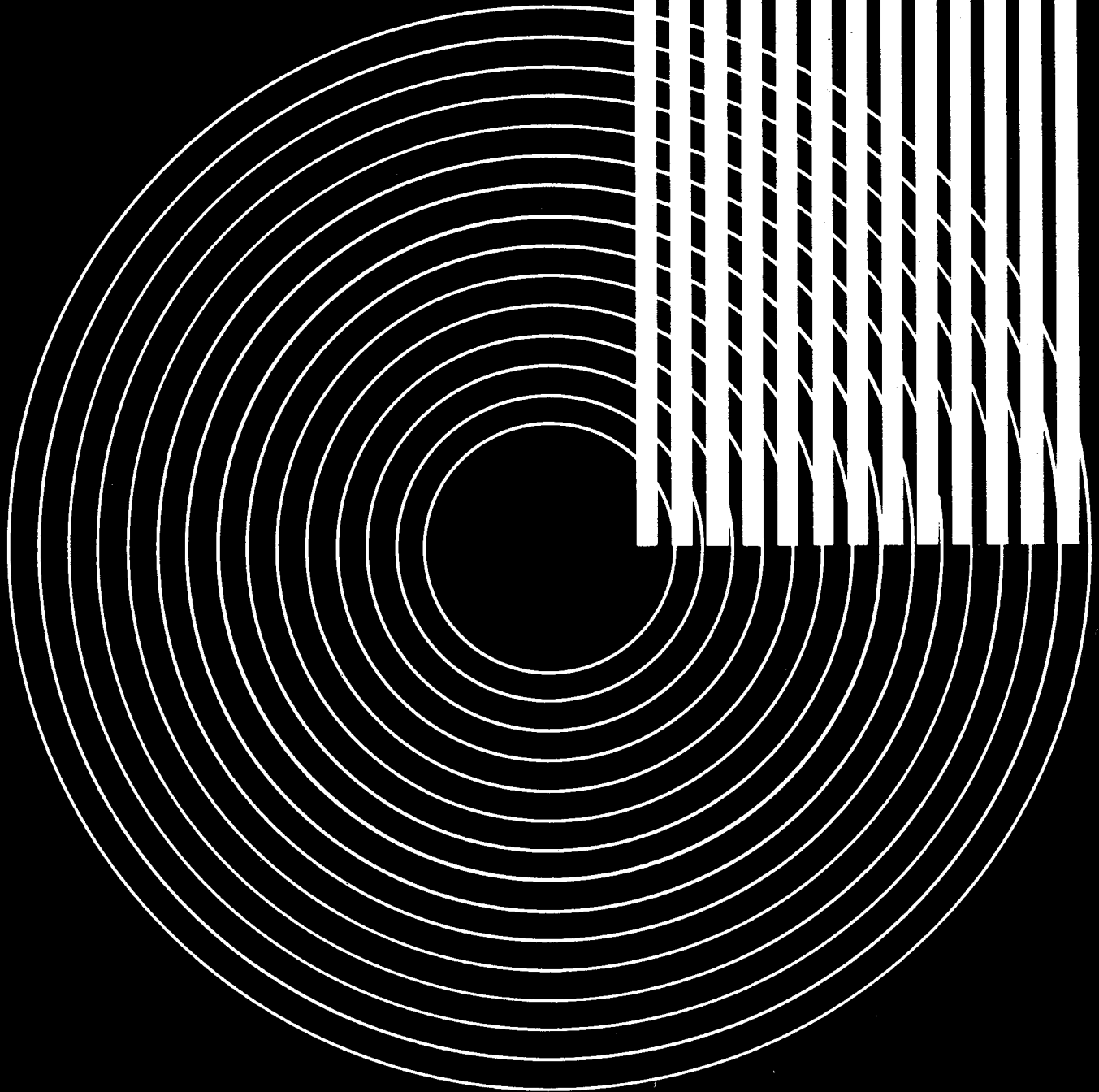


harman/kardon



**ST-6** straight line tracking system  
owner's manual

## INTRODUCTION

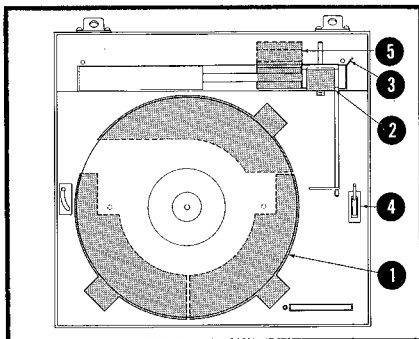
Designers have always understood that there was need for a playback arm that would permit its "pivot" to move parallel to the cartridge and stylus. Such an arm would move, or "track," in a straight line, and therefore exactly follow the path of the master cutting lathe head. Further, a straight line tracking arm with its moving pivot would need to be only slightly longer than half the diameter of the disc. Since a straight line arm can be short, its mass can be far less than that of a conventional pivoted tone arm. Also, the shorter length permits the use of lighter materials without loss of rigidity. No longer does the music enthusiast have to accept compromise contrivances such as anti-skating controls, odd-shaped tone arms and tracking error mechanisms.

Tracking error is reduced to zero. External forces acting on the stylus are in complete balance. Skating force is zero, and thus there is no need for any anti-skating device. The end result is that the ST-6 plays music in a way that makes conventional pivoted arm systems obsolete.



**Warning:** To prevent fire or shock hazard, do not expose this turntable to rain or moisture.

## UNPACKING



Your ST-6 Turntable is a precision machine that has been carefully assembled and adjusted to bring you the highest standard of disc reproduction. The packaging system was designed to preserve this precision in shipment. It is recommended that you retain the carton and frames when your installation is completed.

Once the unit is unpacked remove the cardboard shims (1) protruding from under the platter so that it can rotate freely. Then remove the packing shim (2) and plastic tie (3) that secure the carriage. Move the cue lever (4) to the rear when you have removed this shim. Finally, remove the foam filler (5) from under the carriage opening.

