

Numark

OPERATING INSTRUCTIONS

TT500

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CAUTION!

TO PREVENT THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



IMPORTANT

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



NOTICE

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.

NOTICE

The apparatus shall not be exposed to dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on the apparatus.

Thank you for purchasing this Numark product.

Please read these operating instructions so you will know how to operate this equipment properly. After you have finished reading these instructions, keep them for future reference.

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

CAUTION:

This product satisfies FCC regulations when shielded cables and connectors are used to connect the unit to other equipment. To prevent electromagnetic interference with electric appliances such as radios and televisions, use shielded cables and connectors for connections.

IMPORTANT NOTICE:

RECORD THE MODEL NUMBER AND SERIAL NUMBER OF THIS EQUIPMENT BELOW.

MODEL NO:

SERIAL NO:

SAFETY PRECAUTIONS

READ INSTRUCTIONS

All the safety and operating instructions should be read before the product is operated.

RETAIN INSTRUCTIONS

The safety and operating instructions should be retained for future reference.

HEED WARNINGS

All warnings on the product and in the operating instructions should be adhered to.

FOLLOW INSTRUCTIONS

All operating and use instructions should be followed.

CLEANING

Unplug this product from the wall outlet before cleaning. The product should be cleaned only with a polishing cloth or a soft dry cloth. Never clean with furniture wax, benzene, insecticides or other volatile liquids since they may corrode the cabinet.

ATTACHMENTS

Do not use attachments not recommended by the product manufacturer as they may cause hazards.

WATER AND MOISTURE

Do not use this product near water - for example, near a bathtub, washbowl, kitchen sink, or laundry tub; in a wet basement; or near a swimming pool; and the like.

ACCESSORIES

Do not place this product on an unstable cart, stand, tripod, bracket, or table. The product may fall, causing serious injury to a child or adult and serious damage to the product. Use only with a cart, stand, tripod, bracket, or table recommended by the manufacturer, or sold with the product. Any mounting of the product should follow the manufacturer's instructions, and should use a mounting accessory recommended by the manufacturer.

CART

A product and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the product and cart combination to overturn.

POWER SOURCES

This product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply to your home, consult your product dealer or local power company.

LOCATION

The appliance should be installed in a stable location.

NONUSE PERIODS

The power cord of the appliance should be unplugged from the outlet when left unused for a long period.

GROUNDING OR POLARIZATION

If this product is equipped with a polarized alternating current line plug (a plug having one blade wider than the other), it will fit into the outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug. If this product is equipped with a three-wire grounding type plug, a plug having a third (grounding) pin, it will only fit into a grounding type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the grounding type plug.

POWER-CORD PROTECTION

Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the product.

OUTDOORS ANTENNA GROUNDING

If an outside antenna or cable system is connected to the product, be sure the antenna or cable system is grounded to provide some protection against voltage surges and built-up static charges. Article 810 of the National Electrical Code, ANSI/NFPA 70, provides information with regard to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna-discharge unit, connection to grounding electrodes, and requirements for the grounding electrode.

LIGHTNING

For added protection for this product during a lightning storm, or when it is left unattended and unused for long periods, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the product due to lightning and power-line surges.

POWER LINES

An outside antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can fall into such power lines or circuits. When installing an outside antenna system, extreme care should be taken to keep from touching such power lines or circuits, as contact with them might be fatal.

OVERLOADING

Do not overload wall outlets, extension cords, or integral convenience receptacles as this can result in a risk of fire or electric shock.

OBJECT AND LIQUID ENTRY - Never push objects of any kind into this product through openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock. Never spill liquid of any kind on the product.

SERVICING

Do not attempt to service this product yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

DAMAGE REQUIRING SERVICE

Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:

When the power-supply cord or plug is damaged.

If liquid has been spilled, or objects have fallen into the product.

If the product has been exposed to rain or water.

If the product does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to its normal operation.

If the product has been dropped or damaged in any way.

When the product exhibits a distinct change in performance - this indicates a need for service.

REPLACEMENT PARTS

When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, or other hazards.

