



AT-LP2022

Belt-Drive Turntable

User Manual

English

Introduction

This product can be used only in the countries where the product is sold. Make sure that the operating voltage and the plug of AC adapter of the product are correct for the country you live in.

Safety precautions

Although this product was designed to be used safely, failing to use it correctly may result in an accident. To ensure safety, observe all warnings and cautions while using the product.

Important information

Warning

- To prevent fire or shock hazard, do not expose this apparatus to rain or moisture.

Caution

- Do not expose this apparatus to drips or splashes.
- To avoid electric shock, do not open the cabinet.
- Refer servicing to qualified personnel only.
- Do not expose this apparatus to excessive heat such as sunshine, fire or the like.
- Do not subject this apparatus to strong impact.
- This apparatus should be located close enough to the AC outlet so that you can easily grasp the AC adapter at any time.
- In case of emergency, disconnect the AC adapter quickly.
- Do not place any objects filled with liquids, such as vases, on this apparatus.
- To prevent fire, do not place any naked flame sources (such as lighted candles) on this apparatus.
- Do not install this apparatus in a confined space such as a bookcase or similar unit.
- Install this apparatus only in the place where ventilation is good.
- The rating label is put on the bottom of this apparatus.

For customers in the USA

FCC Notice

Warning

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.

Caution

You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.

Safety precautions

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.

Contact

Responsible Company: Audio-Technica U.S., Inc.
Address: 1221 Commerce Drive, Stow, Ohio 44224, USA
Tel: 330-686-2600

For customers in Canada

ISED statement

CAN ICES-003(B)/NMB-003(B)

Notes on use

Turntable body

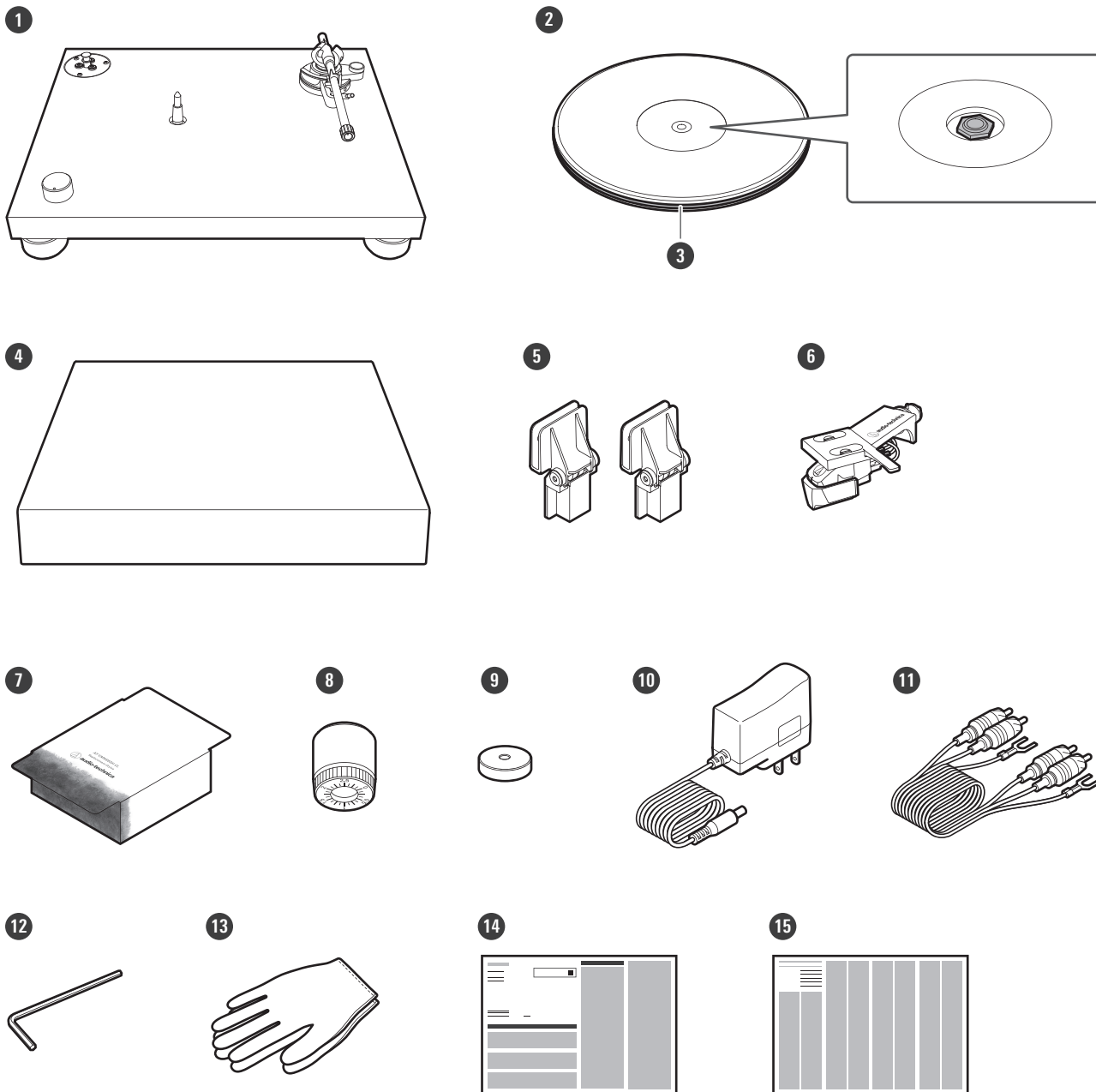
- Do not set and use the product in locations that are considerably hot or humid, dirty, or subject to extreme vibrations.
- The product should be positioned on a flat, level surface.
- When closing the dust cover, close it completely.

Cartridge

- Attach the provided protector to the cartridge when the product is not in use.
- Do not touch the stylus of the cartridge with your finger.
- Do not allow the cartridge's stylus to bump against the platter or the edge of the record.

Package contents

- Make sure that you have all the included items before using this product.
- If some items are missing or damaged, contact your local Audio-Technica dealer.
- After purchase, we suggest that you save all packaging materials for possible future storage, moving, or shipping.



1 Turntable body

2 Platter (with drive belt)

Remove the protective sheet before use.

The side where you can see the hexagonal nut (see figure) is the back side of the platter. Be mindful of the front and back when installing.