Before proceeding with the installation, make a complete record of your purchase. Make sure the bill of sale is clearly marked showing the date of purchase. Locate the serial number on the bottom of the unit. Record this number on the bill of sale and then put the bill away in a safe place for future reference. This document will be important if your unit requires warranty service. It can also provide identification if your unit is stolen. Also remember to fill out and mail in your registration card.

Before using the ST-6 it is necessary to position the clutch to assure proper tripping at the end of a record. Using the control arm, slide the tone arm carriage to the extreme left, and then return it to the extreme right hand side.

## CARTRIDGE AND TONE ARM ASSEMBLY

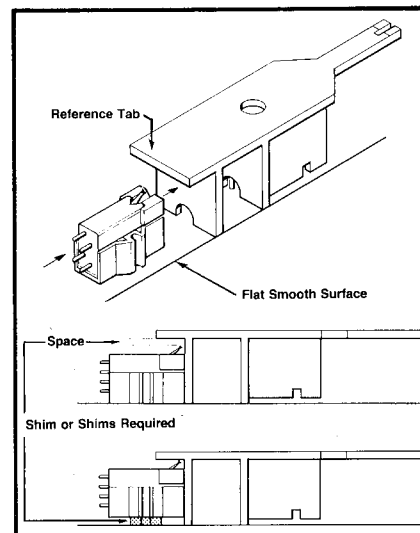
The ST-6 tone arm accepts cartridges that weigh 10 grams or less. Because cartridges differ, a set of shims and a gauge have been provided to ensure proper attitude of the stylus relative to the disc.

The cartridge gauge serves a dual purpose. First, you will use it to identify the spacers (shims) you will need to install your cartridge at the proper height. Second, you will use it to adjust the position of your cartridge so the stylus will follow the correct straight line path. Use great care in installing your cartridge, since tracking angle, position and force adjustments are important to achieving the best performance.

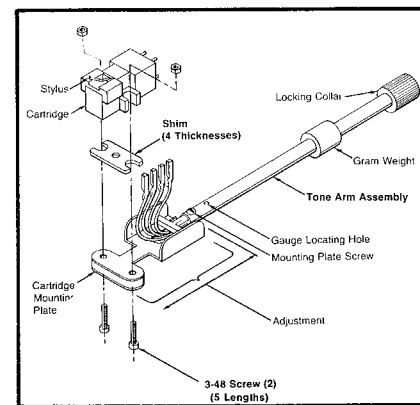
Install the cartridge, necessary shims, screws and hex nuts as shown. Use the shortest screws that will hold the cartridge. The nuts should be snug at this point but only finger tight.