SAFETY CHECK

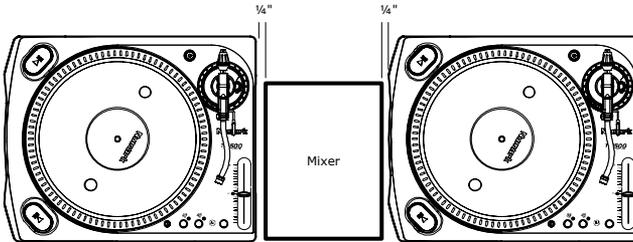
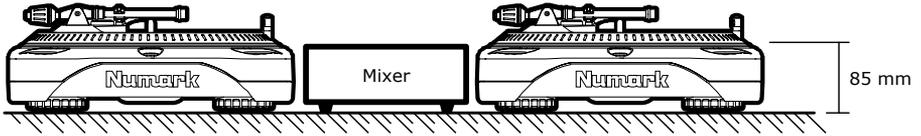
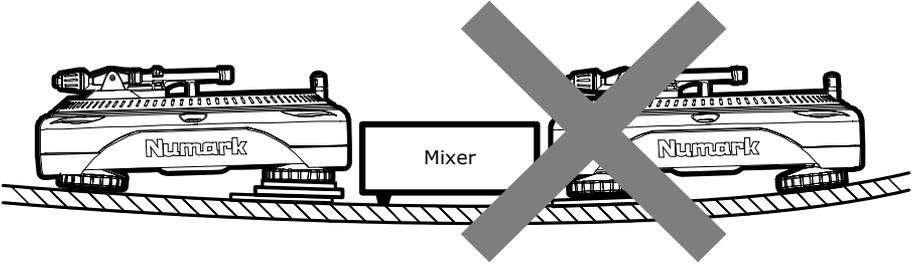
Upon completion of any service or repairs to this product, ask the service technician to perform safety checks to determine that the product is in proper operating condition.

HEAT

The product should be situated away from heat sources such as radiators, heat registers, stoves, or other products (including amplifiers) that produce heat.

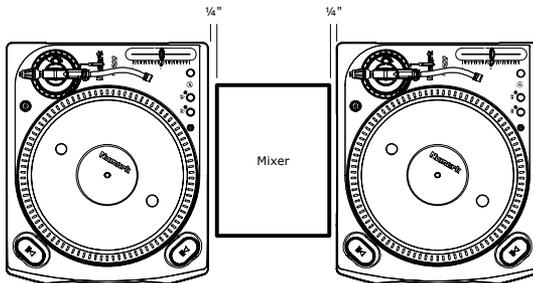
SETUP & INSTALLATION

This turntable has been designed exclusively for DJ use and can be setup in a variety of different ways depending on your mixing style. The turntable should rest on a level and stable surface that is clear of obstructions. If a mixer is placed between two turntables make sure that there is at least $\frac{1}{4}$ " (7mm) between the mixer and the turntables to prevent damage to the turntables and to reduce unwanted system noise.



Setup Style 1 (traditional)

Best For:
Long mixes and blending techniques



Setup Style 2 (battle style, scratching)

Best For:
Scratching, cutting, and aggressive mixing techniques

There are many variations of these setups. Find the best setup that works for your mixing style by experimenting with different turntable and mixer placements. It is strongly recommended that the top mixer surface and the top flat surface of the turntable be at the same level.

CONTROLS

General Controls

1. Power Button

This button turns on the turntable when pressed. It illuminates blue when the turntable is switched on.

2. Platter

This turntable has a special edge design that has been optimized for "dragged" platter slow downs. (NOTE: The pattern will appear to stand still when the Pitch Range is set to 0% and the Target Light is being used.)

3. Start/Stop Buttons

These buttons start and stop the turntable motor. Both buttons have the same function.

4. Reverse Button

Pushing this button down will reverse the rotation direction of the turntable platter.

5. Strobe Target Light and Power Jack

This aluminum light can be rotated depending on the head shell position and the amount of light required on the vinyl record surface. The light also strobes against the platter edge making the pattern appear to stand still when the Pitch Range is at 0%.

6. 33 and 45 RPM Buttons

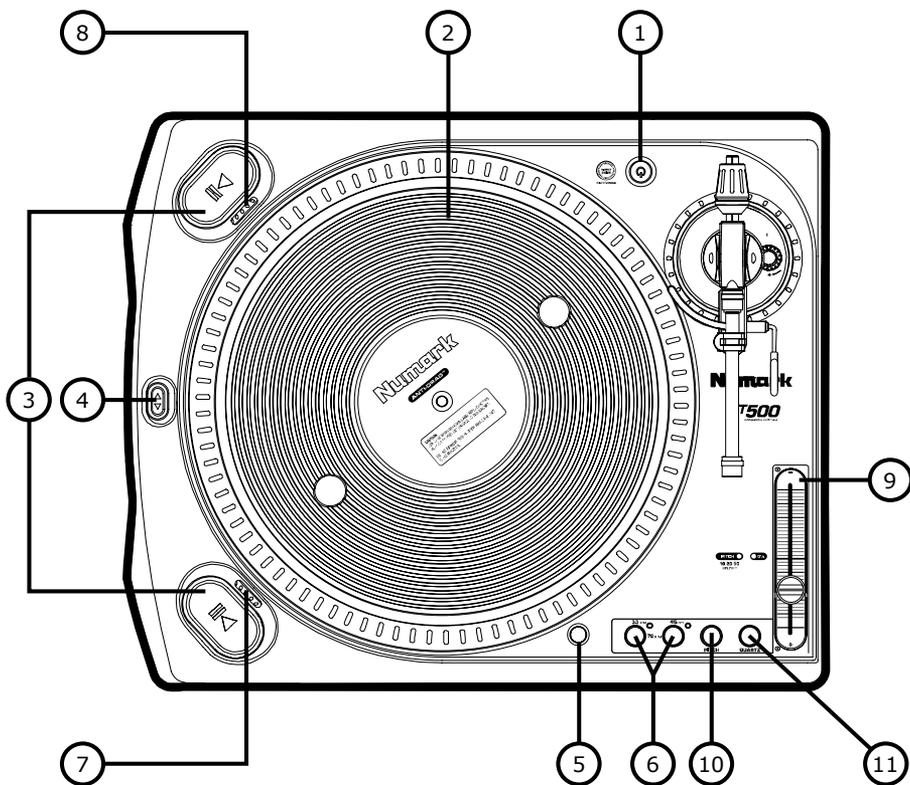
These buttons control the RPM of the turntable platter. When both of the 33 and 45 RPM buttons are pressed, the 78 RPM mode will engage.