3 Drive belt

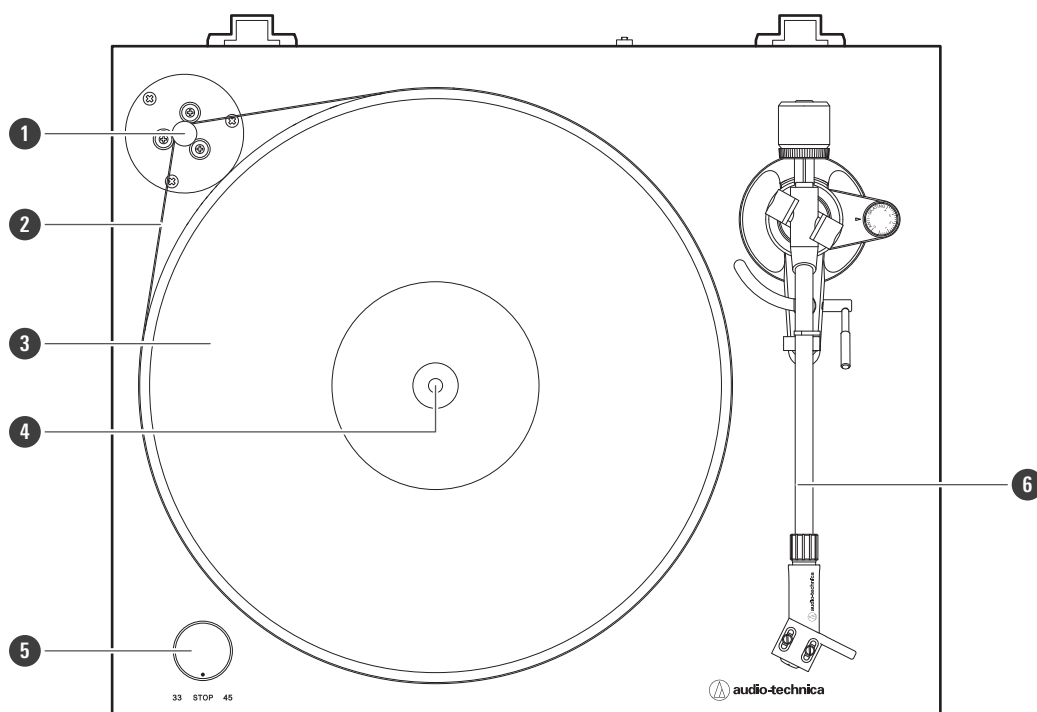
4 Dust cover

Package contents

- 5 Dust cover hinges
- 6 Headshell (AT-HS4 SV) with VM stereo cartridge (AT-VM95E BK)
- 7 Replacement stylus (AT-VMN95SH CL)
- 8 Counterweight
- 9 45 RPM adapter
- 10 AC adapter (Approx. 1.5 m (4.9'))
- 11 RCA audio cable (Approx. 1.0 m (3.3'))
- 12 Hexagonal wrench (For tonearm height adjustment)
- 13 Gloves
- 14 Quick Start Guide
- 15 Caution Guide

Part names and functions

Top view



1 Motor pulley

2 Drive belt

3 Platter

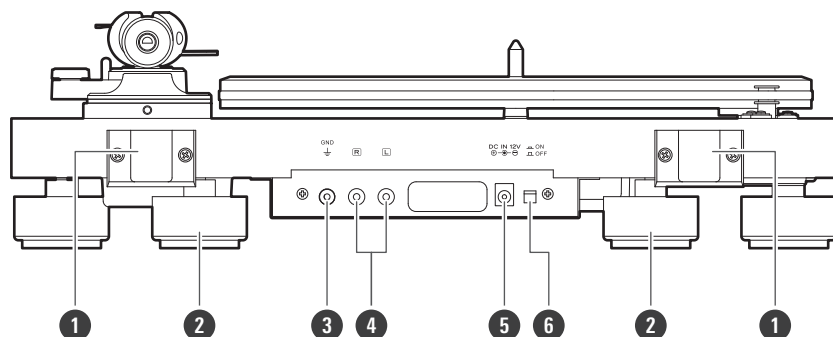
4 Spindle

5 Control knob

Use to select the platter speed (33-1/3 or 45 RPM) or start/stop the platter.

6 Tonearm

Rear view



1 Dust cover hinge holders

Attachment points for dust cover hinges.

2 Feet

Adjust the level of the product.

3 Ground (earth) terminal

Connect the amplifier's ground (earth) terminal to this terminal using the RCA audio cable's ground line.

4 Stereo output terminals

Connect the RCA audio cable. Connect it to the amplifier's PHONO input jack. The red terminal is the right channel and the white terminal is the left channel.

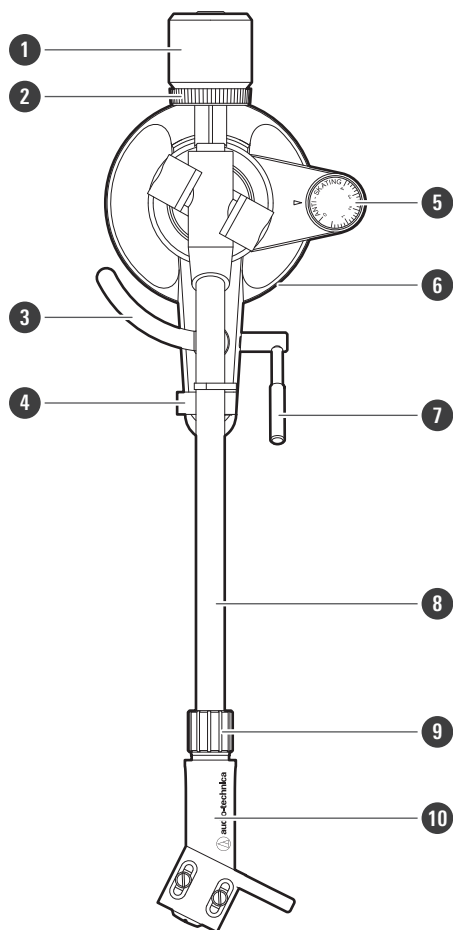
5 Power input jack

Connect the AC adapter.

6 Power switch

Turn on/off the power.

Tonearm



1 Counterweight

Balances the tonearm and adjusts to provide the proper tracking force.

2 Tracking force gauge ring

Use to adjust the tracking force.

3 Tonearm lift

Moves the tonearm vertically to and from the face of the record.

4 Tonearm rest with clamp

Use the clamp to secure the tonearm so that it does not move.

5 Anti-skate control dial

While the record is playing, a force acts on the stylus tip to pull it inward. This force can be counteracted by setting the same values for anti-skate and the tracking force.

6 Tonearm height adjustment socket

7 Tonearm lift control lever

Operates the tonearm lift.