*Note: Additional tone arm assemblies are available through your dealer (Harman Kardon Part Number CH-7W) so that you can use more than one cartridge without having to gauge and remount each time.*

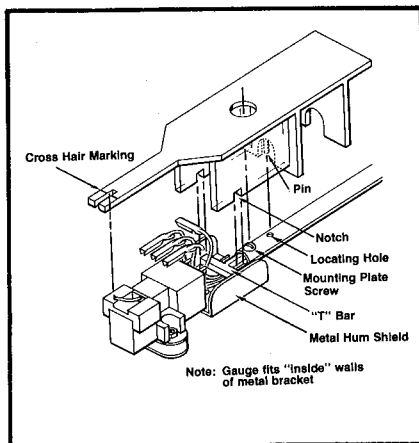
## MOUNTING CARTRIDGE



Place the gauge and cartridge (stylus up) on a flat surface, as shown. Carefully move the cartridge under the reference tab of the gauge. If the stylus does not fit easily under the tab, no shims are required. However in most cases there will be a space between the tip of the stylus and the lower surface of the reference tab. Four (4) shims of different thickness are provided to offset the space.



## ARM LENGTH ADJUSTMENT



Leaving the cartridge mounting screws only finger tight, place the cartridge gauge on the arm as illustrated. Note that the cartridge wires are dressed forward. The notch in the gauge fits over the black "T" bar, while the locating pin in the gauge fits the corresponding hole in the tone arm.

With the gauge in place, the stylus should be visible in the front slot. If the cartridge mounting screws are loose, the cartridge assembly can be moved to line up the stylus with the cross-hair marking on the tip of the gauge. Then tighten the mounting plate screw (access provided through the large hole in gauge) and the two cartridge retaining screws to lock your adjustment.

## CONNECTING SIGNAL LEADS

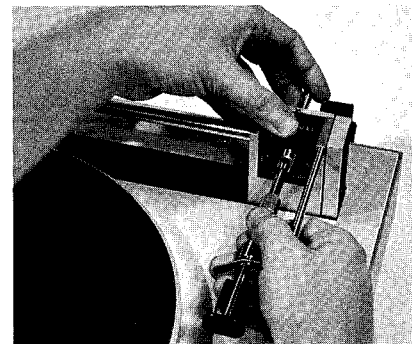
Connect the signal leads from the tone arm to the appropriate posts on your cartridge. These leads are color coded, as shown in the table. Use extreme care as the leads are delicate. The use of tweezers or long-nose pliers will make connection easier.

### COLOR CODE

	Left Channel	Right Channel
Signal	White	Red
Ground	Black	Green

*Note: The cartridge manufacturer may use a different color code or other marking system for channel identification. Consult the instructions supplied with your cartridge for this information.*

## MOUNTING TONE ARM IN CARRIAGE

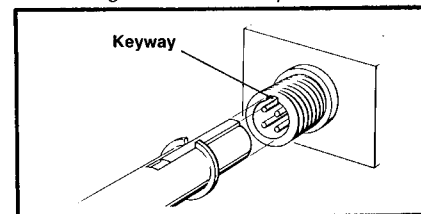


Move the cue lever to the rear (stylus raised) position, and the carriage assembly to the right end of its travel. Slide the gram weight and mounting collar toward the cartridge, exposing the black connector. Note the keying rib on the connector. Hold the counterweight shaft firmly to prevent the vertical bearing from twisting during installation of the tone arm.