7. Start Time Adjuster

This control can be rotated to increase or decrease the startup time of the motor.

8. Braking Time Adjuster

This control can be rotated to increase or decrease the stopping time of the motor.



CONTROLS continued

9. Pitch Fader

This slide control allows the pitch of the playback source to be changed. In the center position the pitch is at 0%. Moving the fader knob closer to you will increase the pitch. The Pitch Slider is enclosed in an Interchangeable/Replaceable Cartridge.

10. Pitch Button

This button allows the turntable pitch range of the pitch fader to be adjusted.

11. Quartz Button

This button locks the pitch at 0% using Quartz Motor Control when it is pressed.

Tone Arm Parts

12. Counterweight and Scale Ring and S-Weight

The Counterweight is used to balance the head shell and cartridge assembly so that the proper amount of stylus pressure is applied to the record. The S-Weight should be used in most cases when the S-Shaped tube is used. It is fastened to the tonearm by threading it into the rear weight balance shaft. The S-weight can be stored below the counterweight in the top cabinet while not in use.

13. Height Adjust Ring

Turning this ring counter-clockwise raises the tonearm up to 6mm to accommodate for different Slipmat thicknesses. This ring can not be adjusted unless the Height Lock Lever (12) is unlocked.

14. Height Lock Lever

Turning this lever towards the direction of the arrow (clockwise) unlocks the Height Adjust Ring (11) so that the tonearm height can be adjusted.

15. Anti-Skate Adjustment

This knob is used to compensate for inward tracking forces. See tonearm setup for more details on its settings.

16. Secondary Tube Lock Collar

This collar is used to secure the tonearm tubes (straight or s-shaped) to the tonearm assembly.

WARNING:

DO NOT OVERTIGHTEN THIS LOCK COLLAR!

WARNING:

CONNECTING HEADSHELLS TO THIS COLLAR MAY DAMAGE THE INTERNAL PIN HEIGHTS OF THE CONTACTS! ONLY CONNECT NUMARK TUBES TO THE SECONDARY TUBE LOCK COLLAR.

17. Arm Clip

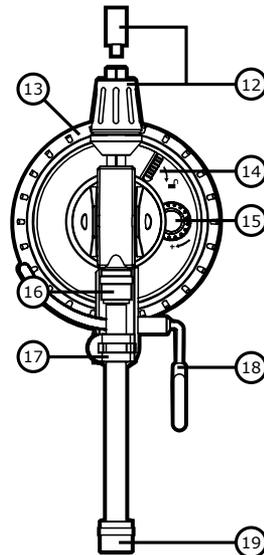
This specially designed arm clip secures the tone arm while it is being transported or not in use. The arm clip has been designed to remain in the up position while unlocked.

18. Tonearm Cue System

This cueing system allows the tone arm to be positioned at a certain point above the record and slowly engaged. When the lift lever is in the up position the tone arm should rest on the armrest. When the lift lever is lowered, the tone arm is slowly lowered until the stylus is resting on the record.

19. Tone Arm Lock Nut

This Aluminum nut is used to secure the head shell and cartridge assembly to the tone arm tube. See cartridge setup for more details.



CONTROLS *continued*

Bottom Parts

20. Adjustable Rubber Dampening Feet

When all of the feet of the turntable are completely tightened, the top flat surface of the turntable will be at 85mm. Unscrewing these feet raises the turntable up to compensate for unlevelled surfaces.

21. Carrying Handles

These handles provide a secure grip so that the turntable may be comfortably transported.

22. Voltage Selector

This switches the internal voltage transformer between 115V, 230V and 240V. The turntable should be shipped with the proper voltage setting for your region. Check that the switch is in the proper voltage before connecting the IEC power cord to prevent damage to the turntable.

