LAB-2200
LINEAR TRACKING DIRECT DRIVE AUTOMATIC TURNTABLE

PLEASE READ BEFORE USING THIS EQUIPMENT



REALISTIC®

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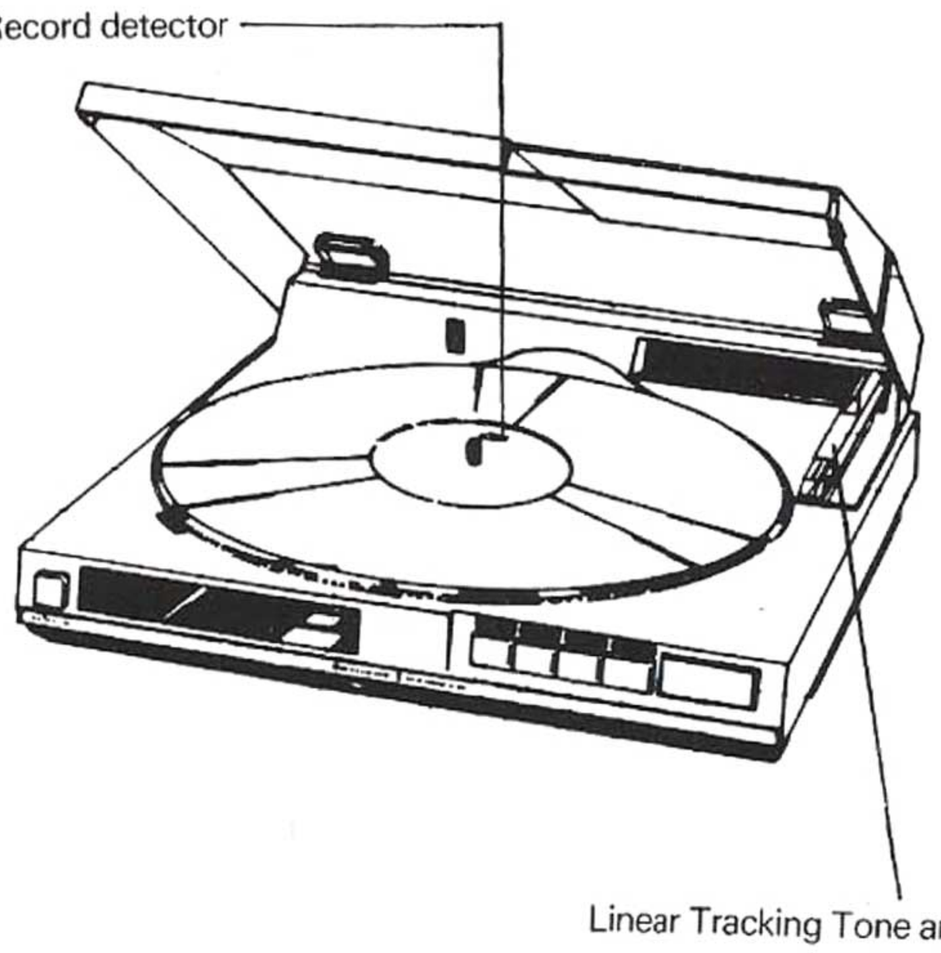
Your new REALISTIC LAB-2200 Direct Drive Linear Tracking Automatic Turntable uses the latest in audio technology to give the superior sound reproduction audiophiles demand. A powerful brushless DC FG servo motor gives stable, near-perfect speed. The stroboscope and bright neon lamp let you quickly and precisely adjust turntable speed.

The logic-controlled linear tracking arm maintains the correct angle between the stylus and the record groove over the full surface of the record. This means low distortion and excellent tracking at less than 1.5 grams. The Turntable comes complete with Dual Magnetic type cartridge with diamond stylus that reproduces frequencies between 20-20,000 Hz while maintaining superior channel separation.

An optical record size detector automatically distinguishes between 7-inch/45 r.p.m. records and 12-inch/33 r.p.m. records by a beam of light.

A record detector on the platter functions as a safety device. When a record is on the platter, this detector is pressed flat and the tone arm will descend. When no record is placed on the detector, the tone arm will not descend.

Figure 1.



UNPACKING AND PREPARING FOR USE

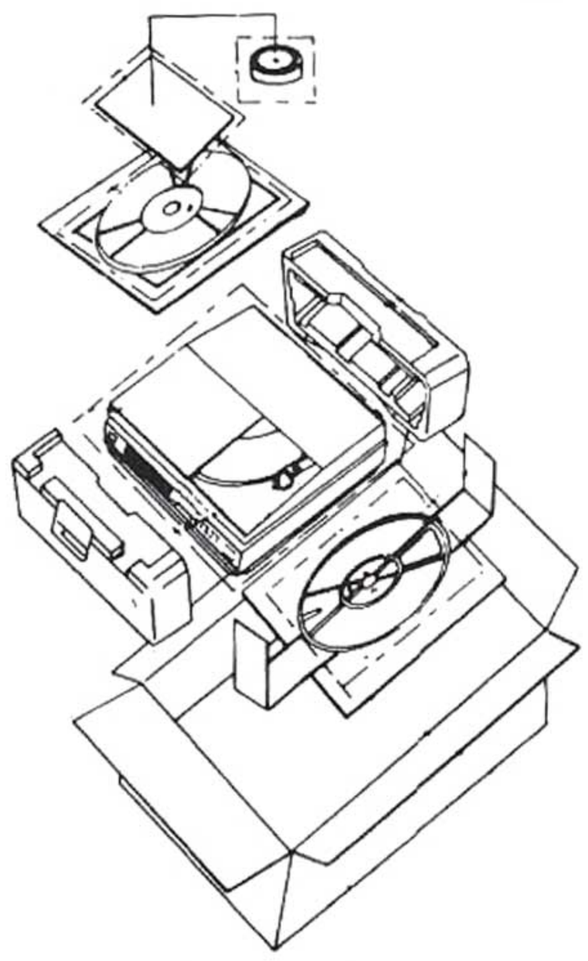
Like all high-quality products this turntable contains some sensitive parts. So be careful while unpacking it.

Remove the turntable assembly (including styrofoam pads) from the carton. Carefully remove the pads. Remove all equipment from the vinyl bags and styrofoam cushion. Keep the packing materials and transit screws for use in case you should need to transport it at some future date.

The packing contains...

1 Turntable assembly with dust cover
1 Turntable rubber mat
1 Turntable platter
1 45 rpm adapter

Figure 2



For your own protection, we urge you to record the serial number of this unit in the space provided. You'll find the serial number on the back panel of the unit.

