STEREO TURNTABLE SYSTEM

PS-X75



OPERATING INSTRUCTIONS

Before operating the unit, please read this manual thoroughly. This manual should be retained for future reference.

OWNER'S RECORD

The model	and serie	al numbers	are located	at the	rear.	Record	
these numb	oers in the	spaces pro	ovided below.	. Refer	to the	m when-	
ever you call upon your Sony dealer regarding this product.							

Model No. PS-X75	Serial No.

WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.

To avoid electrical shock, do not open the cabinet. Refer servicing to qualified personnel only.

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FEATURES

"Biotracer" electronic tonearm

The horizontal and vertical movement of the tonearm is monitored by the "Biotracer's" own sensors, and this information is transmitted to the tonearm by the tonearm's own linear motors to suppress resonance at low frequencies and to obtain the maximum signal-tonoise ratio.

Electronic stylus force and anti-skating force adjustment

As the stylus force is electronically controlled by a knob on the front panel, it can be easily adjusted during record play. The proper anti-skating force is automatically set when the stylus force is set. The stylus force is applied only when the cartridge is lowered to a record to facilitate adjustment for tonearm balance.

Auto record size selection

Record size is automatically set by a photo sensor system.

If no record is on the turntable, the tonearm will not descend but will automatically return to the arm rest.

Contactless automatic operation

An optical sensor detects a record's lead-in and return points and the linear motor guides the tonearm quietly to the precise position.

Electronic cueing on the front panel

The tonearm up/down operation is controlled by a separate linear motor damped by a velocity feedback system, which means that it is unaffected by temperature changes. The muting system activates when the tonearm is lifted and deactivates after it lowers onto a record. There is no need to turn down the amplifier volume every time a stylus is placed on a record.

Quick repeat play

The tonearm will replay a record without returning to the arm rest.

Tonearm transport to any desired point

The ARM TRANSPORT buttons on the front panel for both inward and outward movement make manual operation possible even while the dust cover is closed. When either of the buttons is pressed, the tonearm moves slowly for the first 0.5 second, then rapidly, so that by pressing and releasing the appropriate button, the tonearm can be finely adjusted to any drop-point.

Crystal lock and magnedisc servo system

The turntable maintains an accurate and drift-free speed by referring to a frequency generated by a very stable crystal oscillator, and with the aid of a speed monitoring system which utilizes a magnetic pick-up head and a pulse signal derived from a magnetic coating at the edge of the platter.

Linear BSL motor

Direct drive system with Sony's unique BSL (brushless and slotless) motor which has a high signal-to-noise ratio to virtually eliminate wow and flutter. Its high torque assures quick start to 331/3 rpm after only a half revolution.

Electromagnetic brake system

Electromagnetic brake system stops the turntable quickly and smoothly.

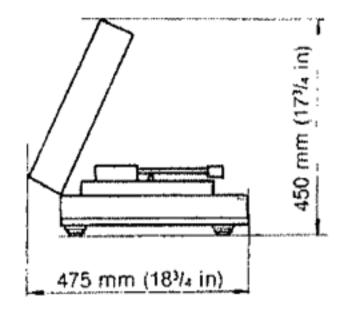
PRECAUTIONS

On safety

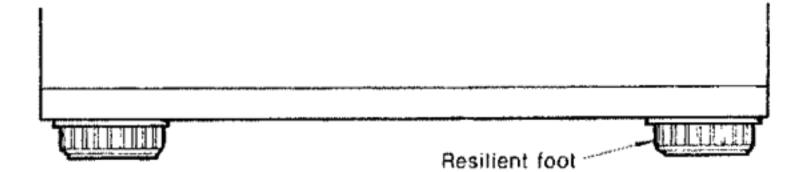
- Before operating the unit, be sure that the operating voltage of your unit is identical with that of your local power supply.
- Should any liquid or solid object fall into the cabinet, unplug the unit and have it checked by qualified personnel before operating it any further.
- Unplug the unit from the wall outlet if it is not to be used for an extended period of time. To disconnect the cord, pull it out by the plug. Never pull the cord itself.

On installation

- Place the turntable on a level surface.
- Avoid placing the unit near electrical appliances (such as a television, hair dryer, or fluorescent lamp) which may cause hum or noise.
- Avoid any vibration such as from speakers, slamming of doors, etc.
- Keep the unit away from direct sunlight, extremes of temperature, or excessive dust and moisture.
- Allow 10 cm (4 inches) clearance behind the unit so that the cover can be opened.