23. IEC Power Terminal

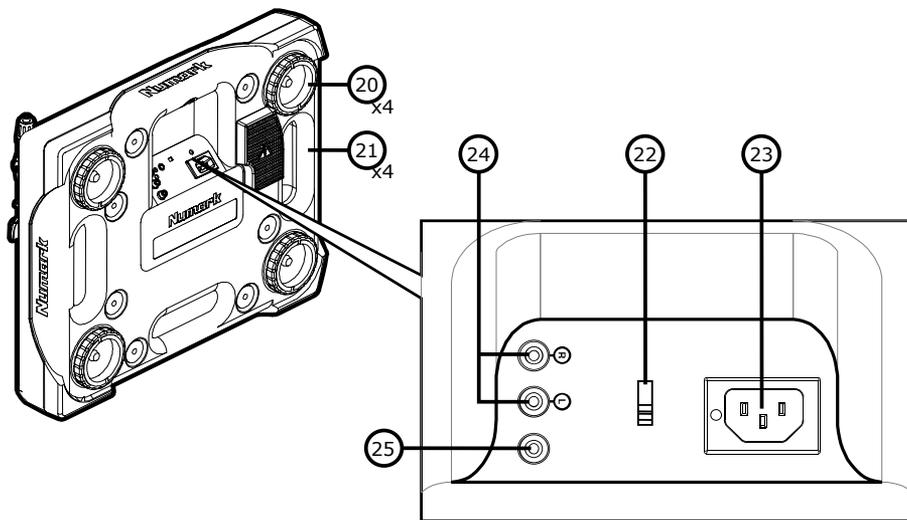
This IEC Power Terminal can be used with any IEC power cable, but it is recommended that the supplied IEC power cable be used.

24. RCA Output

These stereo output jacks allow the turntable to be connected to a compatible device with a PHONO level input.

25. Ground Terminal

This ground terminal is used to run a ground line between the turntable and the device it is connected to.



CABLE SETUP

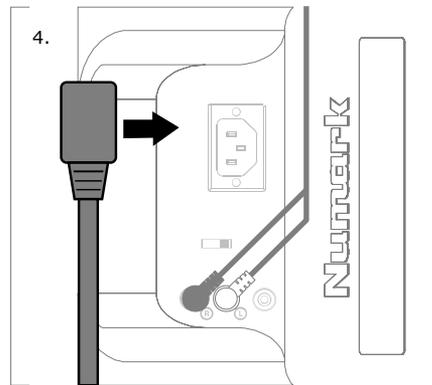
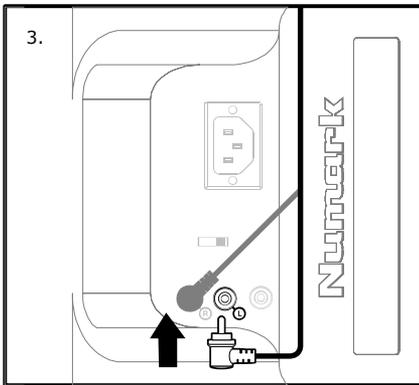
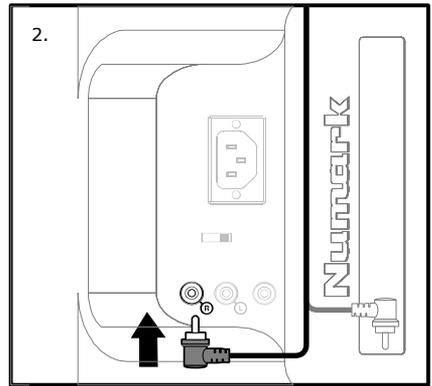
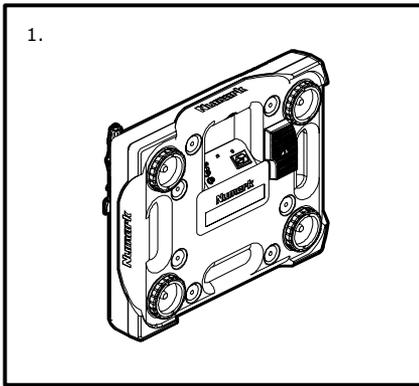
This turntable is shipped with two sets of special cables:

- (1) Right Angle IEC Power Cord
- (1) Right Angle RCA cord

NOTE: Before connecting any cables, make sure that the voltage selector switch is set to the proper setting!

Making the power and audio connections:

