

XP-99

OPERATING INSTRUCTIONS



Sansui

WARNING: To prevent fire or shock hazard, do not expose this appliance to rain or moisture.

- The Model No. and Serial No. of your unit are shown on its back panel.
- SANSUI attests that this product conforms with EEC directive 76/889.

Precautions.....	3
Setting-up and connections.....	4
Controls and parts callouts	6
Operating procedures	7
Specifications	7
Some useful hints.....	8



We are grateful for your choice of this SANSUI high fidelity product. Before you operate it, we suggest that you read this booklet once through carefully, familiarizing yourself with the important precautions, operational procedures and every one of the product's many features.

It will help to ensure that you will avoid possible damage and that the product's superb performance will be yours to enjoy for many years to come.

* In order to simplify the explanation illustrations may sometimes differ from the originals.

Precautions

* Bear in mind the following points.

Power plug

When disconnecting the power cord from the power outlet, always take hold of the plug, and not the wire, and pull free. Never connect or disconnect the power plug with wet hands since you may receive an electric shock.

* Remember to disconnect the power plug from the power outlet when you do not intend to use the unit for a prolonged period of time.

Do not remove the case and bottom panel

Any inspections or adjustments inside the unit may lead to malfunctions and electric shocks. Do not touch any of the inside parts. SANSUI's warranty is not effective if a deterioration in the unit's performance results from remodeling inside.

Lubrication

Your unit requires no lubrication whatsoever. Note that application of oil to the unit's motor spindle may cause turntable breakdown.

Do not wipe with thinners

Wipe the panels and case from time to time with a soft cloth. Using any kind of thinner, alcohol or volatile liquid will mar the surface, cause blotching on the exterior and erase the markings and should therefore be avoided.

Do not use insecticide sprays in the vicinity.

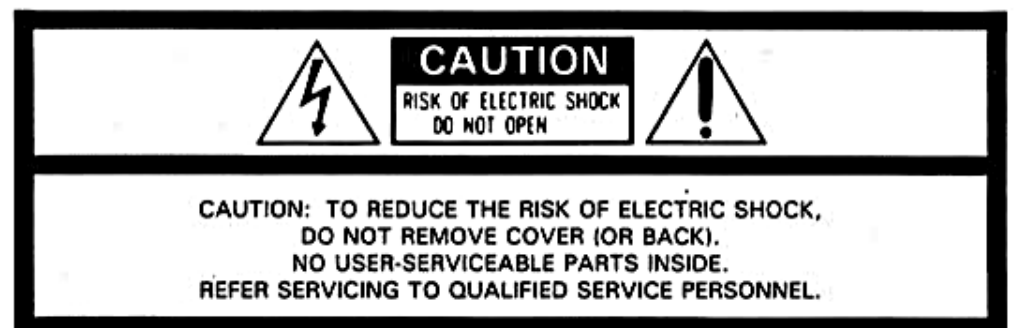
Dealing with howl

When the volume is too high, the sound from the speakers or the vibrations can be transmitted through the air or across the floor to cause vibration in the turntable. They are passed through the cartridge and continuously amplified until they result in a monotonous wailing noise called howl. If howl arises, move the speakers as far away from the turntable as possible and install the turntable in a vibration-free location.

Installation precautions

Do not install the unit in any of the following locations since this may result in a deterioration in performance or malfunction:

- * Locations exposed to direct sunlight or near objects radiating heat such as heating appliances.
- * Locations exposed to moisture or humidity.
- * Locations with poor ventilation exposed to dust and dirt.
- * Locations which are unstable and not perfectly flat or which are susceptible to vibration.



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.

For the United Kingdom only

Important

The wires in this mains lead are coloured in accordance with the following code:

Blue: Neutral
Brown: Live

If the colours of the wires in the mains lead of this equipment should not correspond to the coloured markings identifying the terminals in your plug, proceed as follows:

The wire which is coloured **blue** must be connected to the terminal which is marked with the letter 'N' or coloured black.

The wire which is coloured **brown** must be connected to the terminal which is marked with the letter 'L' or coloured red.