8 Tonearm

Part names and functions

9 Locking ring

Rotate the ring to the left (counterclockwise) to secure the headshell. To remove the headshell, rotate the ring to the right.

10 Headshell and cartridge

The cartridge is attached to the headshell.

Preparation for use

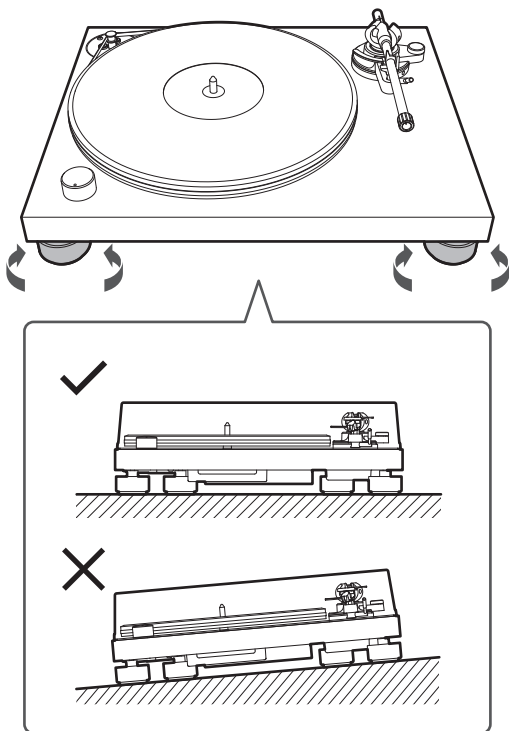
Setting up the turntable

- Position the product on a level surface.
- To avoid the effects of vibrations and acoustic pressure, do not mount the product next to such items as speakers.
- The product may pick up radio static if placed next to a radio. Therefore, try to keep the product away from radios.
- If the product is near equipment (cell phone, etc.) that emits strong radio waves, noise may occur.
- Use the included gloves to avoid fingerprints on the product.

Leveling the turntable

After positioning the product where you want to use it, adjust the feet so that the product is level.

- Use a level (sold separately) as needed to ensure that the product is level.



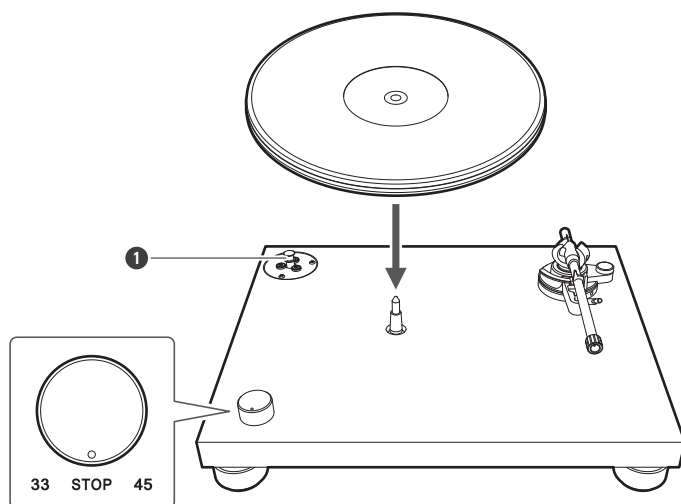
Placing the platter

This product requires some assembly before using it for the first time. Do not connect the AC adapter until assembly is complete.

Preparation for use

1 With the power turned off, set the platter on the spindle.

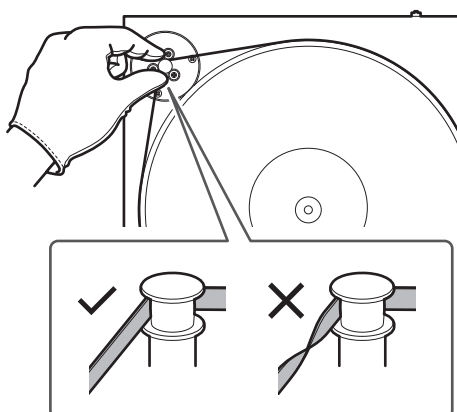
- Make sure that the control knob is in the "STOP" position.
- Do not mistake the front and back of the platter. The side where you can see the hexagonal nut is the back side of the platter.
- To avoid damaging the spindle when seating the platter, align the positions of the spindle and the platter's hole, and then slowly seat the platter.
- Make certain that the platter is fully seated on the spindle.



1 Motor pulley

2 Attach the drive belt to the motor pulley.

- Make sure that the belt does not get twisted.
- The belt is pre-installed on the side of the platter. If it is dislodged, attach it to the side of the platter and then to the motor pulley.



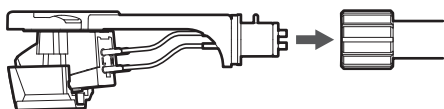
Assembling the tonearm

1 Remove the cable tie used to secure the tonearm at the time of delivery.

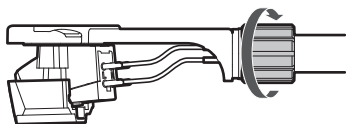
- Use the clamp to temporarily secure the tonearm to the tonearm rest.

2 Insert the headshell into the tonearm.

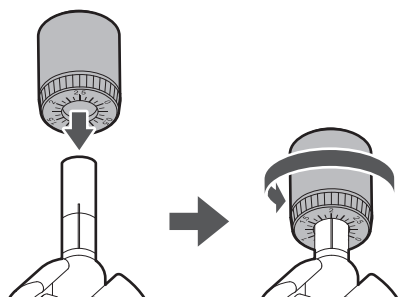
- Hold the right and left edges of the headshell so that you do not damage the stylus or cut the cartridge's wires.



3 With the headshell inserted, turn the locking ring counterclockwise (to the left).



4 Attach the counterweight to the back of the tonearm and slowly turn it counterclockwise (to the left).



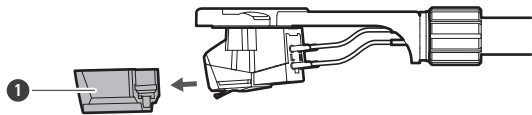
Tonearm balance and tracking force

In order for the cartridge to pick up sound correctly from the record's grooves, the tonearm's balance and tracking force must be adjusted to fit the specifications of the cartridge. If the tonearm's balance and tracking force are not properly adjusted, the record or the cartridge's stylus may become damaged.

- Do not drag the cartridge's stylus across the record or platter when adjusting the tonearm's balance or tracking force. Doing so may damage the stylus.