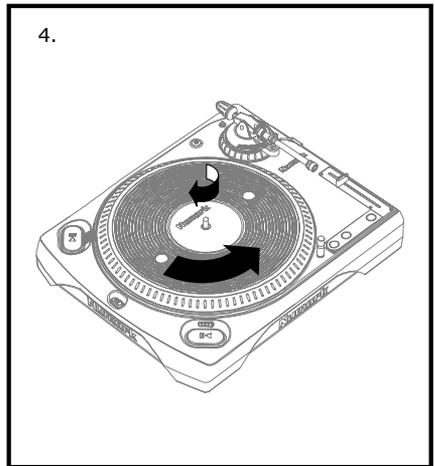
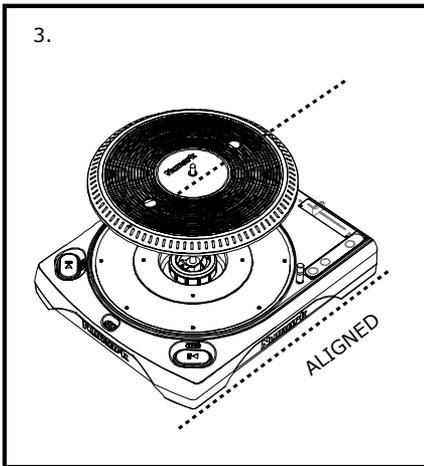
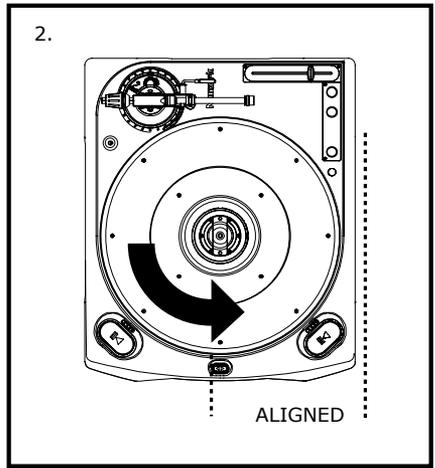
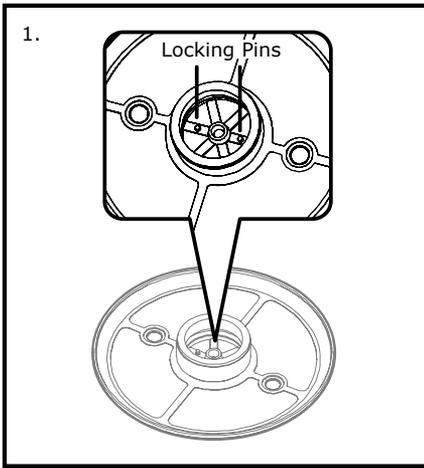
1. Begin by lifting the turntable up from the rear handle and resting it on its side. (NOTE: The turntable must be supported because it is not stable in this position!)
2. Next connect the Red Right Angle RCA Plug to the Red RCA jack with the "R" indication.
3. Then connect the White Right Angle RCA Plug to the White RCA jack with the "L" indication.
4. Finally connect the IEC power cord to the IEC Power terminal. It should only fit in the Terminal one way.
5. Rest the turntable back down on a level surface and route the cables to nearby power and audio accessories.



PLATTER SETUP

WARNING: Incorrect Platter setup can lead to poor turntable performance, platter instability, or permanent motor damage.

1. Start by inspecting the bottom of the aluminum platter to check that both locking pins have rubber fittings on them.
2. Next, rotate the platter spindle so that two holes are aligned parallel with the front of the turntable.
3. Carefully install the platter onto the center spindle and motor assembly making sure that the Numark logo and the two holes are aligned parallel with the front of the turntable.
4. The two locking pins should drop into the top of the spindle assembly for a stable and secure fit. If they do not, grasp the center spindle with one hand while rotating the platter with the other until the locking pins drop into place. If the platter is properly installed, it should not wobble and should rotate smoothly without any noise.



INTERCHANGING TONEARM TUBES

WARNING: An incomplete understanding of this procedure could lead to permanent damage to the headshell, your records, or the tonearm assembly.

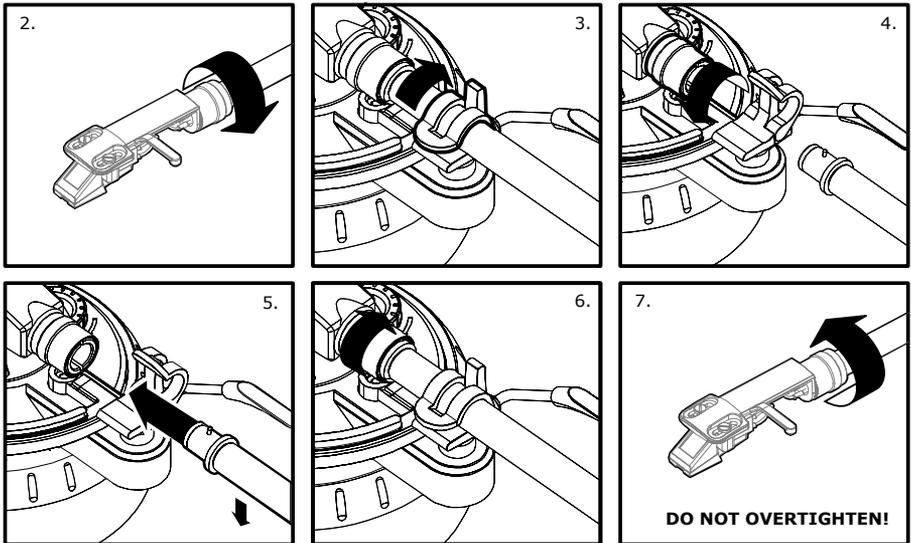
NOTICE: Interchanging tonearm tubes unnecessarily may shorten the life of the tonearm tubes and/or tonearm components.