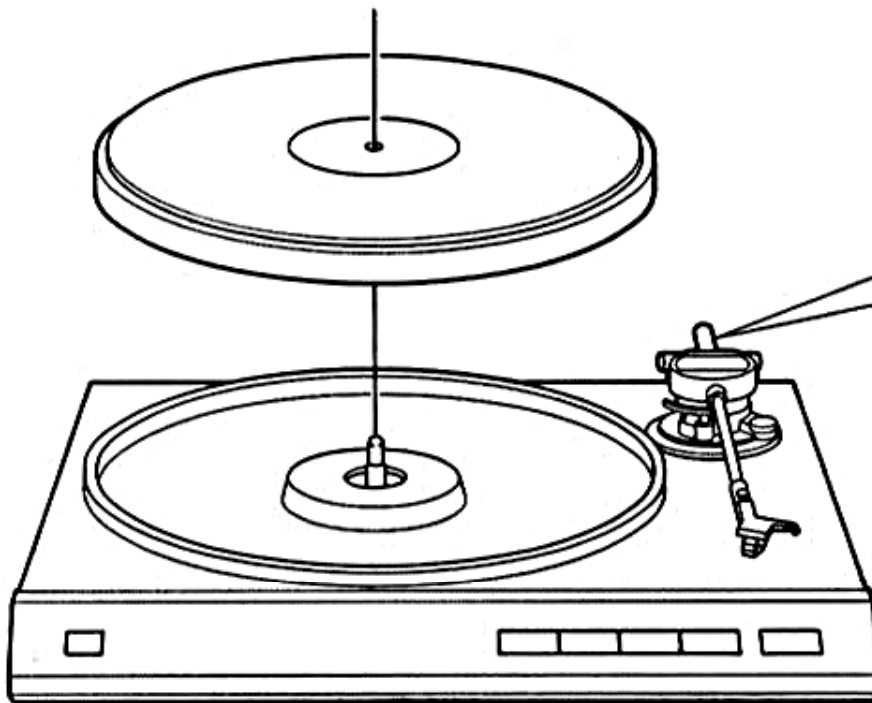
Ensure that your equipment is connected correctly. If you are in any doubt, consult a qualified electrician.

For equipment purchased outside the U.K. with a "EUROPEAN" two-pin mains plug, the plug should be removed and connections made in accordance with the above instructions. Ensure also that the equipment is properly adjusted to 240 volts operation. If you are in any doubt, consult a qualified electrician, or our Service Agent in the U.K.

Setting-up and connections

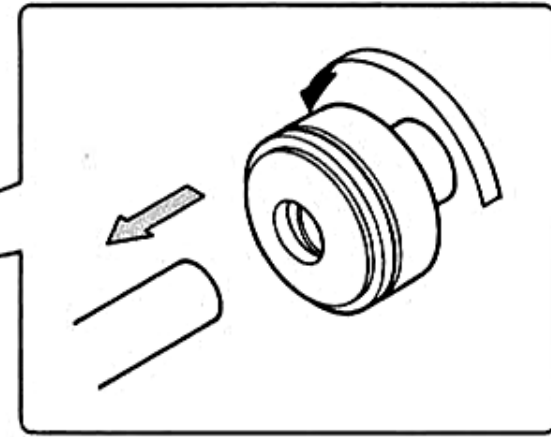
Mounting platter

To mount the platter on the turntable, fit the platter slowly and gently onto the motor spindle, taking care not to apply any unreasonable force to the spindle.