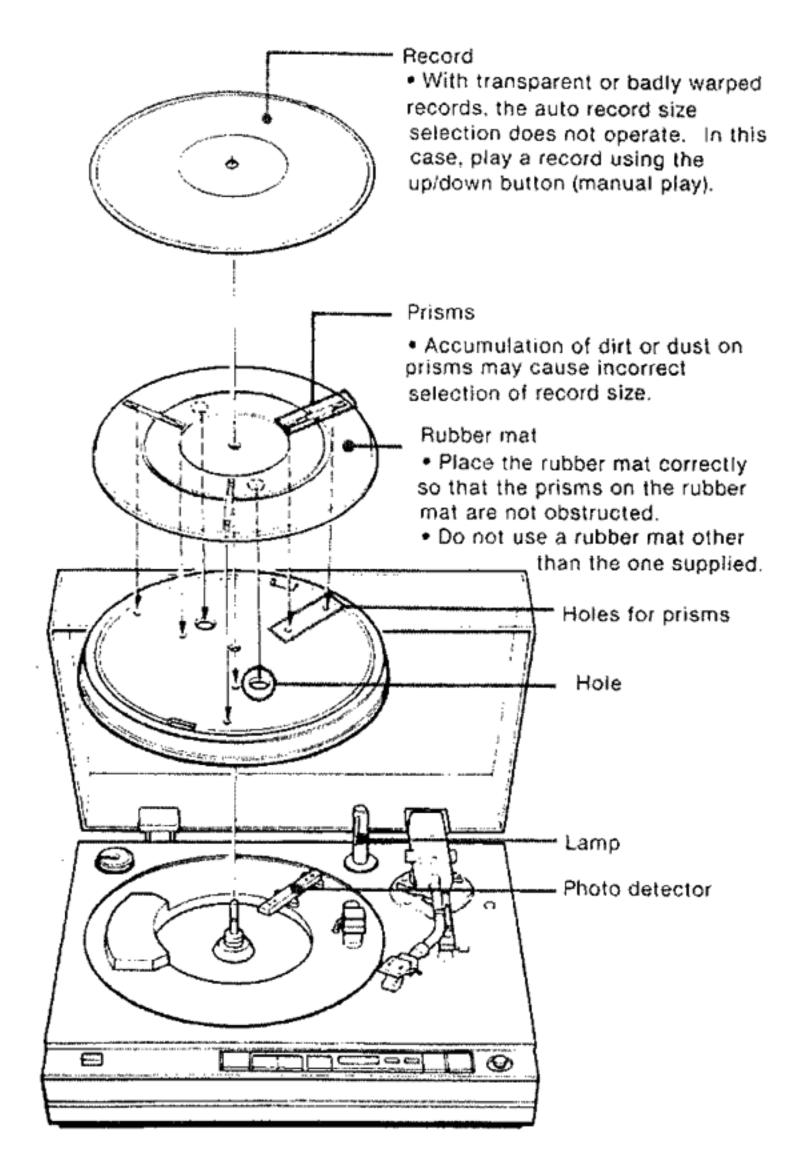


• The turntable has resilient feet that isolate the mechanism from external shock and vibration. When the uni is placed on an uneven surface and the tonearm moves by itself from the same reason, turn each foot until the unit is level and the tonearm stops moving.



On auto record size selection

A beam from a lamp is transmitted through the prisms embedded in the rubber mat to the photo detector which activates the record size selection. The 17 cm (7 inch) record size is selected when the inner prisms are covered and the lamp beam goes through the outer prisms. The 30 cm (12 inch) record size is selected when both inner and outer prisms are covered so that the photo detector senses no beam. When the beam is transmitted through all the prisms to the photo detector, no record is on the platter and the tonearm does not lower to the platter.

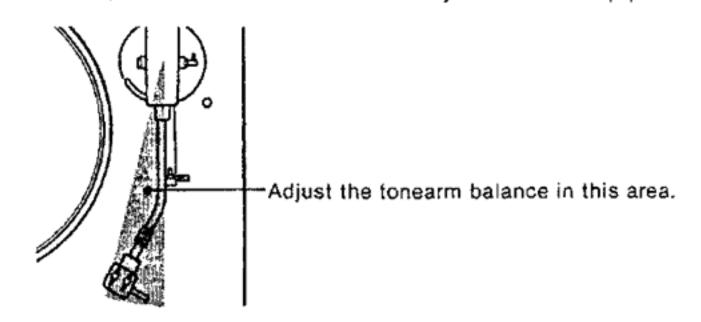


On tonearm adjustment area

In this areas, the stylus force is always zero so that the tonearm can be adjusted for balance without being affected by the position of the STYLUS FORCE (ANTI SKATING) adjustment knob.

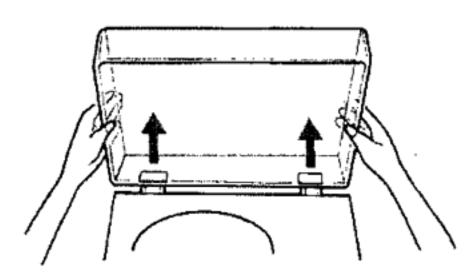
Tonearm balance adjustment is done with the tonearm in the down position, but if the tonearm is brought out of the tonearm adjustment area, the tonearm is automatically raised to protect the stylus. To lower the tonearm for adjustment, bring it back to the adjustment area and press the up/down button.

If you take the tonearm from a record by hand back to the adjustment area, the tonearm will automatically assume the up position.



On dust cover removal

Open the dust cover fully and slide it upward while holding it with both hands.