Setting tonearm balance

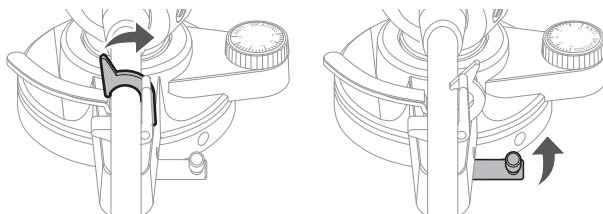
- 1 Remove the cartridge's protector.**



1 Protector

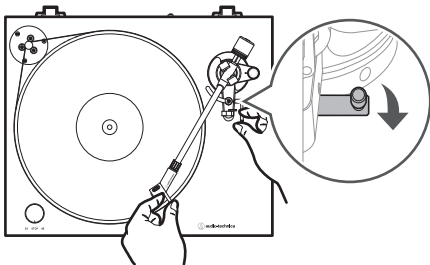
- 2 Remove the clamp and lift the tonearm lift control lever.**

- The tonearm is tilted because the balance has yet to be adjusted.



- 3 Move the tonearm over the platter. Lower the tonearm lift control lever while holding the headshell.**

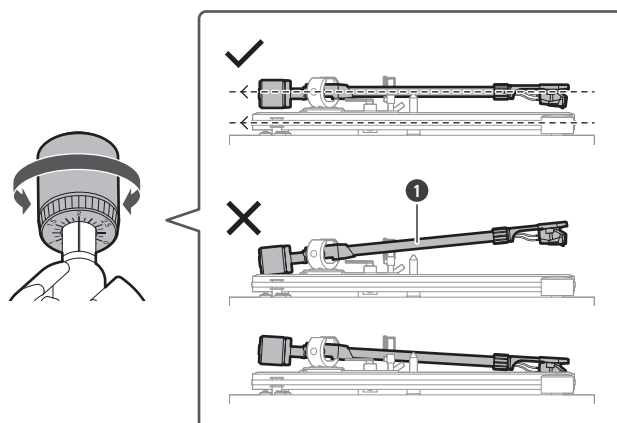
- Be careful not to allow the stylus tip to touch the platter.



- 4 While still lightly holding the headshell, turn the counterweight to adjust the tonearm's balance.**

- Adjust the balance so that the tonearm is level when you release the headshell.

Preparation for use



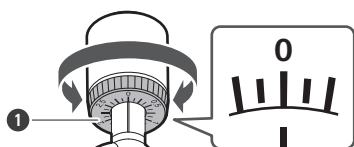
1 Tonearm

5 Return the tonearm to the tonearm rest.

Setting tracking force

1 While supporting the counterweight so that it does not move, turn the tracking force gauge ring so that its "0" position lines up with the centerline on the back of the tonearm.

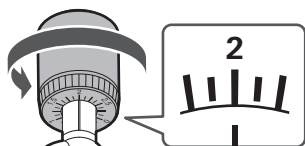
- The tracking force is not adjusted simply by turning the tracking force gauge ring.



1 Tracking force gauge ring

2 Turn the counterweight and the tracking force gauge ring counterclockwise (to the left) to set the tracking force to the recommended tracking force value for the cartridge you are using.

- Refer to the cartridge maker's specifications for the recommended tracking force value.
- The tracking force value for the cartridge provided with this product is 2.0 g.

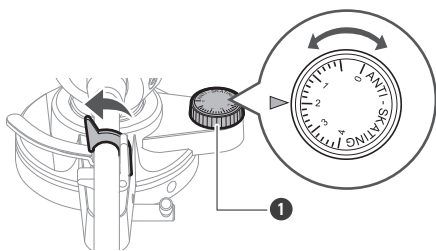


Setting the anti-skate adjustment

While the record is playing, a force acts on the stylus tip to pull it inward. This force can be counteracted by setting the same values for anti-skate and the tracking force.

1 Adjust the anti-skate control dial to have the same value as the tracking force value.

- The tracking force value for the cartridge provided with this product is 2.0 g.

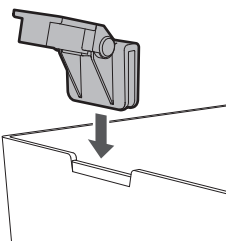


1 Anti-skate control dial

Installing the dust cover

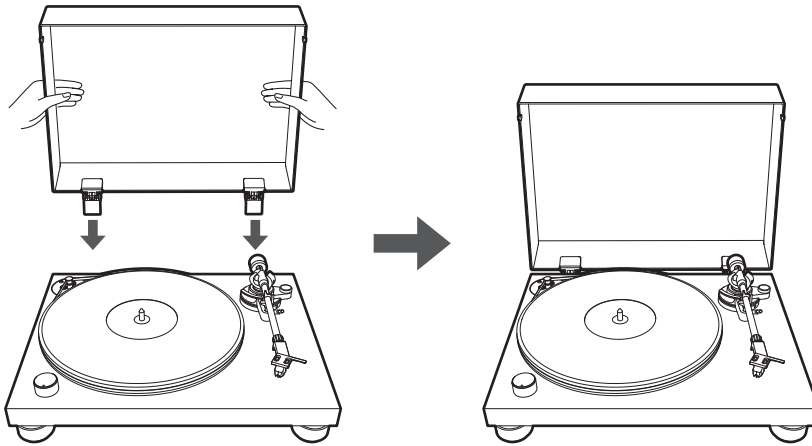
The dust cover is designed to protect the product's sensitive components when the product is not in use.

1 Attach the dust cover hinges to the slots on the dust cover.



2 Insert the hinges of the dust cover into the two dust cover hinge holders on the back of the body.

Preparation for use



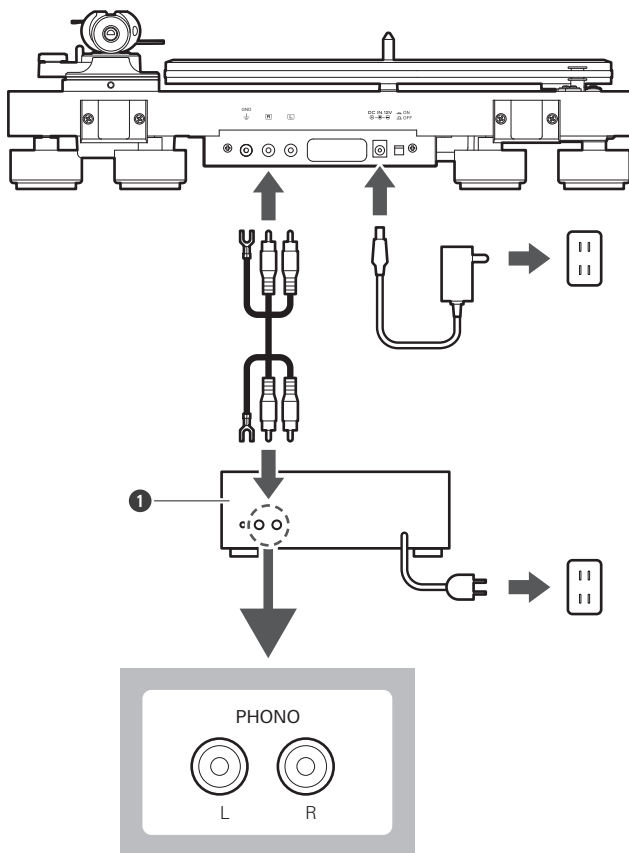
- When removing the dust cover, slowly pull the dust cover out from the dust cover hinge holders on the body.
- The dust cover should remain open or off while records are playing.