This turntable features the world's only tonearm assembly capable of accommodating two different tonearm tube styles: S-Shaped and Straight. The S-Shaped tube produces a higher signal to noise ratio with most cartridge assemblies. The Straight tube is ideal for heavy back-cueing or scratching. Decide which tube to use based on your mixing style.

1. Power off the turntable and any connected mixers, amplifiers or monitoring devices.
2. Remove the Cartridge from the tonearm tube that is currently installed on the tonearm tube by rotating the locking collar counter clockwise.
3. Unclip the tonearm tube from the armrest.
4. Remove the tonearm tube by rotating the locking collar counter clockwise.
5. Insert the desired tonearm into the tonearm assembly with the screws FACING TOWARDS THE TURNTABLE BODY.
6. Tighten the tonearm tube in place by rotating the inner collar clockwise.

WARNING: It is only necessary to tighten the tonearm tube lock collar until resistance is felt. Over tightening the tonearm tube lock collar will damage the tonearm tube.

7. Reinstall the headshell and proceed to TONEARM SETUP.



STONE ARM SETUP

A properly adjusted tone arm and cartridge setup will minimize vinyl record wear and optimize the performance of the turntable. Follow these simple steps for setting the tone arm on the turntable:

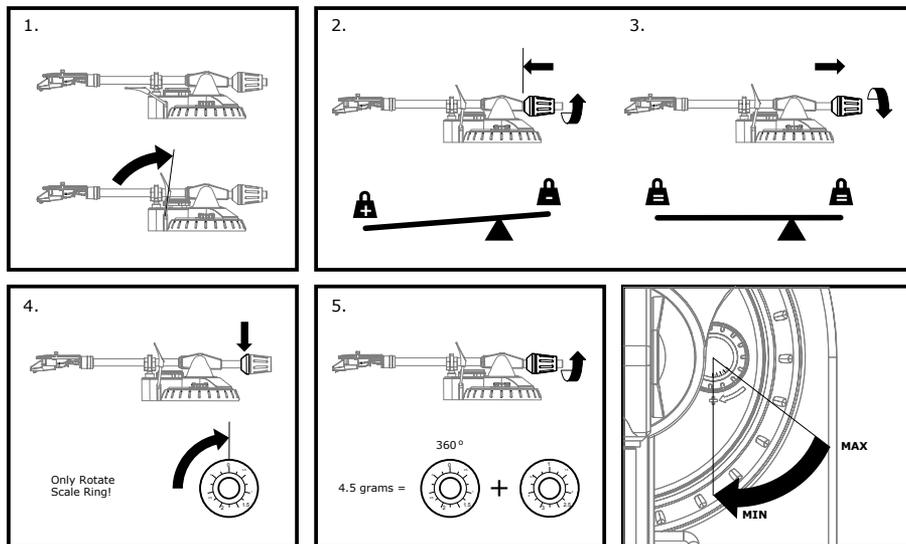
NOTE: In most cases, when using the S-Shaped tonearm tube, the additional S-Weight must be fastened to the tonearm to achieve proper stylus pressure. Balancing the Tone Arm

1. Begin the balancing process by lifting the cue lever to the up position (or make sure that the stylus protector is on the cartridge.)
2. Next, rotate the counterweight clockwise until it is in the complete forward position (NOTE: this is also the maximum amount of pressure that can be applied to the cartridge.)
3. Now there should be a feeling of weight and resistance when the head shell is raised and lowered. Begin rotating the counterweight counter-clockwise (away from the pivot point) until this weight and resistance feeling is gone. If done properly, the tone arm will pivot with very little resistance back and forth indicating that there is exactly 0 grams of stylus pressure.
4. With the counterweight in its new position further away from tone arm pivot point, grasp the scale ring of the counter weight and rotate it until "0" is in the vertical position.
5. Finally, rotate the counterweight (and scale ring) clockwise (towards the pivot point) until the desired amount of weight is reached. If the scale rotates 360 degrees beyond the zero point, the new scale ring reading should be added to 3.5.

*The included head shell and cartridge assembly requires a minimum of 3 grams and no more than 5 grams for optimum performance.

Setting the Anti-Skate Adjustment

In most cases, the Anti-Skate should be set to its minimum setting. Anti-Skate compensates for inward tracking forces that occur with certain cartridges when the stylus nears the center of the record. If the turntable is experiencing excessive skipping during back-cueing and scratching while nearing the center spindle, try increasing the Anti-Skate in the increments indicated on the dial. Start by adding an increment of 1, test its performance, than increase it more, and so on.