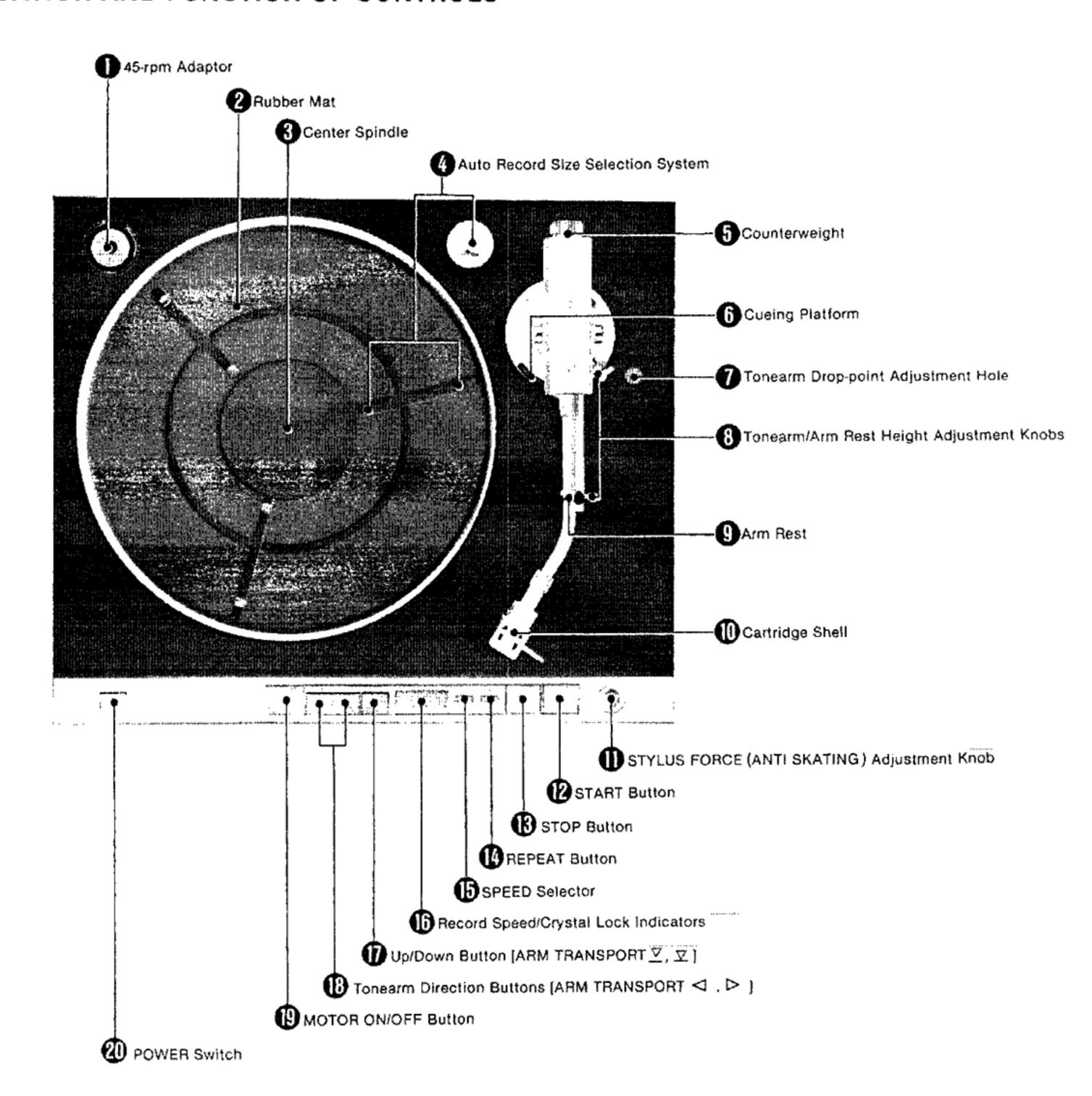


On repacking

Do not throw away the carton and its packing material. It makes an ideal container in which to transport the unit. When shipping the unit for repair work or to another location, repack it as illustrated on the carton box observing the following points.

- Fix the transit screws in the original positions. (See page 8.)
- Turn the counterweight completely to the "—" direction.
- Set the tonearm height at the highest position, releasing the arm rest height adjustment screw in advance. (See page 9.)
- Tighten the arm rest height adjustment screw.
- Secure the tonearm to the arm rest.

LOCATION AND FUNCTION OF CONTROLS



45-rpm Adaptor

To play 17 cm (7 inch) records, put the adaptor over the center spindle.

Aubber Mat

Place the rubber mat so that the prisms are not obstructed by the platter.

© Center Spindle

Auto Record Size Selection System

Record size is automatically selected by a beam transmitted from a lamp through prisms embedded in the rubber mat to the photo detector underneath the platter. When no record is on the platter, the tonearm will not lower onto the turntable.

Ocunterweight

Turn the counterweight in or out to balance the tonearm. (See page 9.)

O Cueing Platform

Tonearm Drop-point Adjustment Hole

Adjust the screw in this hole when the tonearm drop-point is incorrect during auto play. (See page 13.)

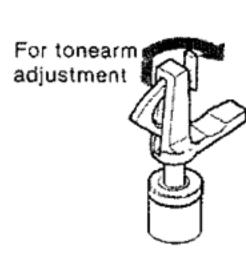
Tonearm/Arm Rest Height Adjustment Knobs

Tonearm height should be adjusted so that the tonearm is level when the stylus is on the record. After loosening both knobs, adjust the tonearm height. The arm rest height is adjusted at the same time. When the adjustment is complete, be sure to tighten the knobs. (See page 9.)

Arm Rest

Set the arm rest as illustrated so that the tonearm will be free while playing a record or while being adjusted. When the tonearm is not in use, always secure the tonearm to the arm rest.





Cartridge Shell

STYLUS FORCE (ANTI SKATING) adjustment knob

Stylus force and anti-skating force are both electronically set by this knob. The stylus force can be changed during record play if so desired.

® START Button

Press this button for automatic record play. The tonearm automatically descends onto the record. When play is finished, the tonearm returns to the arm rest and the turntable automatically stops rotating.

When the START button is pressed during play, the tonearm immediately returns to the beginning of the record and starts to play again. Use this function when copying a record onto a tape. Adjust the recording level while playing the record. When you have finished adjusting the recording level, press the START button and start recording.

® STOP Button

Press the button to stop during play. The tonearm returns to the arm rest and the turntable automatically stops rotating.

@ REPEAT Button

Press this button to repeat play. The indicator illuminates and repeat play continues until this button is pressed to stop it. If the STOP button is pressed during repeat play, the tonearm returns to the arm rest and the turntable stops rotating.

(B) SPEED Selector

Selects the record speed. When the POWER switch is turned on, the speed is always 331/3 rpm unless the selector is pressed to select 45 rpm.

® Record Speed/Crystal Lock Indicators

Record speed is indicated in this window. When the crystal system has locked the turntable at the proper speed, LOCKED appears in this window.

19 Up/Down Button [ARM TRANSPORT ♡, ♡]

This button lifts and lowers the tonearm, and with the tonearm direction buttons, is used for manual operation, even with the dust cover closed.

Tonearm Direction Buttons [ARM TRANSPORT < □, ▷] </p>

To move the tonearm inwards, press the \triangleleft button, and to move outwards, the \triangleright button. The tonearm is raised automatically and continues to move while the button is pressed. The tonearm will stop when the button is released. For fine adjustment of the tonearm drop-point over a record, press and release the appropriate button. This button is useful for beginning a record partway through, or for skipping to another selection.

MOTOR ON/OFF Button

This button causes the turntable to rotate or to stop independently of tonearm operation. This feature allows cueing of a record. See page 12.

@ POWER Switch

Press to turn on the turntable. To turn the turntable off, press it again.