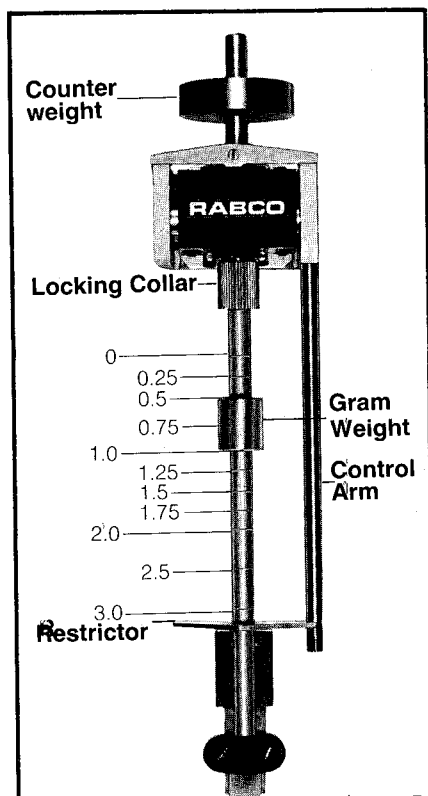
Move the cue lever toward you. Introduce the tone arm under its restrictor. With the key rib up, gently push the arm all the way into its keyed socket. Secure the tone arm by screwing on the locking collar; gently hand tighten only. Hold the tone arm as you tighten the collar, making sure that the cartridge remains vertically straight. If the cartridge is slightly twisted by normal tightening of locking collar, it can be straightened as follows. Loosen collar and straighten cartridge/arm assembly. Then while holding cartridge assembly vertically straight, firmly re-tighten the locking collar.

*Note: If the cue lever cannot be easily moved to its fully forward position, it is possible that the lift gears have become engaged during shipment. To correct this condition:*

1. Plug in unit.
2. Turn switch on.
3. Allow unit to run about 20 seconds.
4. Unit will shut off. Tone arm balancing can now be completed.



## BALANCING TONE ARM



Set the gram weight so that its front surface lines up with the first graduation on the tone arm (0 grams). This is the rear-most graduation. (Illustration shows a one gram setting.) Slip the counterweight onto the shaft protruding to the rear of the carriage. If you encounter difficulty, lubricate the shaft by moistening it with a drop of water. Move the cue lever forward. Adjust the position of the counterbalance weight along its shaft so that with the cue lever forward, the arm neither falls nor returns to its restrictor. Return cue lever to rear position.

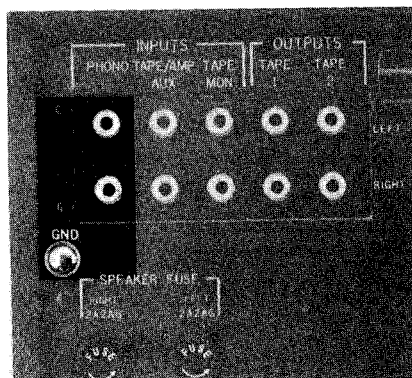
*Note: If it was not possible to balance the tone arm, your cartridge probably weighs from 11 to 15 grams, and a heavier counterweight must be used. This heavier weight, 15G, is available from your local dealer or the factory.*

Now position the front surface of the gram weight to the graduation corresponding to the lowest tracking force specified by the manufacturer of your cartridge. However this must be at least 3/4 gram.

## LOCATING THE UNIT

The ST-6 is now ready to be placed in its playing location. Care must be used in selecting a location that is *level*, clean, and as vibration-free as possible to ensure optimum operation. If the shelf is not level, inaccurate cueing (arm drift) may result.

## ELECTRICAL CONNECTIONS



Two pin type connectors and a brass spade lug are at the end of the signal output cable. The connectors are color coded for identification.

Left Channel—Black

Right Channel—Red

The ground lead spade lug can be connected to a chassis ground terminal, or to an unpainted mounting screw.

*Note: Some cartridges may exhibit hum when the ground lead is connected. If so, disconnect the lead.*

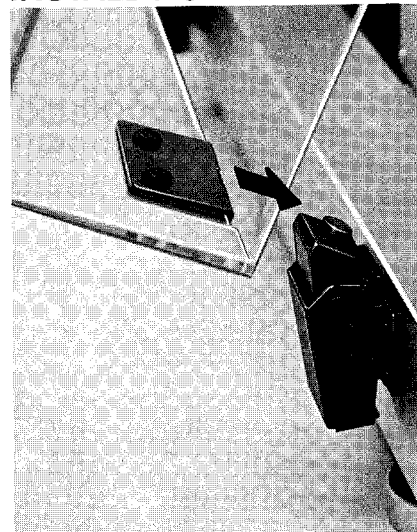
If necessary to reach the connections on your unit the molded sections of the signal cable may be separated. Move plastic strain relief band down and gently pull apart signal leads. Do not use the plugs as handles for pulling sections apart.