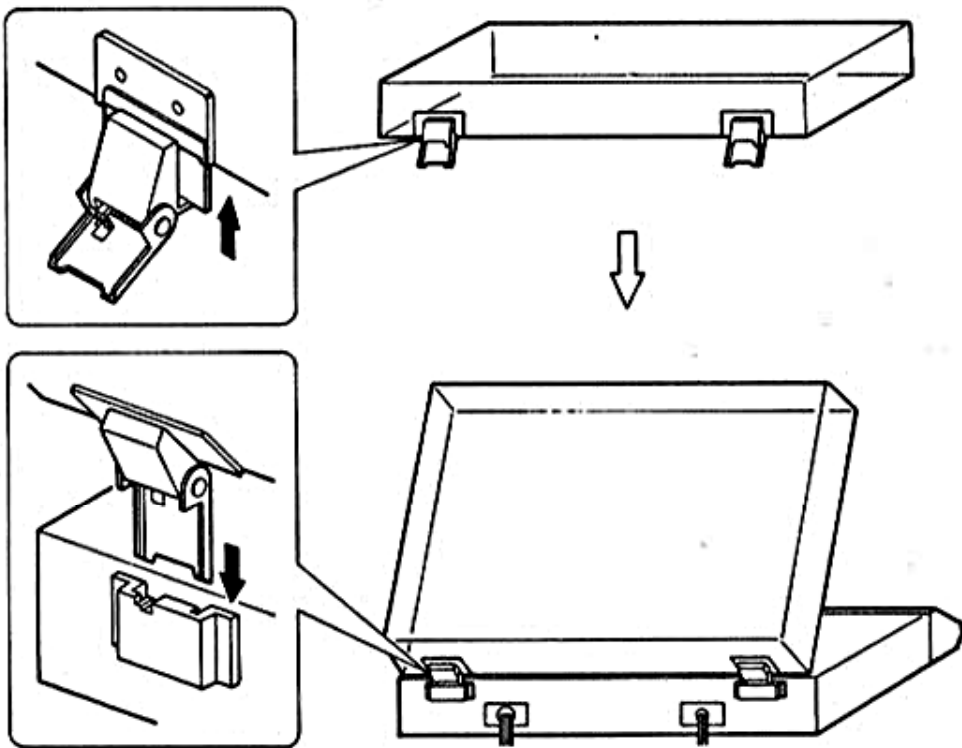
Mounting main weight

Fit the main weight on the weight shaft of the tonearm and pull it toward you while turning it gently to the right.



Mounting dust cover

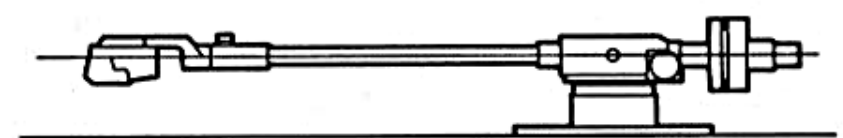
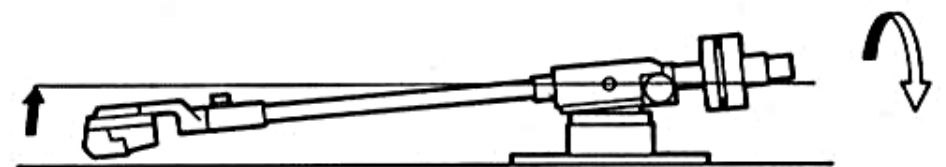
Slide the accessory hinges onto the dust cover, referring to the figure so that the hinges are pointing in the right direction. Next slide the dust cover hinges into the holders on the rear panel of the cabinet and when they are pushed into position, the hinges are locked onto the cabinet.



Tonearm horizontal balance

Before undertaking tracking-force adjustment, you must balance the tonearm in a perfectly horizontal plane to the motorboard to obtain a "0-gram" tracking-force. Procedures are as described below:

1. Detach the arm rest hook.
2. If the cartridge is equipped with a stylus cover, remove the cover.
3. Turn the bias knob, so that the "0" mark aligns with the index on the ring.
4. Hold the headshell hook and move the tonearm to the halfway position between the platter and arm rest.
5. Turn the main weight with your other hand until the tonearm balances itself, remaining stationary and horizontal to the motorboard; if the headshell rises, turn the main weight to the right (seen from behind). If it lowers, turn it to the left.
- Be very careful not to subject the stylus to undue shock during the tonearm horizontal balancing.
6. Once the tonearm's horizontal balance has been achieved, return the tonearm to the arm rest.

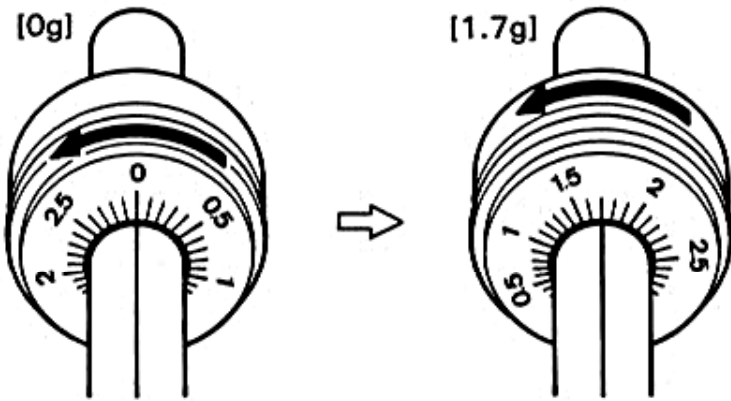


Depending on the sales area, this unit may not be supplied with a cartridge. Refer to page 8 when replacing the cartridge of your choice on the tonearm supplied.