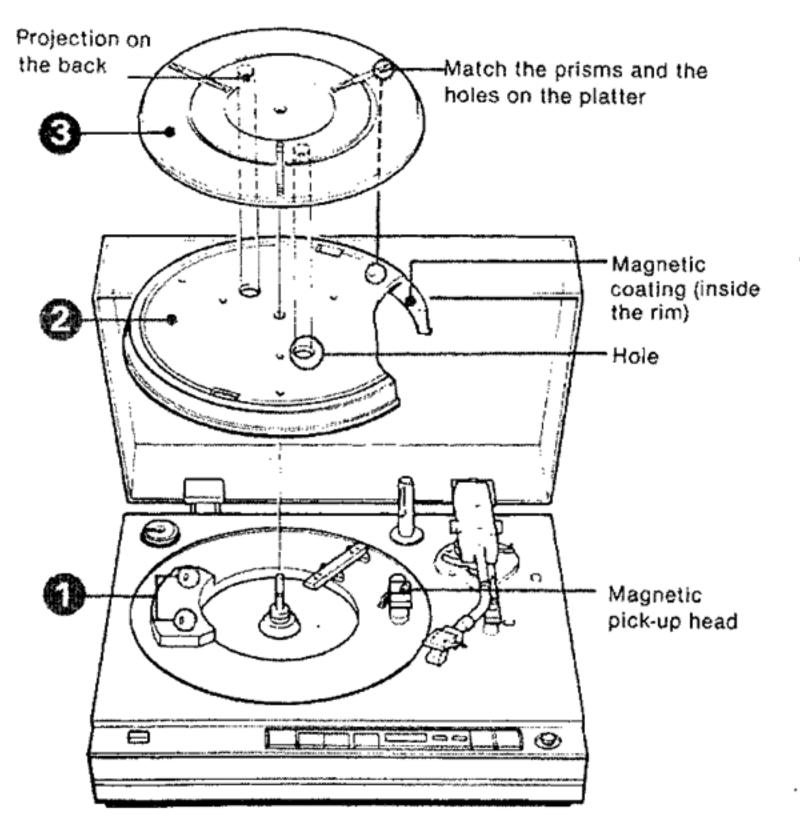
TURNTABLE ASSEMBLY

Do not connect the power cord or the connecting cords until the assembly is complete.

Remove all packing material and clean the cabinet.

Save the packing box and materials for possible future use.

- Remove the red-painted transit screws. Save these screws, since they will be required when repacking.
- @ Carefully place the platter on the motor board by matching the center hole and the center spindle. Be careful that no foreign objects lodge under the platter.
- Do not touch the magnetic coating or the magnetic pick-up head.
- OPlace the rubber mat on the platter, by matching the projections on the back of the rubber mat to the holes on the platter, and also the prisms in the rubber mat and the holes for prisms on the platter so that the prisms for auto record size selection are not obstructed.



CARTRIDGE INSTALLATION

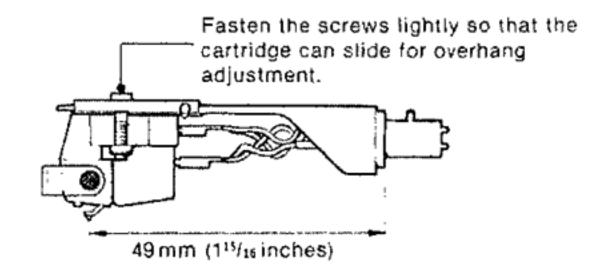
A cartridge weighing from 1 to 8 g can be mounted with the supplied cartridge shell. Heavier cartridges from 8 to 15 g can be mounted using the extra weight (supplied).

• Connect the lead wires of the shell to the corresponding pins on the cartridge.

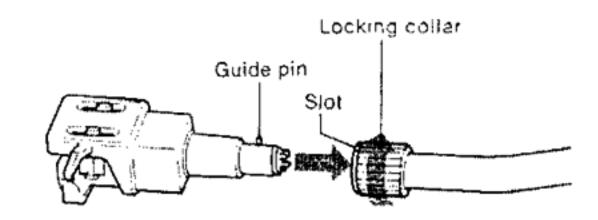
Wires Cartridge pins
White. White, L (Left channel signal)
Blue Blue, LE or G (Left channel ground)
Red. Red, R (Right channel signal)

Install the cartridge into the shell with the supplied mounting screws temporarily as illustrated. Final adjustment should be made later in overhang check.

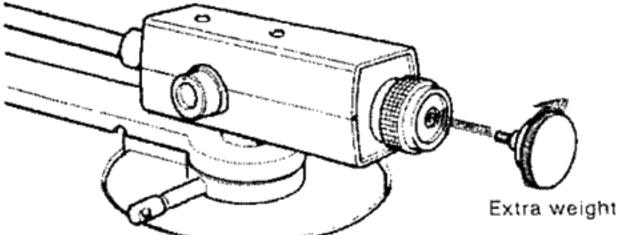
Green Green, RE or G (Right channel ground)



O Plug the shell into the tonearm, matching the guide pin on the shell with the upper slot of the tonearm. Turn the locking collar in the direction of the arrow until the shell is firmly locked.



When using a cartridge weighing between 8 and 15 g, fix the supplied extra weight by turning to the end.

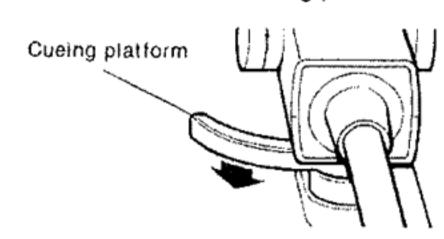


TONEARM ADJUSTMENT

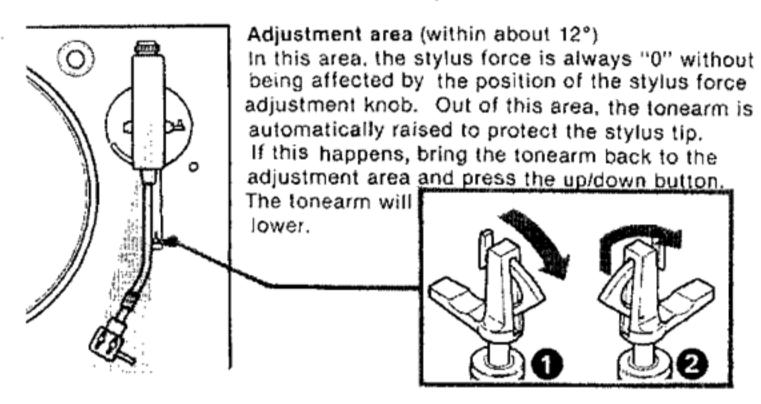
Before starting the adjustment, be sure to turn on the power since the tonearm is electronically controlled.

