. If this distance is exceeded, you may damage the internal mechanisms and render automatic operation ineffective.
- Place only one record at a time on the platter. If two or more records are stacked on the platter, the stylus will not make proper contact with the grooves, and this will impair the quality of reproduction.
- Do not disconnect the power cord while the stylus is still in a record groove as this may result in damage to the stylus and record.

ADJUSTING STYLUS DESCENT POSITION

If the stylus does not descend onto the lead-in groove on the record during automatic play, adjust as follows:

1. Place a 30cm (12-inch) LP record on the platter.
2. Go through the operation for automatic play once (refer to page 8), and check the level and direction of the stylus' deviation from the norm.
3. Return the tonearm to the arm rest, and then turn and adjust the stylus descent-position adjusting screw using the accessory screwdriver (see Fig. 11, 12).
   - When the stylus descends outside the lead-in groove, turn the adjusting screw clockwise.
   - When the stylus descends inside the lead-in groove, turn the adjusting screw counterclockwise.
   - Each half-turn of the adjusting screw moves the starting point about 6mm.

NOTE:
Be very careful not to damage the record and the stylus when you are adjusting the position of the stylus descent.

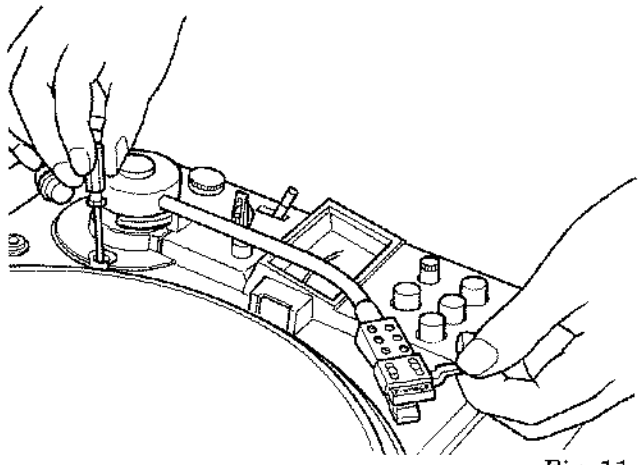


Fig. 11

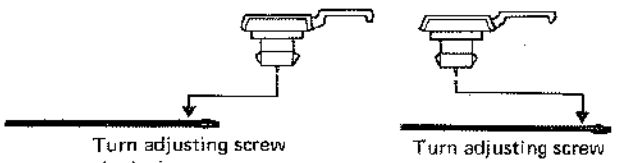


Fig. 12

MAINTENANCE

CABINET AND DUST COVER

When the cabinet or dust cover becomes dusty or dirty, wipe it clean with a soft dry cloth. Remember that the surfaces can be corroded by furniture wax, thinner, and benzine and also by insecticide sprays. The dust cover can be detached and cleaned.

RUBBER PLATTER MAT

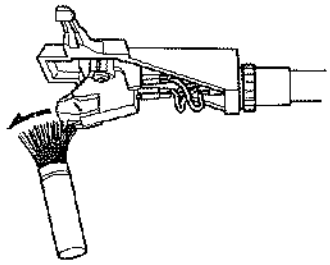
When the rubber platter mat is dirty, apply a sponge containing one part neutral cleanser to 5 or 6 parts water and wash. After rinsing well, leave to dry in a well-ventilated location. Never leave it to dry in the sun or in front of a heater since its shape and color will be changed.

LUBRICATION

The motor shaft and bearings of this turntable employ oil-less bearings and so there is no need for lubrication. There is no need to lubricate the tonearm bearings, either.

STYLUS

If the stylus tip is clogged with dust, the reproduced sound quality will be impaired. Use a soft brush to keep the stylus clean at all times. Be careful not to touch the tip since this may damage it. When using stylus cleaner (organicsolvent), benzine or thinner to clean the stylus tip, take care not to allow any of the liquid to come into contact with the stylus holder. This may charge the material.



OPERATION PRINCIPLE OF QUARTZ PLL DIRECT-DRIVE MOTOR

1. QUARTZ OSCILLATOR: This is minimally affected by ageing and by variations in the temperature and humidity. It generates a reference signal by which the speed of the phono motor is controlled.

2. FREQUENCY DIVIDING CIRCUIT: This divides the frequency of the reference signal generated by the quartz oscillator.

3. SPEED SELECTION FREQUENCY DIVIDING CIRCUIT: This divides the signal to a reference frequency corresponding to one of the two platter speeds, 45rpm or 33-1/3rpm. It is this signal against which the signal from the frequency generator will be compared.

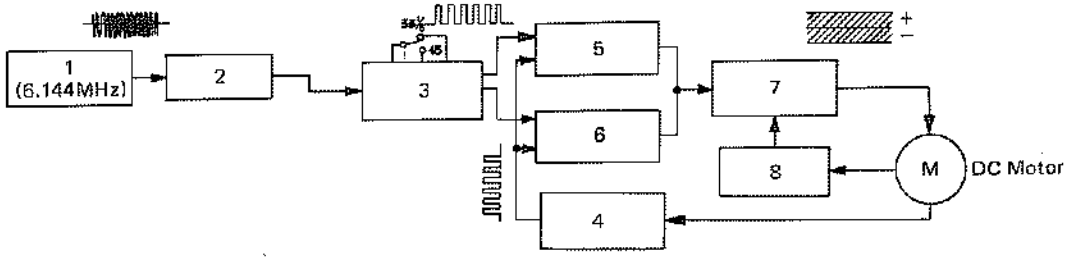
4. MAGNETIC PULSE SENSING FREQUENCY GENERATOR: This produces an alternating current corresponding to the rotation speed of the motor.