Tracking-force adjustment

When the tonearm horizontal balance is achieved, a "0-gram" tracking-force is applied at the tip of the stylus. To apply the required positive force, you have to move the main weight toward the tonearm support pivot. For detailed tracking-force application and adjustment, observe the following procedures:

1. After undertaking horizontal balance, turn the tracking-force dial so that its "0" calibration is in line with the index on the weight shaft.
 2. Turn the main weight to the right until you obtain the necessary tracking-force. Since the tracking-force dial turns as the weight is turned, the applied tracking-force is indicated by the numerals on the dial above the index line on the weight shaft.
- * The proper tracking-force of the SANSUI AT-3100S cartridge supplied with this turntable is 1.7g. When you replace the cartridge, check the proper tracking-force in the cartridge's Operating Instructions.

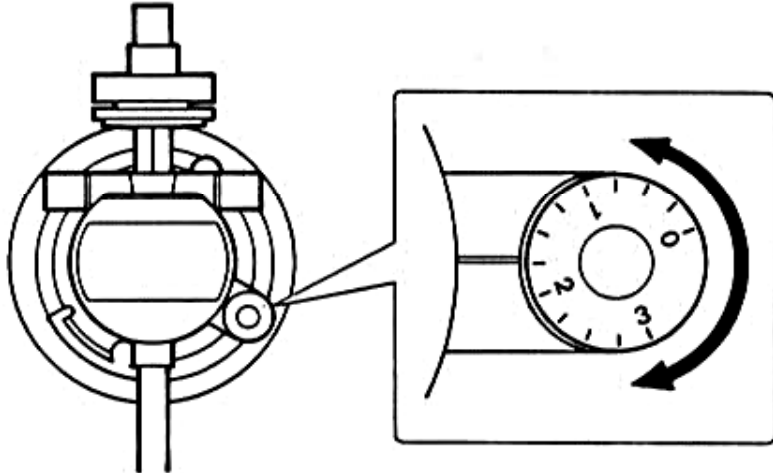


Anti-skating device adjustment

Skating force is the natural force, caused by rotation of a record or the platter, which pulls the tonearm toward the center spindle. The anti-skating device is the mechanism to balance this force to prevent excess wear and to assure proper disc reproduction.

To achieve anti-skating device adjustment, simply set the bias knob, so that the figure corresponding to the applied tracking force is in line with the index.

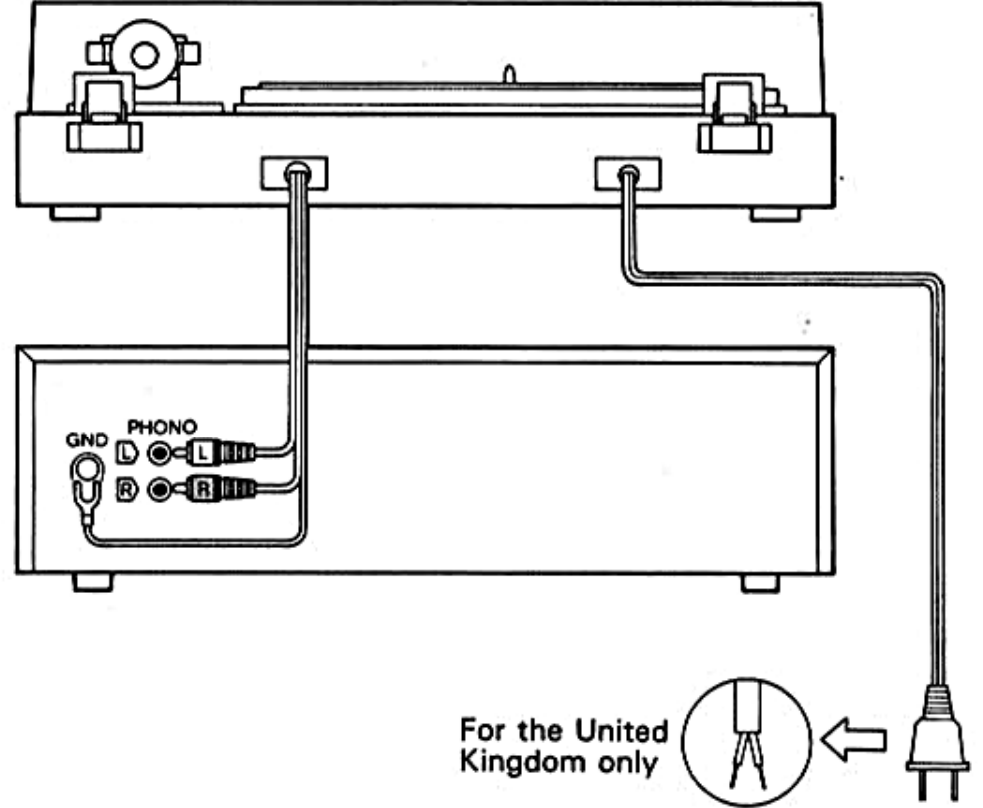
- * The procedure described above is sufficient for normal uses, though more critical adjustments may be necessary, depending on the condition of record surface. Should you notice significant difference in level and/or tone quality between the left and right channels, play once of the middle bands of a record and adjust the bias knob until the difference is minimized.