Using the product

This product does not have a built-in phono equalizer function. Connect the RCA audio cable to the PHONO input terminal of a phono equalizer or an amplifier with a built-in phono equalizer.

Connecting to a phono equalizer or an amplifier with built-in phono equalizer

- The RCA audio cable's red jack is for the right (R) channel, and the white jack is for the left (L) channel.



- 1 Phono equalizer or amplifier with built-in phono equalizer



- Depending on the equipment you are connecting, a ground (earth) terminal may exist near the phono input jack. If this is the case, connect to it using the ground line from the RCA audio cable. This will help prevent a low humming noise that might otherwise be heard during playback.

Before playing a record

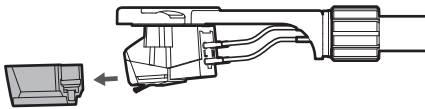
- 1 Plug the AC adapter into an outlet.

Using the product

- For safety, raise the tonearm by lifting the tonearm lift control lever to the UP position.
- Make sure that the power switch is off and the control knob is in the “STOP” position. If the power switch remains on while the AC adapter is connected, a standby current is always running through the product, even when it is not being used.

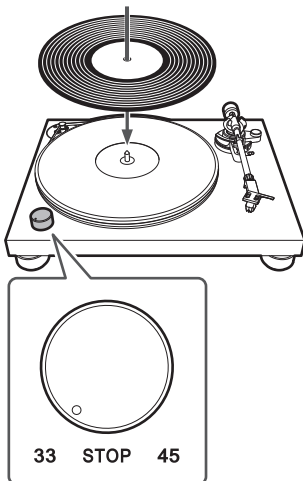
2 Remove the cartridge's protector.

- Pull the protector straight forward to remove it.
- If the tonearm is fixed to the tonearm rest, remove the clamp.



3 Place the record on the platter so that the center hole aligns with the spindle.

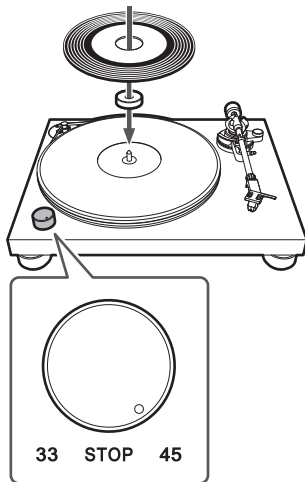
At 33-1/3 RPM



At 45 RPM

To play a 45 RPM record, attach the 45 RPM adapter.

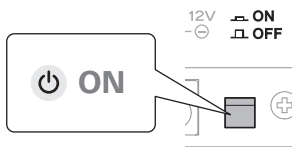
Using the product



Playing a record

Lower the volume of the amplifier, active speakers, etc. sufficiently.

1 Turn on the power switch.



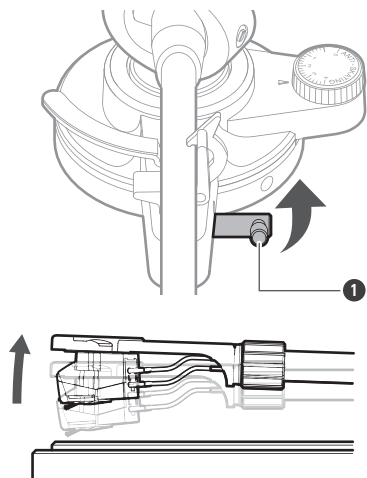
2 Use the control knob to select the speed.

- Select "33" for a 33-1/3 RPM record and "45" for a 45 RPM record.

» The platter begins spinning.

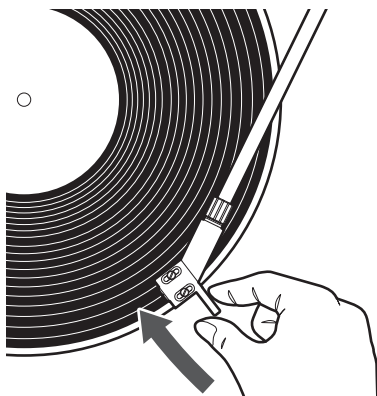
3 Raise the tonearm by lifting the tonearm lift control lever to the UP position.

Using the product



❶ Tonearm lift control lever

4 Position the tonearm over the desired location (groove) on the record.



5 Lower the tonearm by moving the tonearm lift control lever to the DOWN position.

- Alternatively, you can skip steps 3 and 4, and use your fingers to lift the headshell, move the tonearm over the desired location on the record, and then place the headshell down to begin playing the record.
- Do not subject the product to strong impact during playback.

» The tonearm descends slowly onto the record and play begins.

Pausing the record

1 After lowering the volume of the amplifier, etc., sufficiently, lift the tonearm with the tonearm lift control lever.

Stopping the record

- 1** Lower the volume of the amplifier, etc. sufficiently.
- 2** Lift the tonearm lift control lever.
- 3** Return the tonearm to its original position and fix it with the clamp.
- 4** Turn the control knob to the “STOP” position.
 - The platter slows down and rotation stops.
- 5** Remove the record after the platter has come to a complete stop.
- 6** Attach the protector.