CARTRIDGE SETUP

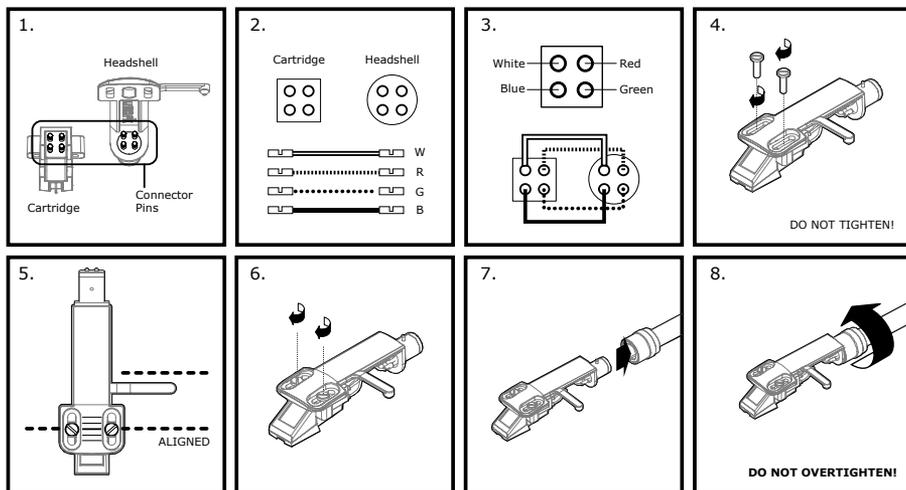
For Head Shell Mounted Cartridges:

The cartridge that comes with this turntable should be preinstalled on the head shell. If it isn't, please follow the below instructions for installing a cartridge onto the head shell.

1. Position the head shell and the cartridge so that the four connector pins are visible. Make sure that the stylus cover is installed to prevent damage to the stylus during installation.
2. Prepare to connect the cartridge to the head shell using the green, red, blue and white connector wires.
3. Starting with the upper left pin and going clockwise install the white, the red, the green and finally the blue wires to the connector pins. Be careful not to bend the metal clips on the end of the wires. These metal connectors should never make contact with one another.
4. Using the screws and bolts that are included with the cartridge, loosely fasten the cartridge to the head shell body.
5. Once temporarily fastened, position the cartridge so that both screws are aligned with the optimum position mark on the Head shell (Numark HS 1 Head shell and Numark Cartridges only.) Moving the both screws to a mark away from the optimum position indicated on the head shell may increase or decrease performance depending on the cartridge used. For safe vinyl record treatment, the screws should always be aligned perpendicular to the head shell (any angle may increase "record burn.")
6. Once the cartridge is positioned correctly, secure the cartridge to the head shell by tightening the mounting screws.

For Integrated Head Shell Cartridges (Numark CS-1, CC-1, CX-1, etc.)

7. Align the pin on the rear of the Cartridge Assembly so that it is in a vertical position and insert it into the tone arm lock nut.
8. Secure the cartridge to the tone arm by turning the tone arm lock nut clockwise until the head shell feels secure and does not wobble to the left or right. **WARNING:** Over tightening the tone arm lock nut may result in permanent damage to the tone arm or the cartridge.
9. Remove the stylus protector before playback.



OTHER IMPORTANT NOTES

Please read these precautionary notes to insure a complete understanding and long life of this DJ turntable.

1. Unnecessarily removing the platter may cause damage to the magnet mounting structure, the motor or the platter resulting in undesired performance. The turntable should ALWAYS be powered off before the turntable platter is removed for any reason.
2. Repeatedly "interchanging" tonearm tubes may cause premature wear to components of the tonearm assembly or the tonearm tubes. Interchange tubes only on an "as needed" basis.
3. Turning off the turntable while the output is set to LINE level or while the SPDIF output is in use will result in an absence of audio. Keep this in mind during use - if the "motor off" effect is desired effect, it is recommended that the BRAKE MOTOR CONTROL be adjusted.
4. Do not attempt to adjust or tighten any tonearm components. Undesirable performance may be a result of an improperly adjusted tonearm or worn cartridge.
5. Never interchange tonearm tubes or the PITCH FADER and BUTTON CARTRIDGES while the turntable is powered on.
6. Any attempt to "customize" the TT500 turntable beyond interchanging the tonearm tubes and fader/button cartridges is not recommended and may result in PERMENANT DAMAGE to the turntable or a VOIDED WARRANTY.

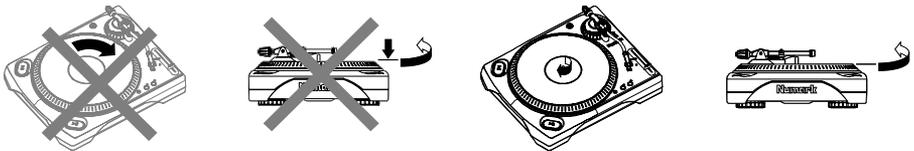
OPERATION

This turntable was designed to accommodate a variety of different mixing styles. Here are some general operation guidelines to optimize the performance of the turntable.

1. Do not place the turntable on or near a speaker or subwoofer. This may cause unwanted noise depending on the environment conditions.
2. ALWAYS use the included Slip Mat during record playback. This Slip Mat was designed to reduce friction between the platter and the record to allow for rapid back cueing and efficient scratch play.
3. Using the tone arm Cue System may prevent damage to your stylus. First lift the Cue Lever, then position the tone arm over the desired groove of the record, and finally lower the Cue Lever to slowly drop the tone arm onto the record.
4. Always secure the tone arm using the Arm Clip when not in use. This can prevent stylus damage and accidental tone arm engagement.
5. To reduce needle skipping, follow the guidelines in the Tone Arm Setup section of this manual. Too much weight on a cartridge may cause erratic skipping or stylus damage.