Connection with amplifier

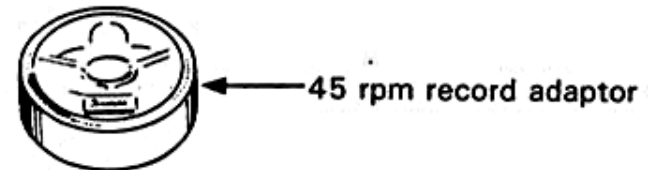
The pin plugs of the output cord projecting from the rear panel of the turntable are connected to the PHONO terminals on the amplifier. The red pin plug is for the right (R) channel and the white pin plug for the left (L) channel. Check the left and right channels to see that they have been connected properly. The vinyl wire with the Y lug is connected to the amplifier's GND (ground) terminal.

- * When connecting, either disconnect the power plug from the power outlet or turn off the unit's power using the POWER switch.
- * Insert the plugs securely. Improper connection can lead to the generation of noise.



45 rpm record adaptor

Take care not to lose the supplied 45 rpm (EP) record adaptor when not in use.



Controls and parts callouts



1 Motor Spindle

2 Rubber Mat

3 Platter

4 POWER Switch

When this switch is depressed, power is supplied to the unit; when depressed again, the power is turned off.

5 SPEED Selector Switch

This switch is set in accordance with the rotating speed of the record to be played. Each time the switch is pressed, the switches alternately between 33 rpm and 45 rpm, and the corresponding indicators light to show the speed selected.

* Whenever power is first turned on, the speed is reset to 33 rpm.

6 SIZE Selector Switch

This switch is set to match the diameter of the record being played. Each time the switch is pressed, the switches alternately between 30cm and 17cm, and the corresponding indicators light to show the size selected.

* Whenever power is first turned on, the side is reset to 30cm.

7 REPEAT Switch

Depress this switch for repeat play. The indicator above the switch lights and play is repeated automatically. When depressed again, the indicator goes off and repeat play function is released.

8 UP/DOWN Switch

Each time this switch is depressed, the tonearm alternates between an "up" motion and "down" motion. Use the switch to suspend play temporarily or skip tracks.

* This switch does not work while the tonearm is moving.

9 START/STOP Switch

When this switch is depressed, the platter starts to rotate, the tonearm moves automatically to descend onto the record and play begins. When depressed during play, the tonearm automatically returns to the arm rest and the platter stops rotating.

* The START/STOP indicator winks while the tonearm is moving.