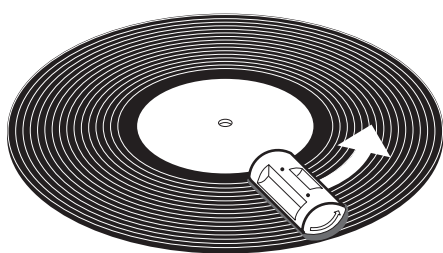
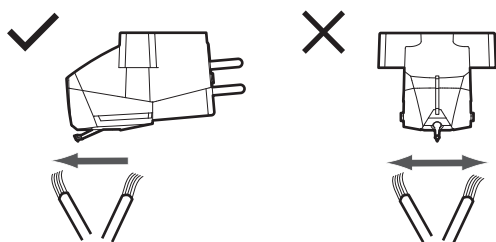
- If the platter gets dirty, it can easily scratch the record, so remove the platter periodically and wipe off any dust.
- To prevent the record from becoming scratched or warped, remove it after use.
- Do not use a disk stabilizer.
- Do not use a platter other than the one provided.
- This product is not intended for DJs. Do not touch the record or the platter while the record is playing.

Turntable body

- When the turntable body is dirty or dusty, first turn off the power switch, disconnect the AC adapter, and then wipe off the dirt and dust with a soft, dry cloth.
- Do not use alcohol, benzenes, thinners, etc.
- If the platter gets dirty, it can easily scratch the record, so remove the platter periodically and wipe off any dust.
- When storing the product for a long time, first turn off the power switch, disconnect the AC adapter from the outlet, and then wrap the equipment in plastic; do not allow it to become damp.

Stylus tip and records

- If dirt and grime are stuck to the stylus tip, clean it as needed. To clean the stylus, first turn the control knob to the "STOP" position, turn off the power switch, and then disconnect the AC adapter from the outlet.
- We recommend using a stylus cleaner (sold separately by Audio-Technica) if the stylus tip is considerably dirty. Clean the stylus tip by moving the brush from the rear to the front of the stylus tip.
- For more details on record and stylus cleaners (sold separately by Audio-Technica), please visit the Audio-Technica website (<https://www.audio-technica.com/>).



Replacing the stylus

A replacement stylus (AT-VMN95SH CL) is included with the product. We recommend using this replacement stylus for improved sound while listening to your records.

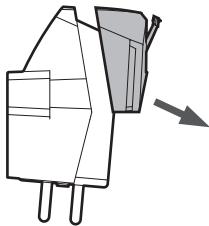
Removing the stylus

- In addition to the deterioration of sound quality, records may also be damaged as the cartridge's stylus tip wears down.
- As a rule of thumb, replace the stylus after 300 hours of use.
- Be sure to first turn off the power switch, and then disconnect the product's AC adapter from the outlet.
- When replacing the stylus, hold the headshell and the cartridge body firmly.

1 Release the headshell from the tonearm.

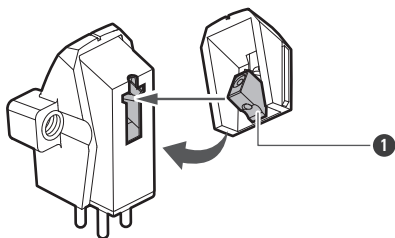
- Fix the tonearm with the clamp and then remove the headshell gently.

2 After removing the cartridge's protector, remove the stylus by pulling it in the direction of the arrow without touching the cantilever, stylus tip, or magnet.



Installing a new replacement stylus

1 Mount the new replacement stylus to the cartridge.



- ① Align the position of the inner protrusion.

2 Mount the headshell onto the tonearm.

Replacing a cartridge

- Refer to the user manual for the cartridge that you will be using if you are replacing the cartridge with a commercially available one.
- After you replace the old cartridge with a new one, you must readjust the overhang and the tonearm's balance and tracking force.

1 Release the headshell from the tonearm.

- Use the clamp to secure the tonearm and then remove the headshell gently.

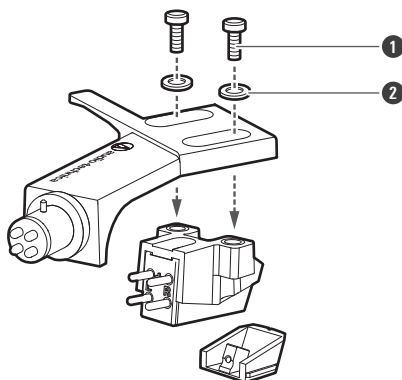
2 Remove the stylus from the cartridge.

3 Remove the lead tips.

- Be careful not to damage the lead tips.

4 Using a commercially sold, non-metallic slotted screwdriver, remove the installation screws, and then remove the cartridge from the headshell.

5 Refer to the user manual for the new cartridge for mounting instructions and connecting to the lead tips.



1 Installation screws

2 Plastic washers

6 Using a commercially sold, non-magnetic slotted screwdriver, loosen both of the installation screws, and then adjust the overhang.

- Refer to "Adjusting the overhang" (p. 28).
- After the adjustments are complete, tighten the screws securely.

7 Attach the headshell to the tonearm.

8 Adjust the tonearm balance and tracking force.

- Refer to "Setting tonearm balance" (p. 14) and "Setting tracking force" (p. 15) to adjust them.

Replacing the belt

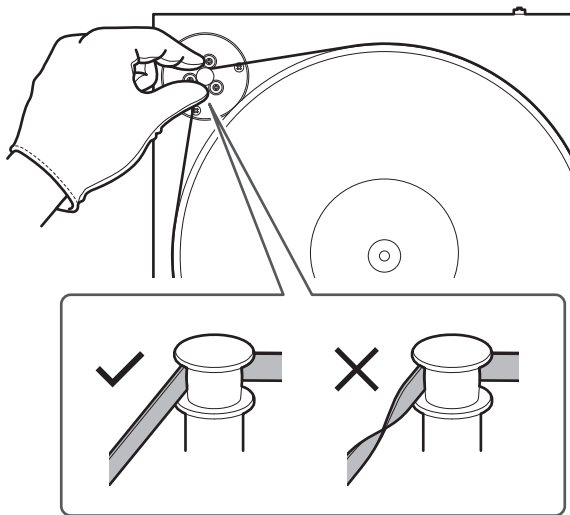
- The belt is a consumable part. Replace the belt if the speed of playback slows down or irregular rotation occurs. As a rule of thumb, we suggest replacing the belt once a year.
- Before replacing the belt, first turn off the power switch, and disconnect the product's AC adapter from the outlet.

1 Remove the belt from the motor pulley, and then remove the old belt.

2 Attach the new belt to the side of the platter.

3 Attach the drive belt to the motor pulley.

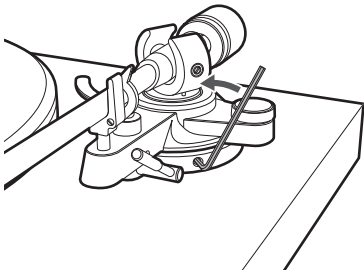
- Make sure that the belt does not get twisted.