## PRECONDITIONING

Before using the ST-6 it is necessary to position the clutch to assure proper tripping at the end of a record. Using the control arm, slide the tone arm carriage to the extreme left, and then return it to the extreme right hand side.

Turn set on. On first operation the set may turn itself off. This will be due to vibration during shipment that partially engaged the trip pin. However, with one on-off cycle the unit is ready to play a record.

## INSTALLING DUST COVER



The dust cover mounts to the two hinge assemblies located at the rear of the ST-6 case. Observe the two brackets located at the bottom rear of the cover. With the cover approximately closed, rest the brackets on the hinges so that the posts of the hinges line up with the slots of the brackets. Lift the front cover as if to open. When the brackets align with the angle of the hinges, the cover will seat itself. The maximum overall height of the ST-6 with the dust cover fully opened is 18-1/2 inches (47 cm).

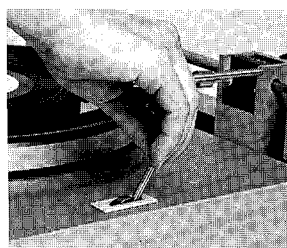
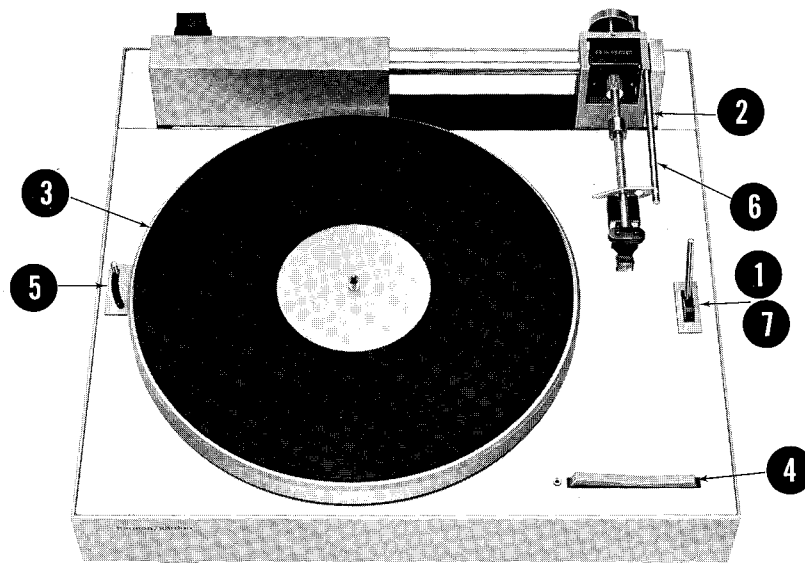
## CARE AND MAINTENANCE

ST-6 maintenance is minimal, being limited to monthly cleaning to maintain peak operating conditions and to preserve its aesthetic appearance. The tracking shaft and carriage guide (slide rod) should both be cleaned monthly using a soft lint-free cloth moistened with Isopropyl alcohol (refer to technical manual parts location diagram). Other stainless steel parts (e.g., gram weight, and control arm) may be similarly cleaned.

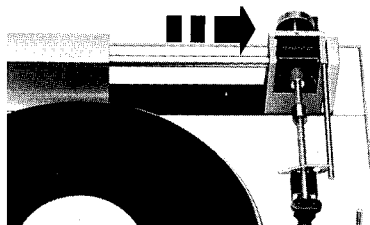
Remove dust using the soft brush attachment of a canister type vacuum cleaner rather than a dust cloth. The dust cover and case can be cleaned using a soft cloth and a household cleaner recommended for plastic. Never use alcohol or organic solvents to clean these parts.

We recommend that you use the dust cover and that it always be kept closed when the ST-6 is not in use.

## OPERATION



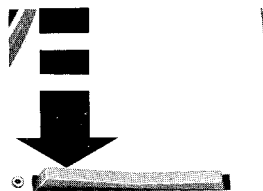
1. Cue lever rear.