Another guideline that may reduce skipping is back cueing and adjusting playback tempo by applying pressure towards the center of the record near the spindle as indicated below.

Skipping induce by rapid cueing or scratching may be reduce by applying inward pressure to the side of the record instead of applying pressure down on the record (see diagram below.)



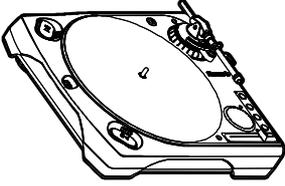
SPECIFICATIONS

Turntable:	
Torque (transient):	4.5kgf.cm
Torque (stable):	3.5kgf.cm
Motor:	Brushless DC motor
Brake:	Electronic braking system
Platter:	Dampened aluminum diecast, low friction design
Pitch:	+/-8%, 10%, 25%, 50%
Speeds:	33 1/3RPM, 45RPM, 78RPM
Wow/flutter:	<0.15% max, <0.10% typical
Tonearm:	Patented locking collar-based interchangeable tube system
	Diecast aluminum
	3-bearing construction
Height range:	0-6mm
Cue System:	Dampened lift lever
	Arm rest and arm clip
Balance Weight:	7 gram S-weight
	Aluminum plated w/0-3.5gram range
Dimensions:	370mm x 460mmx 135mm
Weight:	19 lbs
Target light:	High-intensity LED

Note, other manufacturers may claim lower wow/flutter specs by using different testing methods. We've tested the competitors and found that our wow/flutter performance is equal to or superior to theirs.

Problem	Cause?	Solution
Turntable does not turn on.	Disconnected Power Cord?	Connect Power Cord.
The sound level is very low.	The Turntable is not connected to a device with a PHONO preamp.	Connect the device to a preamp DJ mixer or an AV receiver that has an input labeled PHONO.
<p>The sound is on one side only.</p> <p>NOTE: Static electricity and/or other external interference may cause this unit to malfunction. To reset the unit to its normal condition, turn the power off and then on again. If the problem continues to persist, refer to the connected component's troubleshooting guides. If the problem is not resolved after checking these items, contact the nearest authorized Numark dealer.</p>	<p>The Cartridge is not properly wired.</p> <p>The Stylus is worn out.</p> <p>The RCA audio cord is damaged.</p> <p>The Cartridge is not making a proper connection.</p> <p>The Tonearm Tube is not making a proper connection.</p>	<p>Reconnect the wires from the headshell to the cartridge. See the "Cartridge Setup" section for more detail.</p> <p>Replace the stylus on the cartridge. Replacement styli are available from most Numark Retailers.</p> <p>If the RCA cord is frequently connected and disconnected, it may have become damaged and needs to be replaced.</p> <p>Remove the cartridge, clean the contacts on the back with Isopropyl Alcohol, and reinsert it.</p> <p>Remove the tube, clean the contacts on the back with Rubbing Alcohol, and reinsert it.</p> <p>The Tonearm Tube may be damaged. Replace the Tonearm Tube.</p>
The output sound is very distorted.	<p>The Cartridge is not properly wired.</p> <p>The Stylus is worn out.</p>	<p>Reconnect the wires from the headshell to the cartridge. See the "Cartridge Setup" section for more detail.</p> <p>Replace the stylus on the cartridge. Replacement styli are available from most Numark Retailers.</p>
The Target Light glows inconsistently, flickers, or doesn't work at all.	The Target Light Lamp is burning or burned out.	Replace the entire target light with a compatible part like the Numark TL-1.
The turntable skips like crazy.	<p>The Turntable is on an unstable surface.</p> <p>The Tone Arm is not balanced properly.</p> <p>The Stylus is worn out.</p> <p>Excessive force is being applied directly down on the platter.</p> <p>The record is warped.</p>	<p>Follow the guidelines for installation in the "Setup & Installation" Section.</p> <p>Follow the guidelines for optimum setup in the "Tone Arm Setup" Section.</p> <p>Replace the stylus on the cartridge. Replacement styli are available from most Numark Retailers.</p> <p>Reread the "Operation" section of this manual.</p> <p>Buy new records.</p>

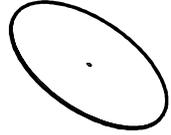
INSIDE THE BOX:



(1) Turntable w/Straight
Tonearm



(1) Anti-Drag
Aluminum Platter



(1) Slipmat



(1) Headshell



(1) Counter Weight



(1) Target Light



(1) 45 RPM Adapter



(1) S-Shaped Tonearm
Tube



(1) S-Tube Tonearm
Weight



(1) Service Tool



(1) IEC Power Cable



(1) RCA Cord