Serial Number:



The lightning flash with arrowhead within the triangle is intended to alert the user to dangerous voltage inside this unit that can cause shock. Do not open the enclosure.

CAUTION

RISK OF ELECTRIC SHOCK
DO NOT OPEN

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



The exclamation point within the triangle is intended to alert the user to important operating and maintenance instructions in this owner's manual.

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INSTALLATION

Remove the transit screws and tone arm cushion exactly in the following sequence:

1. Place the Turntable upside down on a soft cloth or a stand to avoid damaging the dust cover.
2. Remove the two screws and rubber spacers. (See Figure 3.)
3. Turn the Turntable right side up and remove the tone arm pad and cushion from around the tone arm. (See Figure 4.)

Save the transit screws and tone arm cushion to re-pack the unit in the future to transport it.

Carefully lower the Turntable platter onto the motor spindle. Set the rubber mat on the platter.

Place the rubber mat on the platter so that the record detector on the platter fits the opening on the rubber mat and the two slits on the mat fit snugly against the slits on the platter. (See Figure 5.) **This is very important for proper operation of the Turntable.**

Figure 3

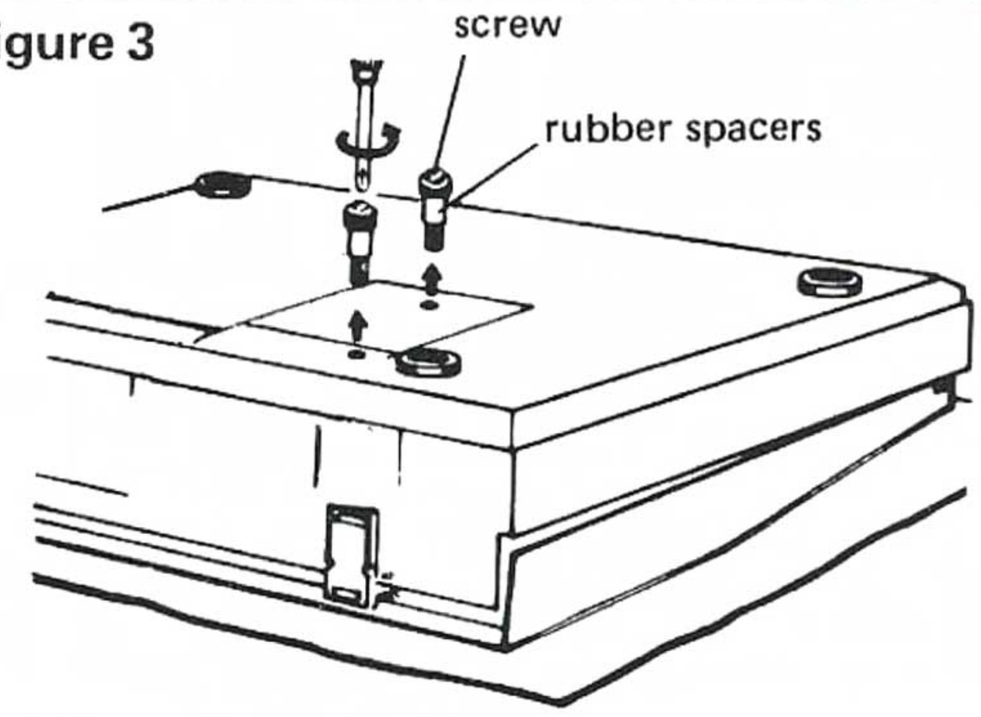


Figure 4

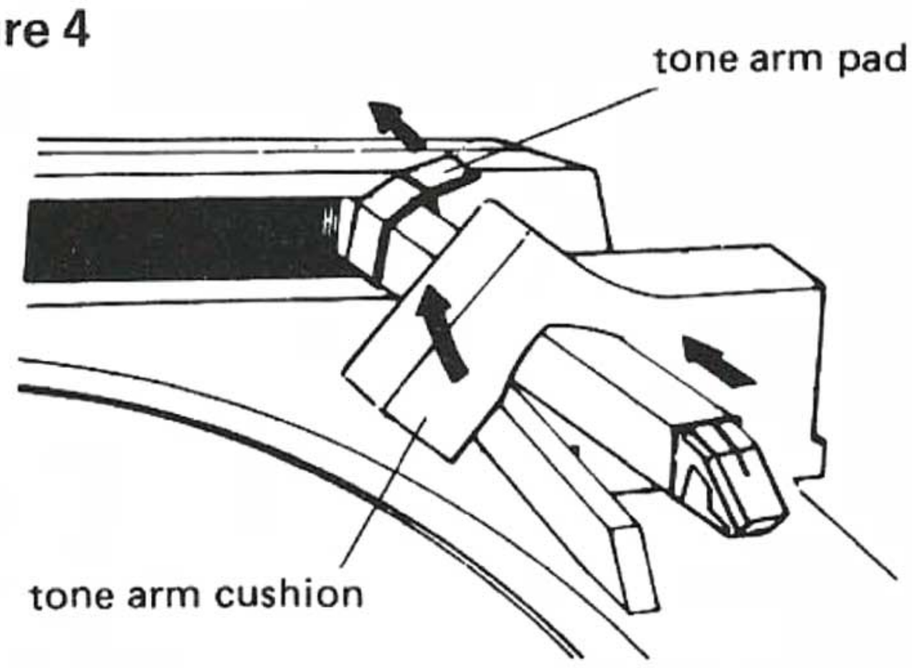
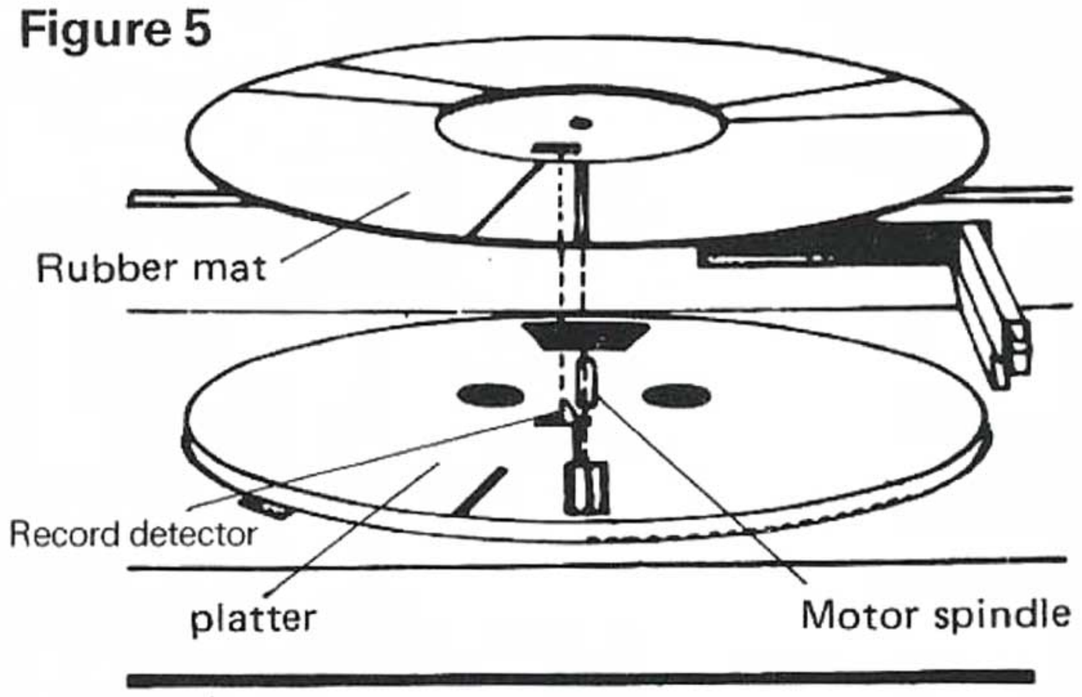