10 Cartridge

11 Headshell

12 Locking Screw

13 Tonearm

14 Bias Knob (Anti-skating Device)

15 Arm Rest

16 Main Weight

Operating procedures

Operating precautions

- * The START/STOP indicator winks while the tonearm is operating automatically. Do not touch the tonearm while it is moving.
- * Whenever the power is first turned on, the turntable's rotation speed is automatically reset to 33 rpm, and the record size to 30 cm.
- * If the record size designated with the SIZE selector switch differs from the size of the record actual played, the stylus may be damaged by direct contact with the platter. In particular, whenever using record other than standard sizes (30 cm. LP, 17 cm: EP), use the manual play mode.
- * During play, if the UP/DOWN switch is pressed to raise the tonearm, the START/STOP switch will become inoperative.
- * During the time the START/STOP indicator is winking, neither the START/STOP switch nor the UP/DOWN switch will operate. In this case, wait until the tonearm operation ceases and the indicator goes out before pressing these switches.

Furnished cartridge

The cartridge (AT-3100S) supplied with the turntable is an MC (moving coil) type cartridge. When connecting this turntable to your amplifier, if the amplifier is equipped with an MC/MM selector switch, set it at the MC position.

MC cartridges are designed to use lower output voltages than those found with MM and IM cartridges. As a result, if this turntable is used on an amplifier without an MC/MM selector, the sound level may be less than that heard with other program sources (e.g. radio broadcasts and tape playback). In addition, the full performance of the MC cartridge cannot be delivered with such amplifiers. In this event, consult your dealer about the use of an MC auxiliary voltage transformer or an MC head amplifier.

Operation

Starting record play

Place the record on the platter and proceed as follows:

1. Depress the POWER switch to supply power to the unit.
2. If the cartridge is equipped with a stylus cover, remove the cover.
3. Set the SIZE selector switch to 30 (cm) or 17 (cm), in accordance with the size of record.
4. Set the SPEED selector switch to 33 (rpm), or 45 (rpm) in accordance with the rated speed of the record you want to listen to.
5. Play begins with auto or manual operation.

Auto: Depress the START/STOP switch. The platter rotates, the tonearm moves to the lead-in position and descends onto the record, and play starts from track 1.

The START/STOP indicator winks while the tonearm is operating.

Manual: Depress the UP/DOWN switch to raise the tonearm. Hold the headshell finger lift and move the tonearm across to the groove on the record where play is to begin. The platter will now start to rotate. When the UP/DOWN switch is depressed again, the tonearm will descend gently onto the record and play will begin.

Stopping record play

When play is completed: When the tonearm reaches the lead-out groove on the record, it automatically returns to the arm rest and the platter stops rotating.

When play is suspended: Depress the START/STOP switch. The tonearm returns to the arm rest and the platter stops rotating.

Repeat play

When the REPEAT switch is depressed for repeat play, the REPEAT indicator lights and the record is automatically played repeatedly. To release the repeat mode, either depress the REPEAT switch again or repeat the START/STOP switch and stop play.

- * During repeat operation, the tonearm will temporarily return to its rest, and then once again move to the lead-in position to begin play.

Specifications

Type.....	Direct-drive turntable
Rated speeds.....	33-1/3, 45 rpm
Platter.....	Aluminum alloy diecast, 308 mm (12-1/8") diameter, 1.5 kg (3.3 lbs.) weight
Motor	Coreless and Brushless DC/ Quartz PLL Servo
Wow/flutter.....	0.012% (WRMS)
Signal-to-noise ratio.....	Better than 78 dB (DIN-B) Better than 62 dB (IEC-B)
Tonearm	Statically-balanced type
Effective tonearm length.....	230 mm (9-1/16")
Power voltage	110 ~ 120V/220 ~ 240V (50/60 Hz)
For U.S.A. and Canada	120 V (60 Hz)
Power consumption.....	15W
Dimensions	430 mm (16-15/16") W 170 mm (6-11/16") H 418 mm (16-15/32") D
Weight.....	8.9 kg (19.6 lbs.) net 10.7 kg (23.5 lbs.) packed

Specifications of the cartridge (applicable only to the units with cartridge)