5. PHASE COMPARATOR: The phase of the signals from the platter frequency generator is compared with the phase of the reference signal obtained from the speed selection frequency dividing circuit. A corrective voltage corresponding to the difference in phase is produced and this is added to the motor drive current to either accelerate or decelerate the platter by the amount required to maintain the rated speed.

6. FREQUENCY COMPARATOR: The frequency of the signal from the platter frequency generator is compared with the reference frequency derived from the quartz oscillator. The comparator enhances the PLL characteristics to deal with motor overcurrent, etc.

7. BI-DIRECTIONAL DRIVE CIRCUIT: This circuit controls the motor speed in response to the control signals which are applied from the phase comparator and frequency comparator.

8. POSITION DETECTOR: The motor contains Hall elements. As the rotor turns, they emit sequential signal voltages. Transistor switching in the bi-directional drive circuit is controlled by these voltages.



TROUBLESHOOTING

Sometimes, an operational fault can be mistaken for a malfunction or failure. Check the following points and see if the symptoms of the trouble are outlined below before you get in touch with the serviceman. If you cannot locate the symptoms, contact your nearest Pioneer Service Center, Service Station or authorized Pioneer dealer.

Symptom	Possible trouble	Remedy
Platter does not rotate.	Power cord is unplugged.	Plug cord securely into wall outlet.
No sound	1. Phono cables are not connected properly. 2. Headshell is not properly attached. 3. Cartridge lead wires are loose. 4. Amplifier is not being operated properly. (Function switch, tape monitor switch, speaker switches, etc. not set correctly).	1. Connect cables securely to the PHONO input jacks on the amplifier (see page 5). 2. Firmly secure tonearm locking collar (see page 3). 3. Attach lead wires inside headshell properly (see page 2). 4. Read the operating instructions that come with amplifier.
Musical tempo is off.	1. Platter speed is not set properly. 2. PITCH CONTROL knob not set properly in accordance with the platter speed.	1. Refer to "PANEL FACILITIES" and their uses on page 6. 2. Refer to "PITCH CONTROL" on page 6.
Excessive noise.	1. Ground lead is not connected. 2. Tracking force is not correct. 3. Dust or dirt has collected on the stylus tip. 4. Dust or dirt has collected on the record.	1. Connect properly to the amplifier's ground terminal (see page 5). 2. Refer to tracking force adjustments on page 5. 3. Clean the stylus tip with a soft brush. 4. Clean the record with a good quality cleaner.
Sound is distorted.	1. Dust or dirt has collected on the stylus tip. 2. Tracking force is not correct. 3. Stylus is worn. 4. Amplifier's tone controls set too high.	1. Clean the stylus tip with a soft brush. 2. Refer to tracking force adjustment on page 5. 3. Replace with new stylus. 4. Set tone controls to lower position.
Tonearm does not descend with auto play.	1. ARM ELEVATION lever is set to UP position. 2. Tracking force is not correct.	1. Set to DOWN position. 2. Refer to tracking force adjustment on page 5.
Tonearm does not move with auto play.	1. Arm clamp is still fastened. 2. RECORD SIZE selector is set to MANUAL position.	1. Release arm clamp. 2. Set selector in accordance with size of record on platter.
Intermittent sound.	1. Tracking force is not correct. 2. Stylus is worn. 3. Record is scratched or warped.	1. Refer to tracking force adjustment on page 5. 2. Replace with new stylus. 3. Replace record.
Stylus does not descend to correct position with auto-play.	———	See stylus descent-position adjustment on page 9.
If you detect any trouble when playing records, the fault may not lie with the turntable but with another hi-fi component. Be sure to check the amplifier, speaker systems, and any other electrical equipment which you are using in the vicinity of the turntable.		

SPECIFICATIONS

Motor and Turntable

Drive System . . . . . Direct-drive
Motor . . . . . Quartz PLL Hall motor
Turntable Platter. . . 320mm diam. aluminum alloy die-cast
Moment of Inertia . . . . 280kg·cm² (including platter mat)
Speeds . . . . . 33-1/3 and 45rpm
Speed Control Range . . . . . ±6%
Wow and Flutter . . . . . Less than 0.025% (WRMS)
Signal-to-Noise Ratio . . . . . More than 73dB (DIN-B)
(with Pioneer cartridge model PC-400)

Rotational Characteristics

Build-up Time . . . . . Within 120° rotation at 33-1/3rpm
Speed Deviation . . . . . Less than 0.002%
Speed vs. Load Characteristics . . . . Stable up to 200 grams drag load
Speed Drift . . . . . Less than 0.00008%/h at 33-1/3rpm
Less than 0.00003%/degree temp. change at 33-1/3rpm

Tonearm

Type. . . . . Static-balance type, S-shaped pipe arm
Effective Arm Length 221mm
Overhang 15.5mm
Usable Cartridge Weight . . . . . 4g (min.) to 10g (max.)

Subfunctions

Full auto mechanism
Anti-skating force control
Stylus pressure direct-readout counter weight
Cueing device
Strobe light
Pitch indicator
Free stop hinges

Semiconductors

ICs 4
Transistors 7
Diodes 5
Hall elements 3

Accessories

EP Adaptor 1
Screwdriver 1
Cartridge mounting screws 6
Cartridge mounting nuts 2
Cartridge mounting washers 2
Operating instructions 1

Miscellaneous

Power Requirements . . . . . AC 120V, 60Hz
Power Consumption 12W
Dimensions . . . . . 440(W) x 145(H) x 365(D)mm
17-15/16(W) x 5-11/16(H) x 14-3/8(D)in.
Weight 10.5kg/23lb 2oz

NOTE:
Specifications and design subject to possible modification without notice, due to improvements.

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