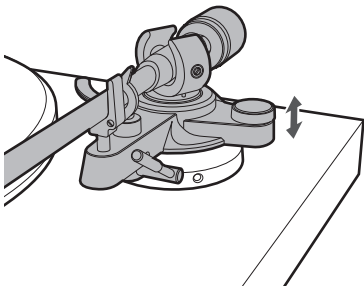
Adjusting the tonearm's height

When installing a cartridge other than the one provided, you must maintain a suitable distance between the cartridge and the surface of the record. Place the stylus with recommended tracking force on the record and confirm that the tonearm is parallel to the record's surface. If it is not parallel, adjust the height of the tonearm.

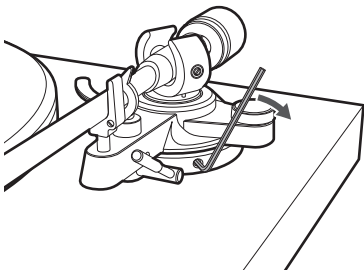
- 1** Insert the included hexagonal wrench into the tonearm height adjustment socket and turn it counterclockwise to unlock.



- 2** Adjust the tonearm height by manually lifting or lowering the tonearm assembly.



- 3** Reinsert the hexagonal wrench into the tonearm adjustment socket and turn it clockwise to lock the tonearm height.



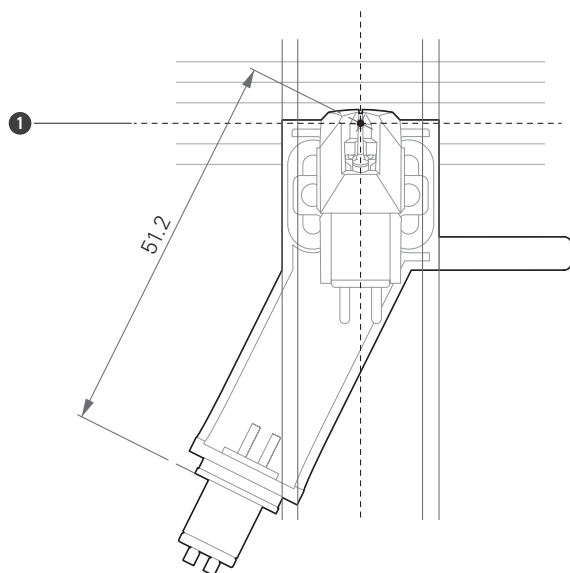
- 4** Place a record on the platter, position the cartridge over the record. Lower the stylus to the record surface, and confirm that the tonearm is parallel to the record's surface.

Adjusting the overhang

- The position of the cartridge must be accurately determined (adjusting the overhang) when mounting a cartridge or headshell other than the one provided.
- Please use a printer to print the PDF version of this page at equal size. Please note that the HTML version is not the actual size.

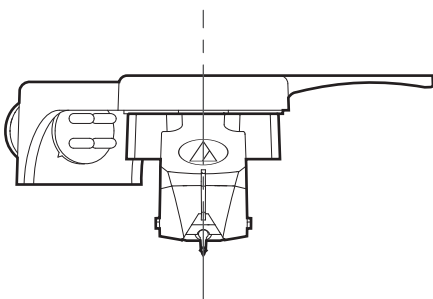
1 Mount the cartridge so it is parallel to the headshell.

- Match up the positions of the cartridge and headshell to the overhang adjustment guide on the figure and mount the cartridge so it is parallel to the headshell.
- This illustration represents the actual size (PDF version only).
- Place the headshell on the figure, and then adjust the position of the new cartridge so that the stylus tip aligns with the dotted lines in the figure.



① Stylus tip

2 Mount the cartridge so it is vertical to the headshell.



When the turntable is moved

Using the product's original packaging materials, pack the turntable in the reverse order of unpacking it. If you do not have the original packaging materials, take the following measures:

- After turning off the power switch, disconnect the AC adapter from the outlet, remove the platter, and then wrap the turntable body so that it does not get damaged. If the product is moved while the platter is still seated, it may damage the spindle.
- Fix the tonearm with the clamp.
- Remove the counterweight.
- Remove the headshell from the tonearm with the cartridge's protector attached, and then wrap the entire headshell assembly so that it does not get damaged.
- Wrap the turntable body with paper or a soft cloth so that it does not get damaged.

Troubleshooting

? The platter does not spin.

- Is the AC adapter connected to the outlet? Connect AC adapter to the outlet.
- Has the belt slipped from the platter? Correctly place the belt on the platter.
- Is the belt placed on the motor pulley? Check that the belt is placed on the motor pulley correctly.
- Has the belt been damaged? Replace it with a new belt.

? The platter spins, but there is no sound or the volume is not loud enough.

- Is the cartridge's protector still attached to the cartridge? Remove the cartridge's protector.
- Is the tonearm lifted? Lower the tonearm.
- Are the function settings and input for connected equipment (amplifier, etc.) selected correctly? Check whether the settings for the connected equipment are correct.
- Is the stylus damaged? Check the stylus and replace it, if necessary.
- Is the stylus placed correctly on the body of the cartridge? Check the cartridge and adjust it, if necessary.
- Is the tracking force set too heavy? Adjust the tracking force.

? The stylus skips.

- Is the tracking force set too light or too heavy? Adjust the tracking force.
- Is the anti-skate set improperly? Verify anti-skate is set for same value as cartridge tracking force.
- Is the record warped? Check the record.
- Is the record scratched? Check the record.
- Is the stylus dirty? Excessive accumulation of dirt and dust on the stylus affects the record's playback quality.

? There is howling.

- Is the product picking up excessive vibrations from the floor, surfaces of the walls, or nearby speakers? Decrease the vibrations or mount the product on a surface that is not subject to the effects of vibrations.
- Is the product mounted on an unstable surface? Check whether the surface on which the product is mounted is suitable.

? There is noise when the record is playing.

- Is there dust on the cartridge's stylus tip? If dust is stuck to the stylus tip, clean it with a commercially sold brush.

② The sound when the record is playing is either too fast or too slow.

- Are the speed settings for the product correct? Use the control knob to select the correct speed for the type of record being played.