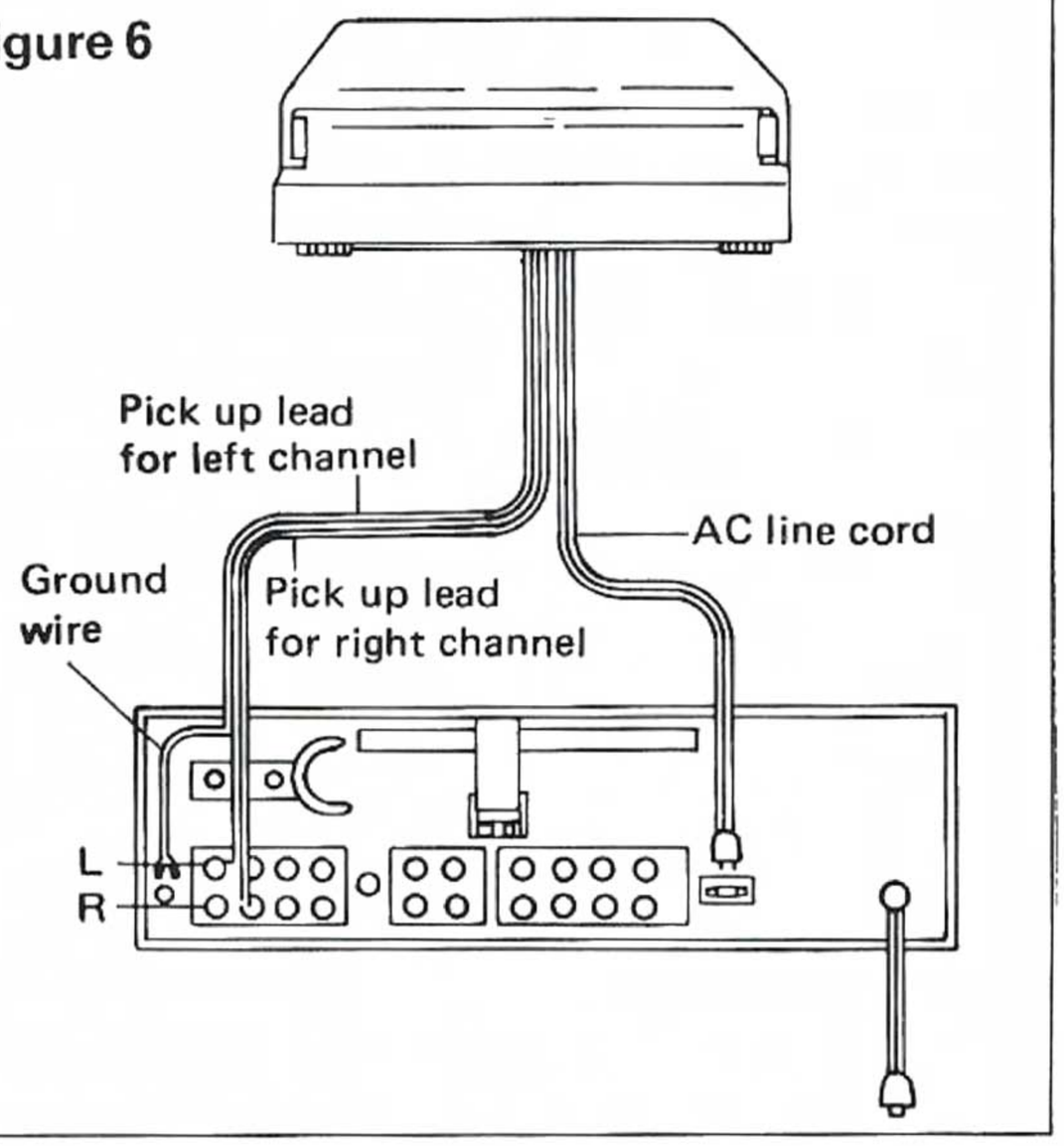
Figure 5



ELECTRICAL CONNECTIONS

1. Pickup leads with RCA type plugs:
   Connect the pickup leads (L and R) coming from the rear of the Turntable to the PHONO input jacks of your amplifier/receiver — red for right channel and white for left channel.
2. Ground wire:
   Connect the ground wire (thin wire) to the GND terminal on your amplifier/receiver. This will reduce or eliminate hum.
3. AC line cord:
   Plug the AC line cord coming from the rear of the Turntable into a convenient source of standard AC power (a wall outlet or an unswitched AC receptacle on your amplifier/receiver).