TONEARM BALANCE ADJUSTMENT

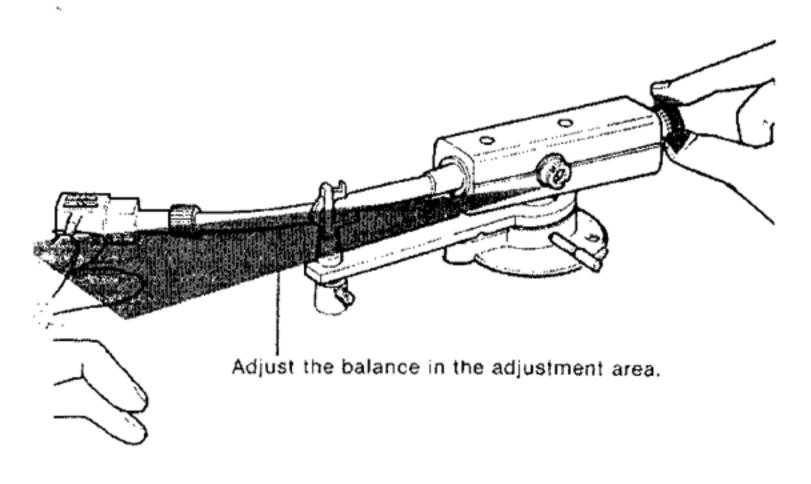
• Press the up/down button to lower the cueing platform.

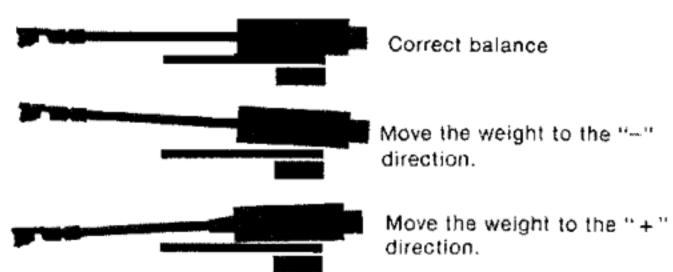


O Unlock the arm rest latch and turn it as illustrated, holding the tonearm with one hand. Be careful not to move the tonearm out of the adjustment area.



Turn the counterweight as required while in the adjustment area until the tonearm is in a horizontally balanced position.

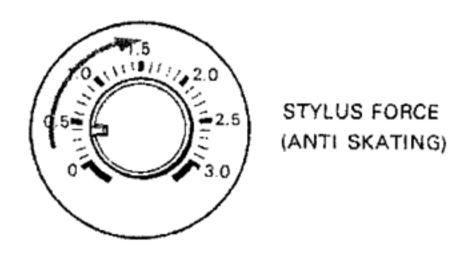




After the balance is obtained, return the arm rest to the original position and secure the tonearm to the arm rest. Press the up/down button to raise the cueing platform.

STYLUS FORCE/ANTI-SKATING ADJUSTMENT

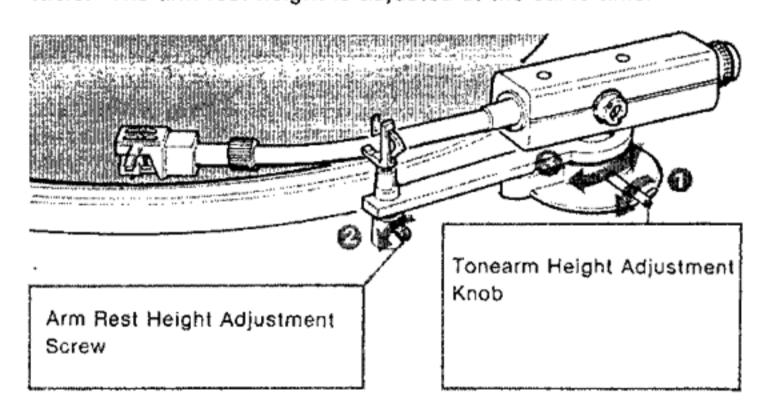
Set the STYLUS FORCE (ANTI-SKATING) adjustment knob to the stylus force value. The maximum stylus force available is 3 grams.



TONEARM/ARM REST HEIGHT ADJUSTMENT

It is required to let the tonearm track parallel to the record.

- Place a record on the platter and lower the cartridge onto a record by pressing the up/down button. Loosen the arm rest height adjustment screw.
- @ Release the tonearm height adjustment knob and move it in the required direction so that the tonearm becomes parallel to the turntable. The arm rest height is adjusted at the same time.

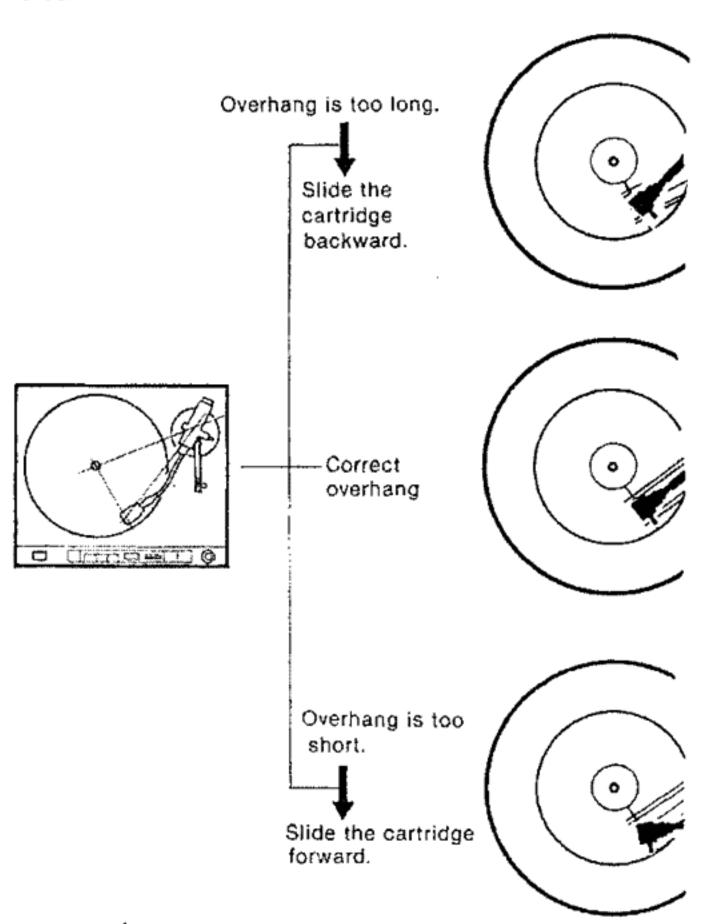


- ❸ When the adjustment is complete, lock the tonearm adjustment knob and tighten the arm rest height adjustment screw.
- O Press the up/down button to raise the tonearm and secure it to the arm rest.