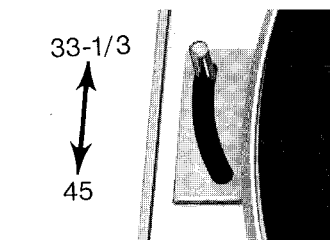
2. Move carriage to extreme right, using Control Arm.



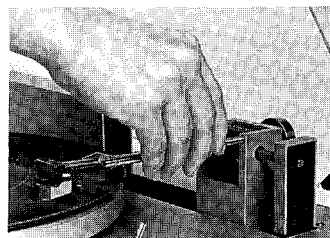
3. Place record on platter.



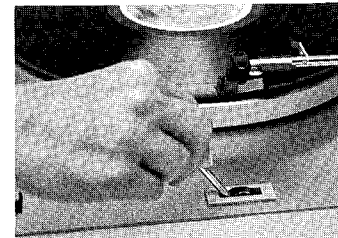
4. Depress (left side) power switch



5. Set speed control to 33-1/3 or 45 rpm with platter in motion.



6. Using control arm, position carriage so stylus will be lowered onto the lead-in groove.



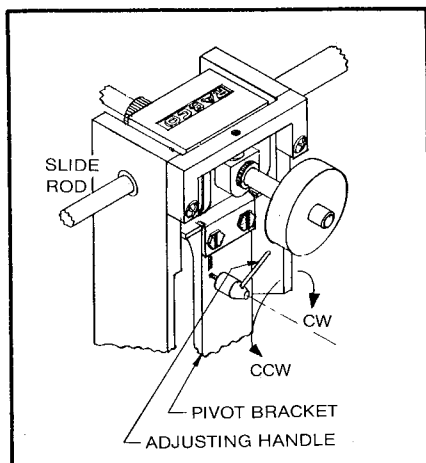
7. Move cue lever forward. Stylus will be gently lowered onto the record.

*You can select another band or portion of a record at any time:*

1. Move cue lever to rear.
2. Move carriage assembly with control arm, aligning stylus over desired part of record.
3. Move cue lever forward.

*When record is finished the cue lever will be automatically moved to the rear, raising the tone arm, and the motor will switch off. Use control arm to move carriage back to the extreme right position.*

## TRACKING ADJUSTMENT



A tracking adjustment has been provided on the back of the carriage assembly. It has been preset at the factory and should not require adjustment. However, to ensure the most precise operation of the ST-6 in your home the following checkout procedure may be used.

Energize your ST-6, and lower the tone arm on to a record turning at 33-1/3 RPM. Allow the arm to travel about one inch on the record. Observe if the tone arm remains lined up with the notch in the restrictor arm as it moves across the record. If the arm leads or lags the restrictor arm notch, adjustment is necessary.

Raise tone arm by moving cue lever away from you. If arm is leading the restrictor notch (toward the center of the record) turn adjusting handle slightly clockwise (as viewed from the rear). If tone arm is lagging the restrictor notch, turn handle slightly counterclockwise. After adjusting, lower tone arm on to record and recheck tracking. If arm is still leading or lagging, raise tone arm and readjust. Repeat procedure until tone arm remains closely lined up with restrictor notch as it tracks across a complete record.

## SPECIFICATIONS

<b>Tracking Error:</b>	0°
<b>Skating Force:</b>	0
<b>Tone Arm Mass (effective):</b>	6 gms.
<b>Stylus Overhang:</b>	0
<b>Rumble:</b>	-57dB (DIN B)
<b>Wow and Flutter:</b>	0.06% (NAB wtd) 0.13% (DIN B)
<b>Hum:</b>	-70dB (DIN 45544)
<b>Speeds:</b>	33-1/3, 45 RPM
<b>Speed Constancy:</b>	±0.3%
<b>Motor:</b>	Synchronous AC with precision ground belt
<b>Platter Weight:</b>	2.4 lbs./1.1 kg.
<b>Dimensions:</b>	6-3/4" H x 16-1/2" W x 16-1/4" D 15.7 cm. H x 41.9 cm. W x 41.3 cm. D
<b>Weight:</b>	20 pounds, 9.1 kg.