Model AT-3100S

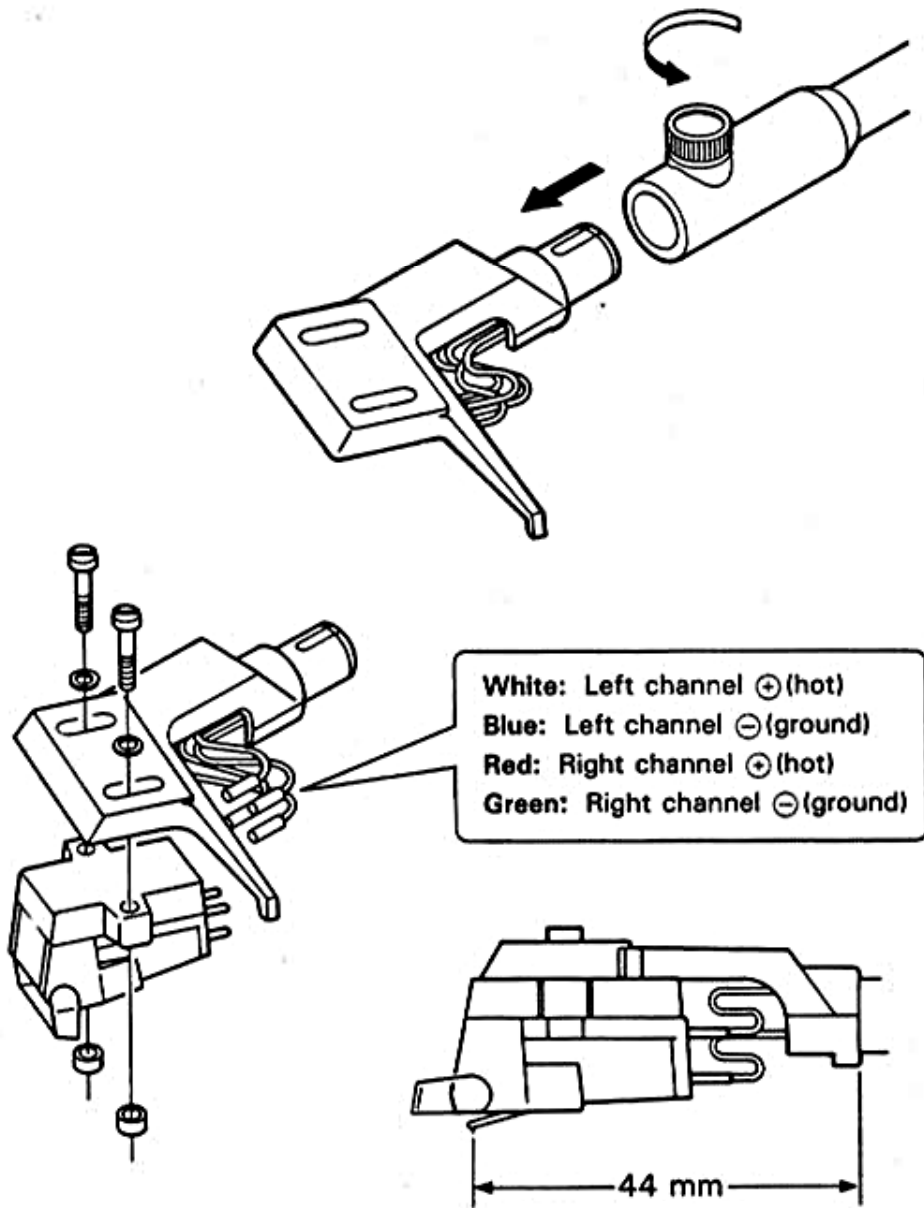
Type.....	MC (Moving Coil) type
Output voltage.....	0.4 mV (1,000 Hz, 35.4 mm/sec)
Correct load impedance	100 ohms
Frequency response.....	20 ~ 23,000 Hz
Tracking force	1.7 ± 0.3g
Stylus	0.5 mil diamond stylus (ATN-3100S replacement stylus)

- * Design and specifications subject to change without notice for improvements.

Some useful hints

Mounting the cartridge

1. Rotate the lock nut in the direction shown in the illustration, and remove the headshell from the tonearm.
2. Lightly attach the replacement cartridge in the headshell using the screws, washers, and nuts.
3. Connect the headshell's lead wires to the pins on the cartridge. The lead wires are color coded as shown; consult the operating instructions for the cartridge used and connect properly.
4. Adjust the cartridge position so that the stylus comes to the point shown in the illustration. Then tighten the screws to fix the cartridge in the headshell.
5. Insert the headshell securely in the tonearm, and rotate the lock nut to fasten it in place.



- * Adjustment of the replacement cartridge is necessary, since specifications differ. Perform adjustment of horizontal balance, tracking force, and the anti-skating device in accordance with procedures listed on page 4, 5.