OVERHANG CHECK*

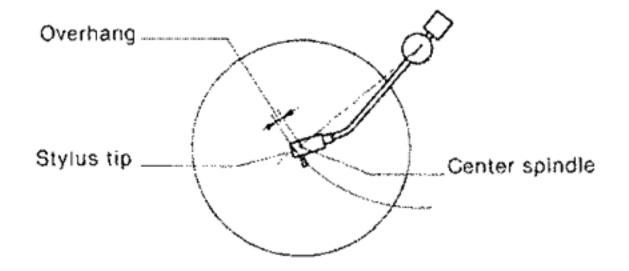
Check that the cartridge is correctly installed with the alignment gauge marked on the under side of the rubber mat. If installation is incorrect, the tonearm drop-point during auto play will be incorrect.

- Place the rubber mat upside down.
- @Bring the tonearm over the point where the two fine lines cross and carefully lower the stylus to this point by pressing the up/down button.
- Otheck to see that the cartridge shell is parallel to the lines marked on the rubber mat as shown in the illustration. If not, loosen the cartridge mounting screws and slide the cartridge to the required position. Tighten the screws and recheck the balance and Stylus force.



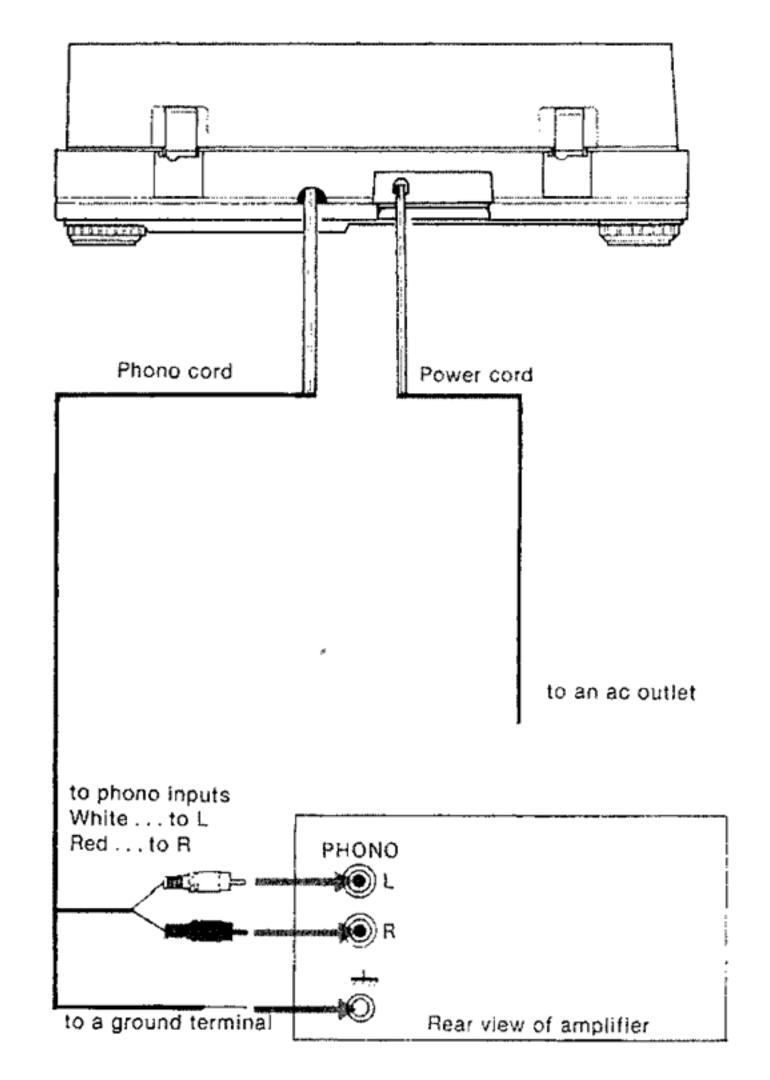
* Overhang

While record grooves are originally cut by a head which tracks in a radial line, a tonearm, because it is pivoted, traces an arc on a record. To compensate for this difference in movement, the tonearm pipe is angled and the cartridge is installed with a 13 mm overhang. (See the illustration.) The correct overhang is obtained by installing the cartridge with 49 mm (1 15/16 inches) spacing between the stylus tip and the end of the cartridge shell and by checking the installation with the alignment gauge.



CONNECTIONS

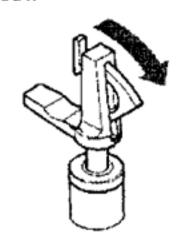
- Turn off the amplifier before making connections.
- Be sure to insert the cable connectors firmly into the jacks.
 Loose connections may cause hum and noise.
- Leave a little slack in the connecting cord to allow for inadvertent shock or vibration.



RECORD PLAYING

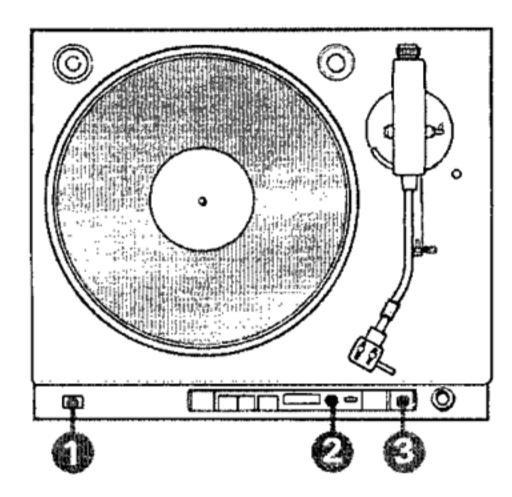
PREPARATION

- Place a record on the platter. For 17 cm (7 inch) records, put the supplied 45-rpm adaptor over the center spindle.
- Unlock the arm rest latch during operation. After playing, secure the tonearm to the arm rest.



AUTO PLAY

- Press the POWER switch (ON).
- @ Select the correct record speed. The record speed will always be 331/3 rpm unless the SPEED selector is pressed to select 45 rpm.
- @ Press the START button. Play will begin.
- When the tonearm reaches the end of the record, it will automatically return to the arm rest and the turntable will stop.