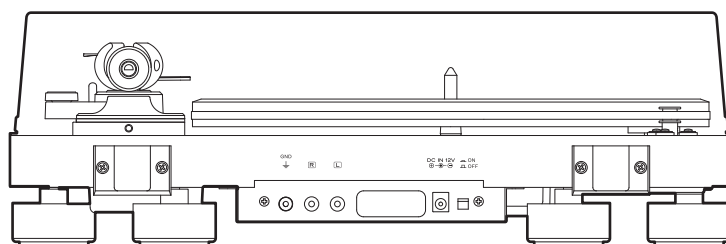
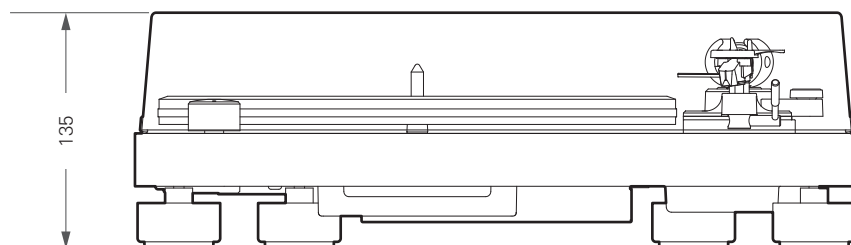
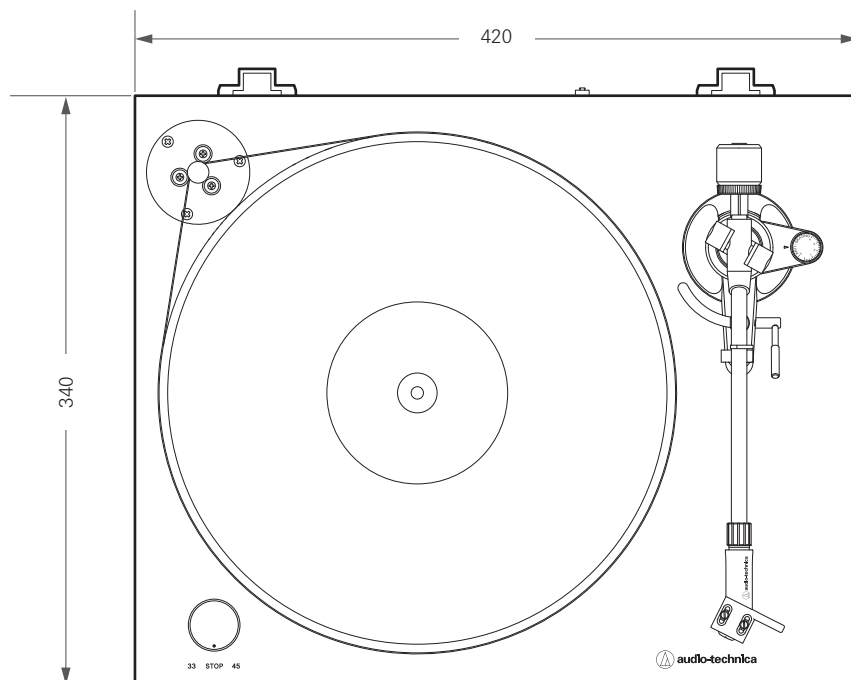
② Playing speed slows down or there is irregular rotation.

- Is the belt stretched out? Replace it with a new belt.

② Humming noise is heard during playback.

- Is the ground line connected correctly? Make sure the ground line is properly connected.
- If the noise continues, remove the ground line. This may reduce the noise.
- Is the headshell attached to the tonearm firmly? Make sure the locking ring is tight.

Dimensions



(Unit: mm)

Specifications

Turntable specifications

Type	Belt-drive manual turntable
Motor	DC servo with Active Speed Stabilization
Drive method	Belt drive
Speeds	33-1/3 RPM, 45 RPM
Turntable platter	16 mm-thick acrylic platter
Wow and flutter	< 0.15% WRMS (33 RPM) at 3 kHz
Signal-to-noise ratio	> 60 dB

Tonearm specifications

Type	Static balanced straight carbon tonearm
Effective length	223.6 mm
Overhang	18.6 mm
Maximum tracking error angle	Less than 2.0°
Stylus pressure adjustment range	0 to 3.0 g
Applicable cartridge weight range (including headshell)	11.5 to 16.5 g

Cartridge specifications (AT-VM95E BK)

Cartridge type	VM
Recommended load impedance	47,000 ohms
Frequency response	20 to 22,000 Hz
Output voltage	4.0 mV (mV at 1 kHz, 5 cm/sec)
Stylus	0.3 × 0.7 mil bonded elliptical stylus
Cantilever	Aluminum pipe
Tracking force range	1.8 to 2.2 g (standard 2.0 g)
Cartridge weight	6.1 g (0.22 oz)

Cartridge specifications (AT-VM95SH CL)

These specifications are for when a replacement stylus (AT-VMN95SH CL) is attached to the included cartridge.

Specifications

Cartridge type	VM
Recommended load impedance	47,000 ohms
Frequency response	20 to 25,000 Hz
Output voltage	3.5 mV (mV at 1 kHz, 5 cm/sec)
Stylus	2.7 × 0.26 mil Nude Shibata stylus
Cantilever	Aluminum pipe
Tracking force range	1.8 to 2.2 g (standard 2.0 g)
Cartridge weight	6.1 g (0.22 oz)

Headshell specifications

Headshell model	AT-HS4 SV
Headshell weight	8.5 g (0.30 oz) (including lead wires) 7.7 g (0.27 oz) (excluding lead wires)
Headshell overhang adjustment	± 5 mm

General specifications

Power supply requirements	100 to 240 V, 50/60 Hz, 0.5 A Max.
Power consumption	1.8 W
AC Adapter	12 V, 1.0 A
Dimensions	420 mm (17") × 340 mm (13") × 135 mm (5.3") (W × D × H)
Weight	8.0 kg (18 lbs)
Accessories	Dust cover, Platter (with drive belt), Dust cover hinges, Counterweight, Headshell (AT-HS4 SV) with VM stereo cartridge (AT-VM95E BK), Replacement stylus (AT-VMN95SH CL), 45 RPM adapter, RCA audio cable (Approx. 1.0 m (3.3')), AC adapter (Approx. 1.5 m (4.9')), Hexagonal wrench, Gloves
Replacement stylus (sold separately)	AT-VMN95E BK, AT-VMN95SH CL ^[1]
Replacement headshell (sold separately)	AT-HS4 SV
Replacement belt (sold separately)	AT-LP2022 exclusive belt

[1] The replacement stylus (AT-VMN95SH CL (clear color)) is a limited product of AT-LP2022. Repair parts are limited. Please note that we may not be able to fulfill your request for repair if repair parts are no longer available. In such cases, a commercially available replacement stylus (AT-VMN95SH (brown color)) can be used.

- For product improvement, the product is subject to modification without notice.

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