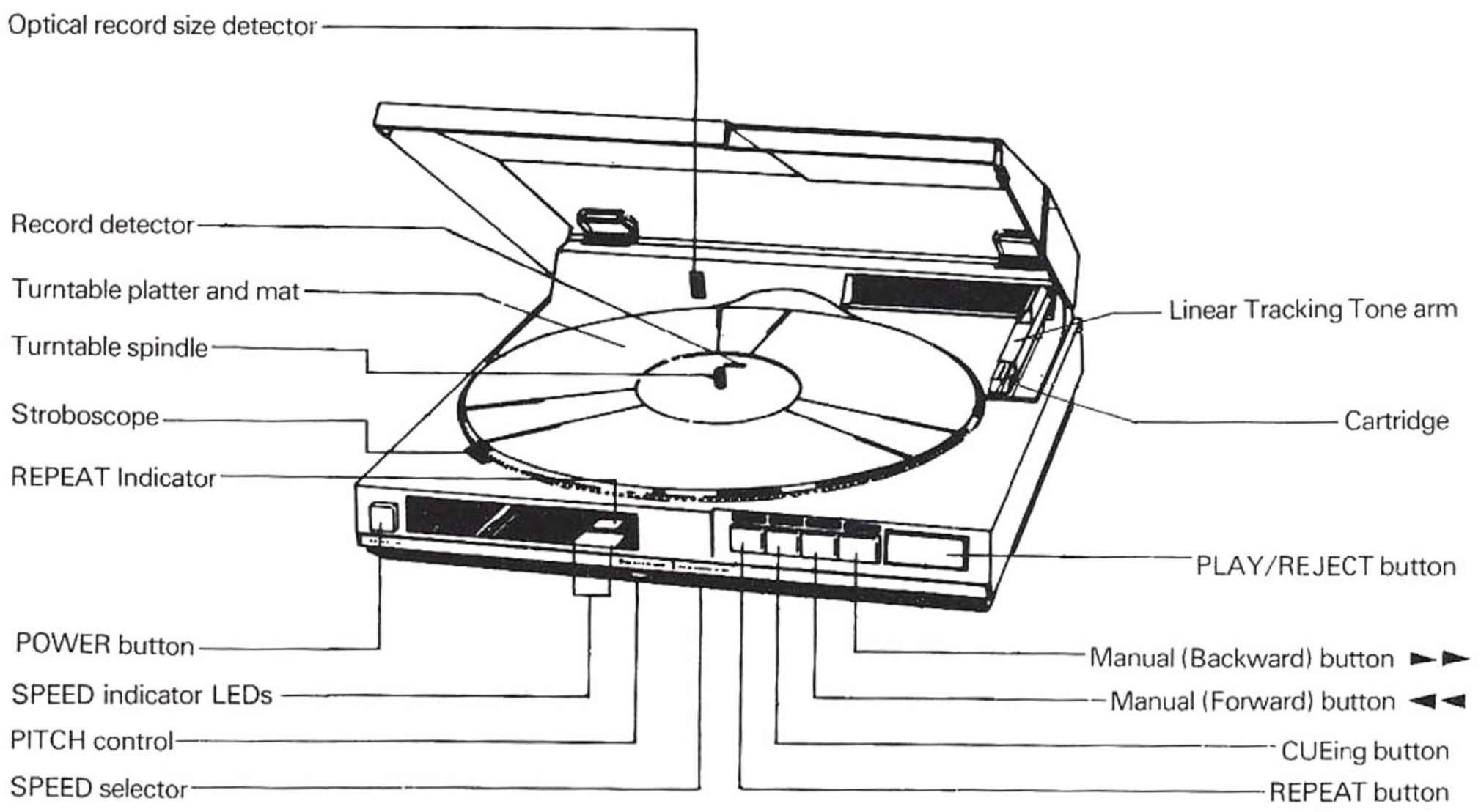
Figure 6

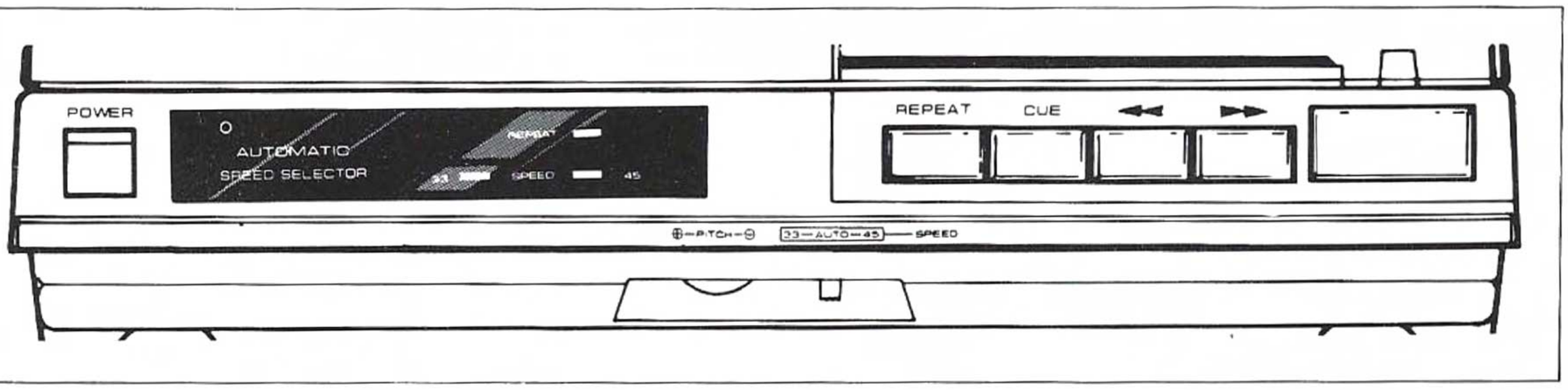


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CONTROLS

Figure 7





OPERATION

1. Plug the AC line cord into a source of AC power.
2. Press the POWER button; the stroboscope will light along with the optical record size detector and speed indicators.
3. Check that the REPEAT button is not activated. (REPEAT indicator should be off.)
4. Remove the stylus protector.
5. Place a record on the platter.
6. When you want to play the standard 7-inch/45 r.p.m. or the 12-inch/33 r.p.m. records, set the speed selector to AUTO. To play 7-inch/33 r.p.m. or 12-inch/45 r.p.m. records, set the speed selector to the corresponding position.

An optical record size detector is used to determine the size of the record to be played. Light passing through the detector falls on the slits on the platter. If the slits are open, a 7-inch/45 r.p.m. is being played. If closed, a 12-inch/33 r.p.m. record is being played.

At the AUTO position, your Turntable automatically chooses 45 r.p.m. speed for 7-inch records and 33 r.p.m. speed for 12-inch records.

If the record is 10-inch or semi-transparent the optical detector will not be able to determine speed and you will have to operate the speed selection manually. (See step 13 on the next page.)