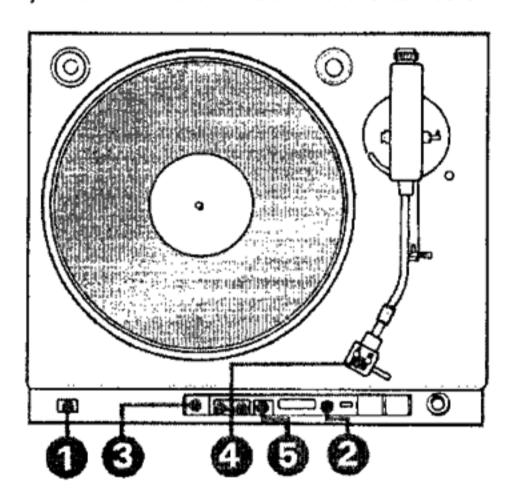


Notes

- Auto record size selection does not operate with transparent records. Play such records manually.
- ◆ After record play, before turning the power off, be sure to wait until the tonearm has come to rest on the arm rest, otherwise the tonearm will stop in that position. Upon turning the power on again, the tonearm will return to the arm rest.

MANUAL PLAY- for playing records at any point

- Press the POWER switch (ON).
- @ Select the correct record speed. The record speed will always be 33¹/₃ rpm unless the SPEED selector is pressed to select 45 rpm.
- OPress the MOTOR ON/OFF button. The turntable will start to rotate.
- ⊕ Bring the tonearm to the position you desire over the record. Instead of handling the tonearm, use the tonearm direction button. Keep pressing the < button until the tonearm reaches the desired position. For fine adjustment, press and release the appropriate button.
- 6 Press the up/down button. The tonearm will lower onto the record and play will begin.
- •When the tonearm reaches the end of the record, it will automatically return to the arm rest and the turntble will stop.

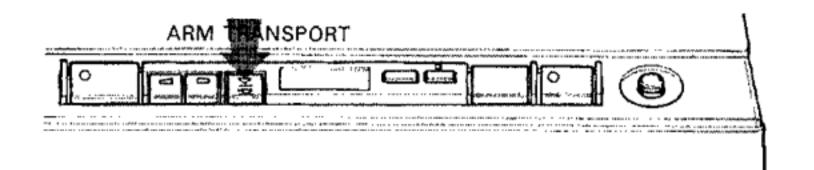


Note

If you lower the tonearm too near the record label, auto return may not activate at the end of the groove. This is because the tonearm reaches the end of the record before the auto return detector can activate.

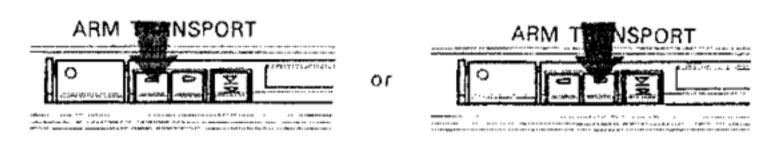
TO LIFT UP THE STYLUS DURING PLAY

To lift the stylus from a record for a moment and then start playing from the same point, press the up/down button. To lower the tonearm onto the record, press the button again.



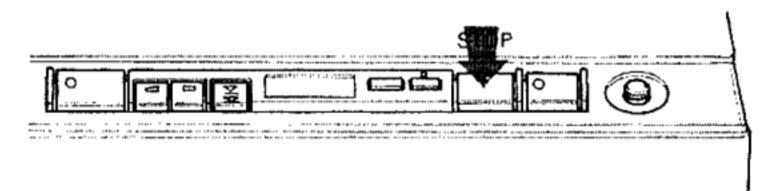
TO MOVE TO A DIFFERENT PART OF A RECORD WHILE THE RECORD IS PLAYING

Keep the appropriate tonearm direction button pressed until the tonearm reaches the desired position. For fine movement, press and release the appropriate button. To lower the tonearm onto the record, press the up/down button.



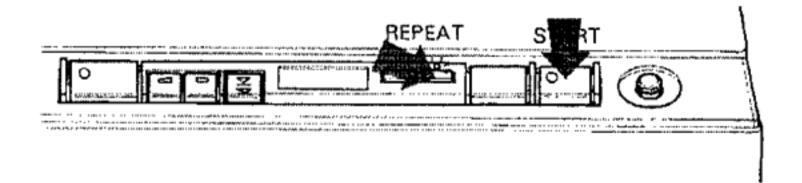
TO STOP DURING PLAY

Press the STOP button. The tonearm will return to the arm rest and the turntable will stop rotating.



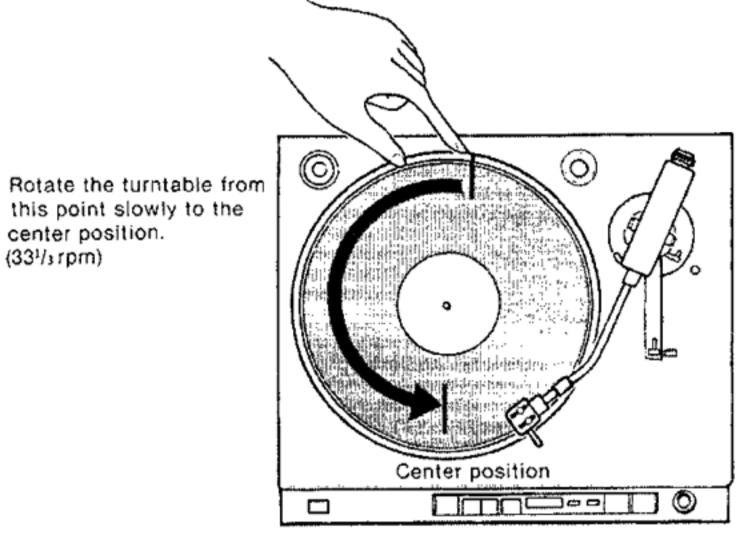
TO REPEAT PLAY

Press the REPEAT button either before or after starting play. The tonearm continues repeat play unless the button is pressed again to turn off the repeat function. To stop during repeat play, press the STOP button.