Cleaning the records and stylus

Dust and dirt can damage your records and stylus, impair the sound quality and generate noise.

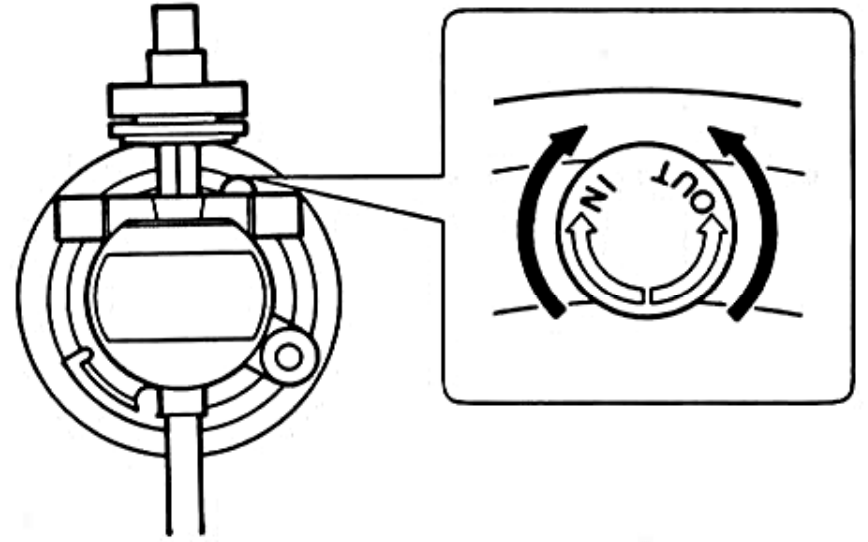
- * Use a cleaner to clean away all dirt and dust on your records. If you use a spray cleaner or static prevention agent, perform the cleaning operation properly.
- * Any dust and dirt on the stylus can be cleaned off with a soft brush. Use the brush carefully. Do not allow the stylus to sustain a shock. Do not apply unnecessary force to the tonearm.

Adjusting the auto lead-in

Before your unit left the manufacturing plant, the position where the stylus descends onto the record during auto lead-in was adjusted. However, it is possible to adjust this position even more finely using the auto lead-in adjustment knob at the side of the arm base.

When this knob is rotated counterclockwise (in the direction indicated by OUT), the position where the stylus descends is moved to the outside; conversely when rotated clockwise (in the direction indicated by IN), the position is moved to the inside. Take care not to rotate the knob too far since this may result in the stylus descending off the record or descending midway in the first track.

If it is set too far to the inside, the auto return function will not work.



Early stylus replacement

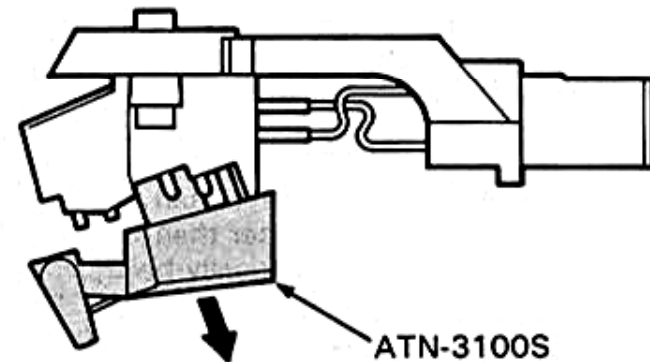
The diamond stylus attached to the cartridge lasts for about 500 hours of record play. When worn down, the sound will be distorted and buzz, and the record will be damaged. Obtain a genuine SANSUI replacement stylus from your audio dealer at an early date.

- * The replacement stylus for the accessory cartridge (AT-3100S) is the ATN-3100S.

Replacement method

Place the tonearm on its rest and attach the hook. Loosen the lock nut and remove the headshell, and pull the stylus holder in the direction shown in order to remove it.

Attach the replacement stylus gently in the reverse order, taking care not to touch the stylus.



Induced hum

Any nearby motor-equipped apparatus such as an electric sewing machine or fan, or a large power transformer may influence your turntable and cause booming hum. If you experience this, move the apparatus in question as far away as possible from the turntable. When placing the turntable next to your amplifier, hum will be reduced if you place it on the side of the amplifier opposite to the side where its transformer is located.