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7. Press the PLAY/REJECT button. If you want to hear the record again, push the REPEAT button. REPEAT LED will light. (See Figure 9.)
8. The tone arm will automatically move to set the stylus at the beginning of the record.
9. At any time during the play cycle, you can gently lift the tone arm from the record by pressing the CUEing button. (See Figure 10.)
10. At the end of the record, the tone arm will automatically return to the arm rest and the turntable platter will stop. If you have set the REPEAT button, the tone arm will return to the first groove and repeat playing.
11. To stop playing before a record finishes its playing cycle, push the PLAY/REJECT button. The tone arm lifts and returns to its rest and the turntable platter will stop. (See Figure 11.)
12. To stop REPEAT play, push the REPEAT button again; the indicator LED will go out.
13. For manual play:
    a. Set the speed selector to 33 or 45.
    b. Press and release the cueing button: the tone arm lifts up.
    c. Shift the tone arm horizontally over the desired part of the record, using the buttons marked "◀◀ " or " ▶▶"; the tone arm will move either to the left or to the right depending on your choice.
    d. Press and release the CUEing button; the tone arm lowers and play begins at the selected groove.

Figure 9

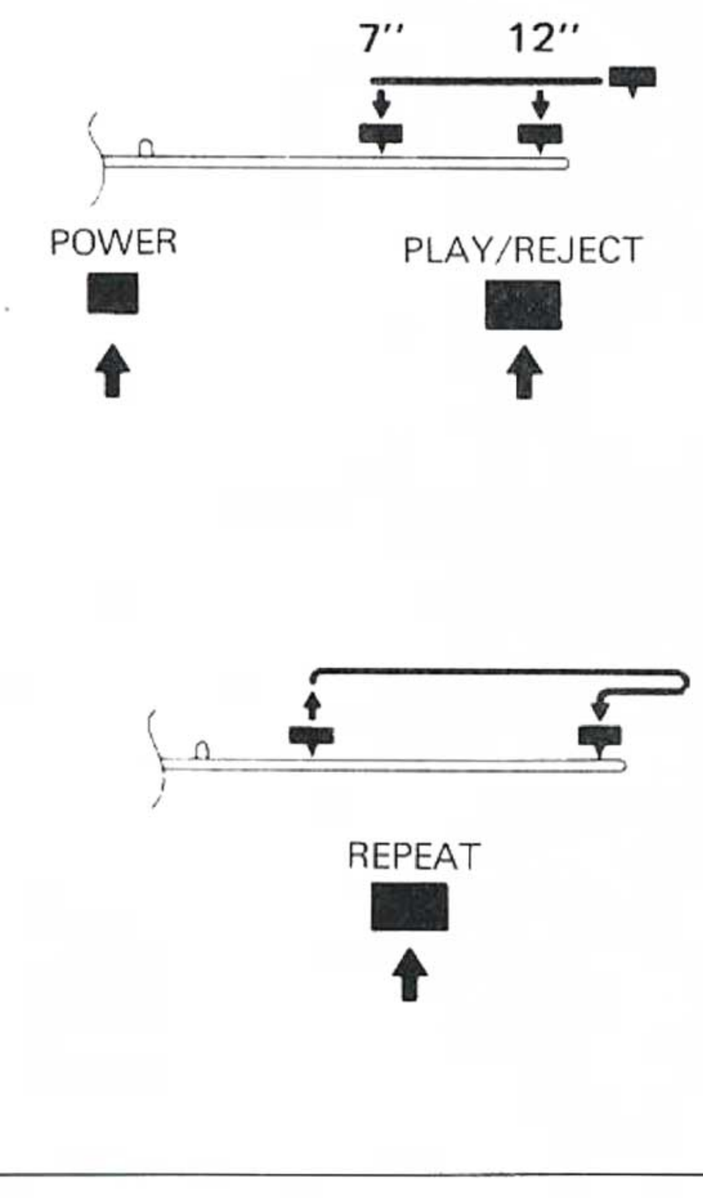


Figure 10

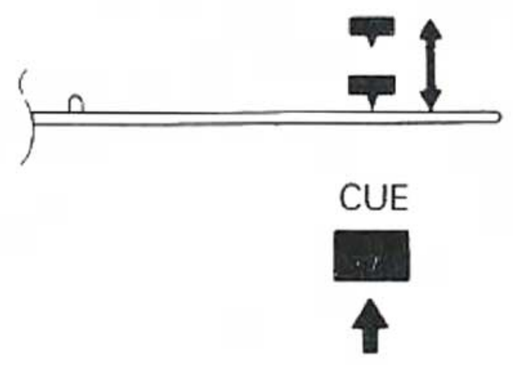
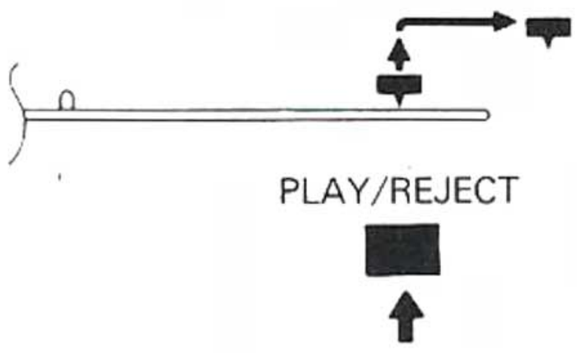


Figure 11



Pitch Control

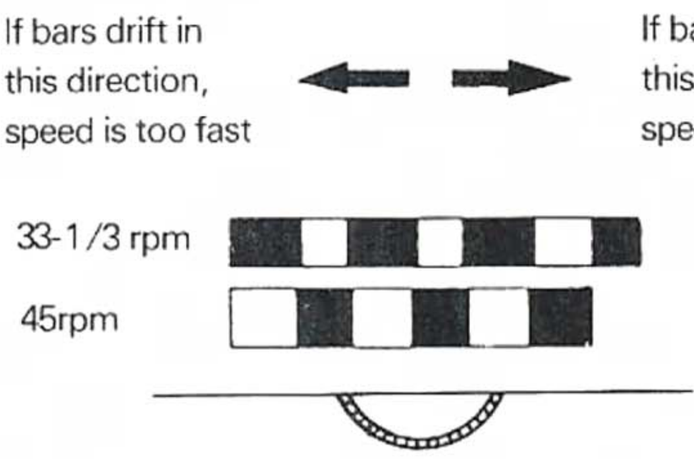


Figure 12

If the stroboscope dots move, rotate the PITCH control until the relevant dots appear motionless. If dots move toward the left, rotate PITCH toward "–". If dots move to right, rotate PITCH toward "+". Your Turntable has a safety feature that prevents the tone arm from descending when no record is on the platter. The record detector on the platter must be pressed flat for the Turntable to operate. Therefore, the pitch adjustment must be made while the record is on the platter.