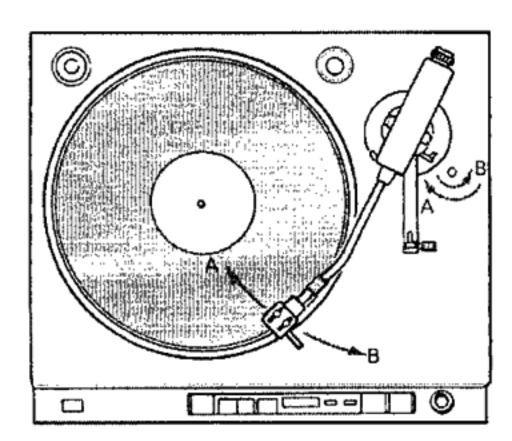
INSTANTANEOUS START OF PLAY (CUEING)

Owing to the powerful starting torque and independent operation of the turntable and the tonearm, instantaneous start on a record is possible. Lower the cartridge onto the lead-in groove of a record. Set the amplifier volume to a listening level. Rotate the turntable by hand slowly so that starting point of music can be found without damaging the stylus tip. Reset the cartridge at the exact starting point. From the point indicated in the illustration below, rotate the turntable by hand slowly in the opposite direction up to the center position. When the MOTOR ON/OFF button is pushed, the music starts to play instantaneously.



TONEARM DROP-POINT ADJUSTMENT

At the factory, the tonerm has been adjusted to have the correct droppoint in auto play. If this needs to be readjusted, proceed as follows. • Be sure that the turntable is turned off and the tonearm is secured to the arm rest.



- Remove the rubber cap of the tonearm drop-point adjustment hole located at the right side of the arm base.
- Insert the supplied drop-point adjustment key into the hole. To change the drop-point inward... Turn the screw slightly to the A direction.
 - To change the drop-point outward . . . Turn the screw slightly to the B direction.
- Be sure not to turn the screw to the B direction too much so as not to bump the stylus tip on the turntable edge.
- Start auto play and check that the stylus lowers on the correct droppoint.
- Once it is properly adjusted with a 30 cm (12 in.) record, the droppoint will be correct for a 17 cm (7 in.) record as well.

MAINTENANCE

Stylus

Before playing, clean the stylus using a soft brush. Brush the stylus from back to front. Never attempt to clean the stylus with finger tip. If fluid-type stylus cleaner is used, make sure not to moisten the stylus too much.

Cabinet

Clean the cabinet and dust cover periodically with a soft dry cloth. If the stains are difficult to remove, use a cloth moistened with a mild detergent solution. Do not use solvents such as alcohol, benzine or thinner, since they will damage the finish.

Rubber mat

When the rubber mat becomes dirty, wipe it gently with a soft cloth slightly dampened with water.

Lubrication

No lubrication is required for this turntable. The motor shaft is factory lubricated for the life of the turntable.

SPECIFICATIONS

Turntable

Platter 32 cm (125/e in.), aluminum-alloy diecast

Motor Linear BSL (brushless and slotless) motor

Drive system Direct drive

Control system Crystal lock control, magnedisc servo

control system

Speed 331/3 rpm, 45 rpm

Starting characteristics

Comes to nominal speed within a half

revolution (331/1 rpm)

Wow and flutter 0.015% (WRMS)*

0.025% (WRMS)

Signal-to-noise ratio 78 dB (DIN-B)

Load characteristics 0% up to 150 g stylus force (at lead-in

groove of a record)

Speed deviation Within ±0.003%

Automatic system Lead-in, return, reject, repeat, record size

selection, anti-skating

Tonearm

Type Electronic tonearm, universal

Pivot-to-stylus length 235 mm ($9^{1/4}$ in.) Overall arm length 330 mm ($12^{3/4}$ in.) Overhang 13 mm (9/16 in.) Tracking error $+ 2^{\circ}40'$, $-1^{\circ}30'$

Stylus force adjustment range

0 - 3.0 g

Cartridge shell weight

11 g

Cartridge weight range (including supplied headshell)

12 - 19 g

19 - 26 g (with extra weight)

General

Power requirements 120 V ac, 60 Hz

Power consumption 18 W

Dimensions Approx. $480 \times 165 \times 420 \text{ mm (w/h/d)}$

 $(19 \times 6^{1/2} \times 16^{5/8} \text{ in.})$

including projecting parts and controls

Weight Approx. 13 kg (28 lbs 11 oz), net

Approx. 15 kg (33 lbs 2 oz), in shipping

carton

Supplied accessories

45-rpm adaptor (1) Extra weight (1) Cartridge shell (1)

Cartridge mounting screws (1 set)
Tonearm drop-point adjustment key (1)

Design and specifications subject to change without notice.

* This new measuring method concerns only the turntable assembly, including the platter. It excludes wow and flutter caused by the tonearm, the cartridge, or the record. Measured by obtaining signal from magnetic pick-up head.

TROUBLE CHECKS

The following chart will help correct most problems which may occur with the unit. If the problem persists after you have made these checks, consult your Sony service facility.

TROUBLES	CAUSES	WHAT TO DO
The tonearm does not lower on the record but returns to the arm rest.	The state of the s	Play a record manually.
The tonearm always lowers on the point for 30 cm	Other record mat than the one supplied is used.	e ——— Use the supplied record mat.
record.	Incorrect placement of the supplied rubber mat	————Place the rubber mat by aligning the prisms on the rubber mat to the holes of the platter.
	Improper tonearm balance or tracking-force	———— Make correctly tonearm adjustment referring to the page 9.
Impaired tone quality	— Dusty stylus	Clean the stylus with a soft brush from back to front.
	Worn stylus	The stylus life is approx. 400 hours of use. Replace with a new stylus.
Zero balance adjustment cannot be made with the cueing platform up.	The tonearm is out of the adjustment area.	Bring the tonearm in the area and press the up/ down button to lower the cueing platform.
Auto return does not operate at the end of play.	A record with shallow return grooves is played by a cart-ridge with low tracking-force	———— Apply more tracking-force.
No audio from one channel	Loose connection of phono cord	Insert the connectors firmly.
Steady low-pitched sound (hum)	Loose attachment of the car- tridgeshell to the tonearm.	Fix the shell to the tonearm firmly.
	Ground wire is not connected to the amplifier.	———Connect the ground wire to the amplifier.
Groove skipping, tonearm	Improper tracking-force	——— Apply proper tracking-force. (See page 9.)
tends to skate out, tonearm does not advance.	Turntable not level	———Place the turntable on a level surface.
	Defective record	
Loud rumble or low- frequency "how!"	The turntable is placed on a base prone to external vibration.	
(acoustic feedback*)	The turntable is placed near the speaker.	Keep it as far away from the speaker as possible.

^{*} Acoustic feedback: The vibration of speakers is transmitted through the air or via solid objects (shelves, cabinets, floor, etc.) to the turntable, picked up by the cartridge stylus, amplified, and again reproduced through the speakers.