NOTES:

1. When the tone arm is moving automatically, do not touch it.
2. If the power fails, the tone arm raises automatically. When power is restored, the tone arm will return to the arm rest. Never move the tone arm manually.

45 r.p.m. Adapter

When playing a 45 r.p.m. record with a large center hole, place the adapter over the turntable spindle.

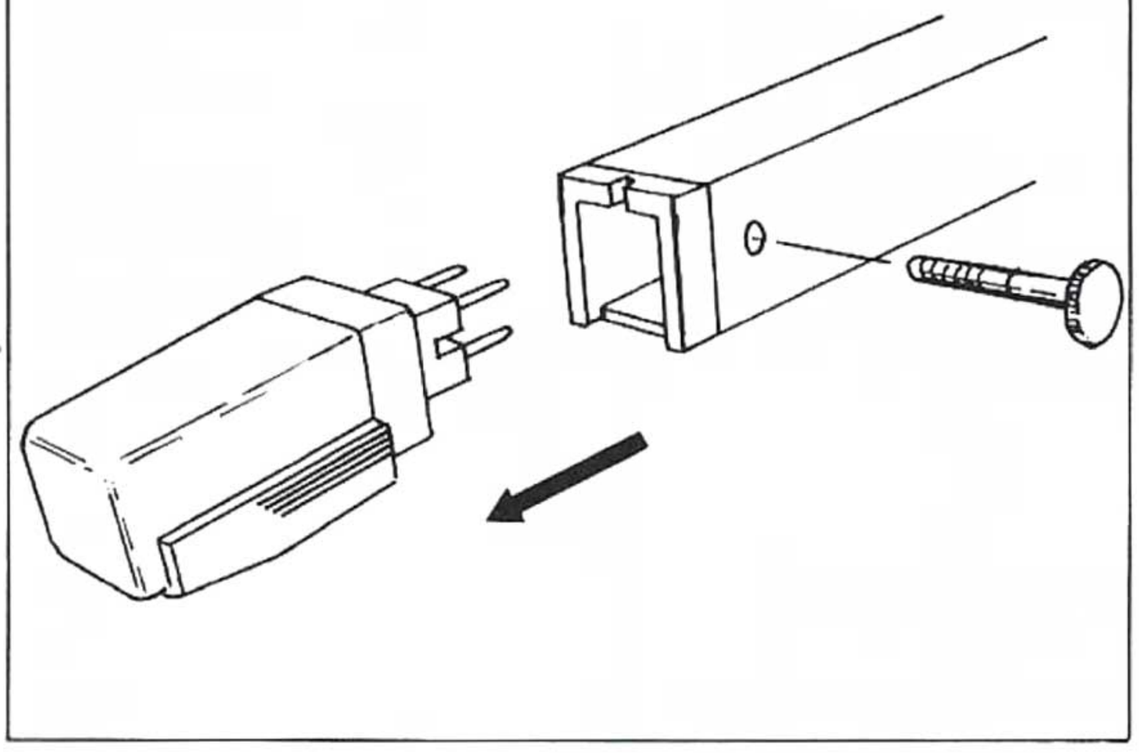
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Replacement of Cartridge

Remove the screw that holds the cartridge assembly in place. Then carefully remove the cartridge assembly by pulling it straight out.
Install the new cartridge assembly. Make sure it is all the way in and is straight.
Replace the screw (See Figure 13).

NOTE:
All P-mount type cartridges are designed under the same conditions and, therefore, no stylus pressure adjustment will be required.

Figure 13

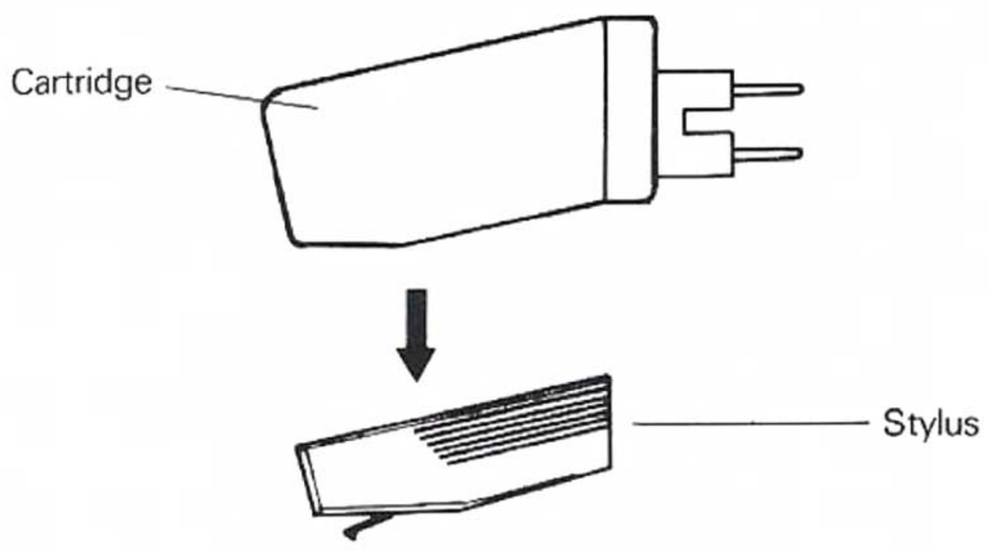


Replacement of Stylus

The diamond stylus of the turntable can normally play for about 250 hours. However, when sound becomes noisy, check the stylus for wear. If worn out, replace it (refer to Figure 14.) The worn stylus will damage the record permanently. It's better to replace your stylus than to replace your record library.

NOTE:
Upon replacement of the stylus be sure that the AC power is switched off or that the volume of the amplifier is turned to minimum or 0.

Figure 14



HINTS FOR BETTER SOUND

Howling:

Cartridges are sensitive and may pick up slight sound pressure or vibrations of the speaker coming along the floor or through the air. This results in howl. Therefore, location of your Turntable is important. Find a location where it will be stable and free from vibration.

Induction Hum:

Your turntable utilizes a brushless DC FG servo motor to reduce inductive hum. If you notice annoying hum, it may be caused by an electro-magnetic field produced by motors or transformers used in other products. Do not place the Turntable near such products. To prevent the Turntable from being affected by the power transformer of your amplifier, receiver or tape deck, position the Turn-table on the side opposite the power transformer.

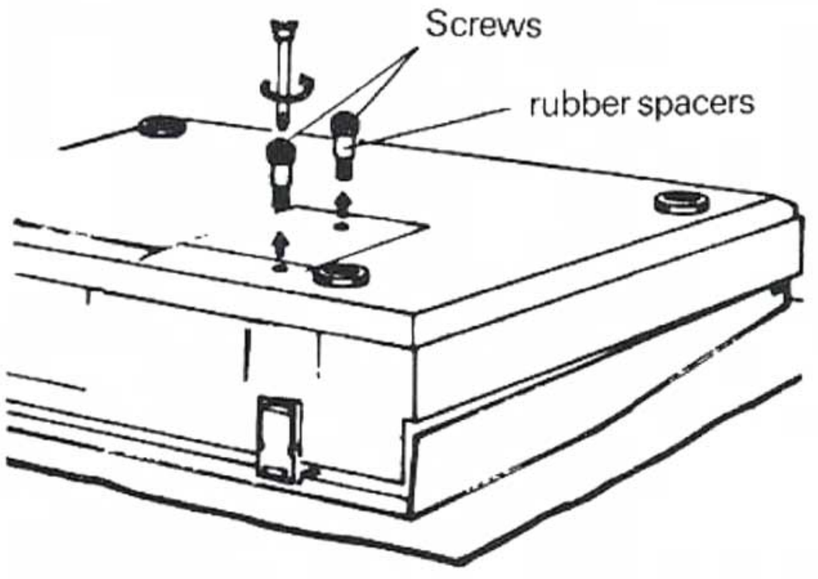
Record Care

When handling a record, always hold it by its edge and center label area. Never touch the groove surface. Make it a habit to return records to their jackets immediately after use.

Store the records in a vertical position and protect them from extremely high and low temperatures, high humidity, and direct sunlight.

When transporting your unit, remember to:
- attach the stylus protector
- remove the turntable platter
- tighten the tone arm with two screws and rubber spacers (See Figure 15.)
- fasten the tone arm with arm pad, placing the tone arm cushion around the arm. (See Figure 16.)

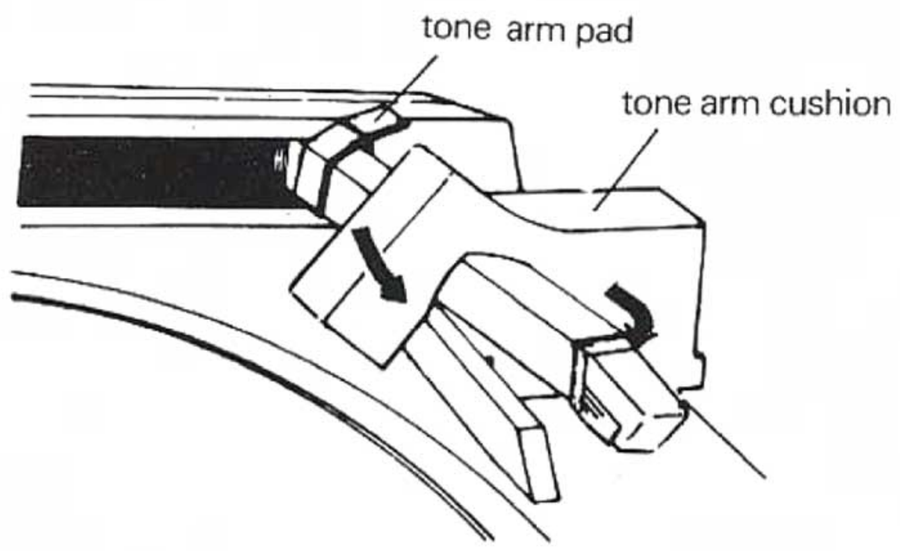
Figure 15



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Do not attempt to lubricate your LAB-2200. It does not require it and you could damage the unit. If you have some difficulty, bring it to your local Radio Shack store for our service personnel to check over.

Figure 16



MAINTENANCE

Your LAB-2200 represents a fine example of electronic engineering and construction. As such it should be treated accordingly. We offer the following suggestions so you will enjoy this product for many years to come.

If at anytime you suspect that your unit is not performing as it should, stop by your local Radio Shack store. Our personnel are there to assist you and arrange for service, if needed.



Keep it dry. If water should get on it, wipe it off immediately. Water contains minerals that can corrode electronic circuits.



Do not store in hot areas. High temperatures can shorten the life of electronic devices, and can even distort or melt certain plastics.



Do not drop your product. This will likely result in failure to operate. Circuit boards can crack and cases may not survive the impact. Handling your product roughly will shorten its useful life.



Playing a dirty record grinds dust against the record walls and wears the record (and stylus) out quickly. Records often carry dust-attracting charges and should be cleaned before use. Occasionally you will need to remove dust and dirt from the stylus to reduce record wear and maintain top performance. Your local Radio Shack store has a complete line of quality record care accessories.



If the cabinet or dust cover needs cleaning, use a soft, damp cloth (do not use solvents). Don't use insecticide, benzene or thinner near the cabinet.

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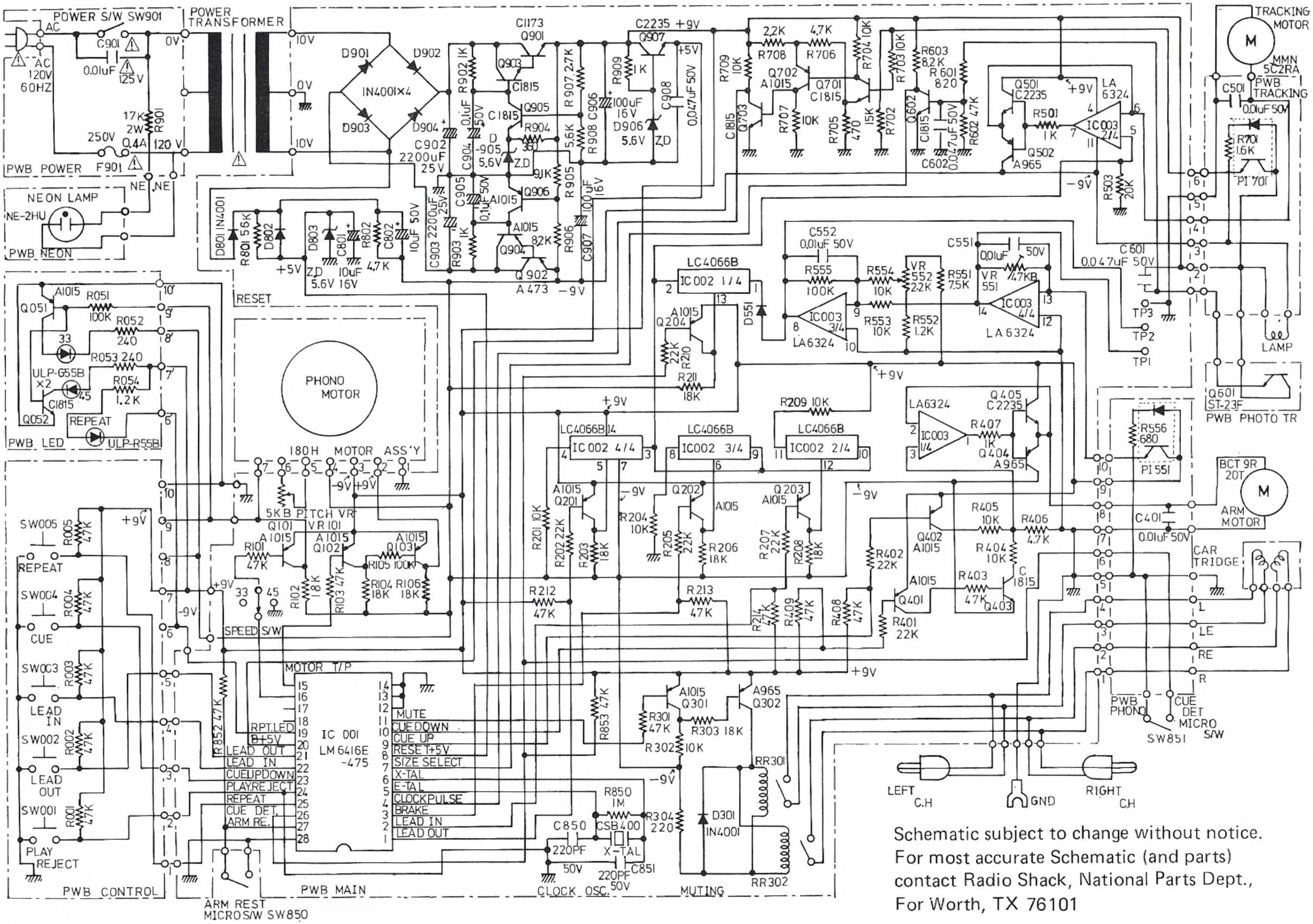
SPECIFICATIONS

Type	2 speeds, direct drive, linear tracking, automatic turntable
Platter	296mm aluminum alloy die-cast, with strobo dots on outside rim (for 33 1/3 and 45, 60Hz)
Motor	20-pole, 30 slot, 3-phase brushless type DC servo controlled direct-drive motor
Speed	2 speeds: 33 1/3 and 45 RPM
Pitch Control Range	±3%
Signal-to-Noise Ratio/Rumble	62dB (DIN-B)
Wow and Flutter	0.065% (WRMS)
Tone Arm	Straight tone arm
Effective Length	132mm
Cartridge	P-mount system, Radio Shack Cat.No. 42-2775 (Audio Technica)
Frequency Response	20-20,000Hz
Output Voltage	6mV (= 4mV) at 1kHz, Veff = 5.6cm/sec
Channel Difference	2dB at 1kHz
Channel Separation	More than 20dB at 1kHz
Tracking Force	1-1.5 grams
Stylus Tip	0.3x0.7mil elliptical diamond stylus, Radio shack Cat.No. 42-2776
Power Source	120 Volts, 60Hz AC (240 Volts, 50Hz AC for Australia)
Power Consumption	10 watts.
Dimensions	3.94(H)x13.46(W)x13.77(D)inches. (100(H)x342(W)x350(D)mm)
Weight	9.92 Lbs. (4.5Kg)
Accessories	45 r.p.m. adaptor

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SCHEMATIC DIAGRAM MAIN CONTROL

(240 V 50Hz AC for Australia)



Schematic subject to change without notice.
For most accurate Schematic (and parts)
contact Radio Shack, National Parts Dept.,
For Worth, TX 76101

SAFETY INSTRUCTIONS

These safety instructions are provided to aquaint you with certain warnings and cautions that must be observed for safe and proper operation of this record player.

1. All safety and operating instructions should be read BEFORE the record player is placed in operation. Save all instructions for future reference.
2. The manufacturer, in compliance with the requirements of Underwriters Laboratories, Inc., has placed various warning and caution labels on this record player for your protection. You should adhere to these notices and those in the operating instructions.
3. Do not operate this record player anywhere that is wet with water or moisture or near such items as a bath tub, washbowl, kitchen sink, laundry tub, or near a swimming pool.
4. Be sure there is proper ventilation. Do not place the record player on a bed, sofa, rug, or similar surface that will block the flow of air through the ventilation holes in the bottom of the record player. When installing the record player in an enclosed cabinet or book case,be sure there is ample ventilation to allow the movement of air through the ventilation openings in the record player.
5. Do not situate the record player near sources of heat such as stoves, radiators, heat registers, or other appliances that produce heat.
6. The power cord should be connected to a power receptacle of the proper voltage as described in the operating instructions or as noted on the record player. The power cord should be routed so that it will not be pinched by other items, appliances or furniture. Be sure to route the power cord where it will not be walked on. Be sure the power cord plug is fully inserted into the power receptacle and that no part of the prongs are visible.
7. The record player should be cleaned as recommended in the operating instructions. Care should be taken so that no objects fall into the record player enclosure or that no liquids are spilled into the record player.
8. During long periods of non-use, the power cord should be un-plugged from the outlet.
9. This record player should be serviced by qualified service personnel when:
   a. The power supply cord or plug has been damaged.
   b. Objects have fallen into or liquids have been spilled into the record player.
   c. The record player has been exposed to rain.
   d. The record player does not appear to operate normally or exhibits a marked change in performance.
   e. The record player has been dropped or the enclosure damaged.
10. Do not attempt to service the record player beyond that described in the operating instructions. All other service should be referred to qualified service personnel.

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RADIO SHACK LIMITED WARRANTY

This product is warranted against defects for 1 year from date of purchase from Radio Shack company-owned stores and authorized Radio Shack franchises and dealers. Within this period, we will repair it without charge for parts and labor. Simply **bring your Radio Shack sales slip** as proof of purchase date to any Radio Shack store. Warranty does not cover transportation costs, or a product subjected to misuse, accidental damage, alteration or improper installation.

EXCEPT AS PROVIDED HEREIN, RADIO SHACK MAKES NO WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. Some states do not permit limitation or exclusion of implied warranties; therefore, the aforesaid limitation(s) or exclusion(s) may not apply to the purchaser.

This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

We Service What We Sell

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A Division of Tandy Corporation
U.S.A.: FORT WORTH, TEXAS 76102
CANADA: BARRIE, ONTARIO L4M 4W5

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