

TELEDYNE ACOUSTIC RESEARCH

AR 77-XB TURNTABLE PRELIMINARY OWNER'S INSTRUCTION MANUAL

To protect it from damage in shipment the turntable is packed with certain parts separated from each other. Setting up the turntable requires that these parts be mounted in their regular operating positions, and that the turntable adjustments be set correctly for the cartridge you will be using. Most of the steps in the set-up procedure are brief; all are easily done in a few minutes if the instructions are followed methodically. To assemble simply follow the steps below in sequence.

All tools and parts needed for these steps are packed with the turntable, except the cartridge.

UNPACKING THE TURNTABLE

1. Remove the contents of the shipping carton in the following order: the Ownership Survey Card and the foam rubber record pad, the transparent dust cover (in its protective plastic bag), and the upper foam packing piece, being careful not to lose the parts packed in the top accessory tray.
2. Lift the turntable up and out of the bottom foam packing piece and place it in a convenient location to perform the following procedures.
3. Remove the outer platter from its tray in the bottom foam packing piece and place it next to the turntable.
4. Carefully lift the inner platter straight up being careful not to displace the belt from the platter or motor pulley and remove the three foam shipping shims beneath the inner platter.
5. Carefully lower the inner platter to its normal operating position.
6. Untwist the yellow pipe cleaner which fastens the front end of the tonearm to its rest. DO NOT AT THIS TIME REMOVE THE BLUE PIPE CLEANER WHICH TIES DOWN THE REAR END OF THE TONEARM AT THE PIVOT ASSEMBLY.
7. Unscrew completely and remove the wing-nut transit bolt, with the red CAUTION tag attached, that holds the turntable and tonearm suspension to the top plate and prevents suspension damage in transit. Store the bolt in the accessory tray of the upper foam packing piece for use in future shipping or transportation of the turntable. Please note that the wing-nut transit bolt MUST be used to secure the turntable suspension to the top plate whenever the turntable is shipped in order to prevent damage.
8. Remove all the accessories from the tray in the upper foam packing piece and replace all the packing materials in the carton for future use in shipping or transporting the turntable.
9. Refer to and continue with ASSEMBLING TURNTABLE below.

ASSEMBLING TURNTABLE

To Set Up Tone Arm

Remove the blue tie-down at the rear of the arm so that the arm moves freely. Slide the counterweight on the rear of the arm and secure it in place with the set screw, using the screwdriver provided in the accessory tray. Should the screw be missing there is a spare screw in the cartridge hardware envelope. It is not necessary to tighten the set screw fully at this time. Check to see that the wire at the back of the tone arm is formed into a wide loop. If not, gently bend it into the proper shape.

To Install Cartridge

If your turntable has not been prefitted with a cartridge by your dealer, you must mount the cartridge at this time. The accessory tray has a small envelope containing a selection of screws intended to mount the cartridge in the cartridge shell. In addition to the screws, there is a molded piece which has a series of three standoff bushings should they be needed. Most magnetic cartridges can be mounted without the use of stand-off bushings in the AR turntable, since the arm has been designed to accommodate cartridges which have a height of 0.600 inch to 0.750 inch from the mounting surface to the stylus tip. Standoff bushings are provided for cartridges that are exceptions to the above dimensions. Select the screws which when fitted into the screw holes in the cartridge and seated in their normal mounted position extend not more than 1/8 inch above the top of the cartridge. Before the cartridge is screwed into the shell, the small clips at the ends of the wire in the shell should be pushed onto the corresponding cartridge connecting pins. Identify the appropriate left-and right-channel pins on the cartridge from the cartridge manufacturer's instruction sheet and follow the color code:

Left Channel: White lead is "hot", "high" or signal lead
Green lead is "low" or ground lead

Right Channel: Red lead is "hot", "high" or signal lead
Black lead is "low" or ground lead

Once the correct connections from the shell to the cartridge have been made, mount the cartridge onto the shell using the proper screws and standoff bushings, if necessary. Do not overtighten the screws or you may strip the fine threads in the screw sockets. Make certain that the leads are folded up into the shell, directly into the recess behind the cartridge to prevent their contacting the record surface and creating tracking problems.

DO NOT SOLDER LEADS TO THE CARTRIDGE TERMINALS.

To Attach Shell to Tone Arm

To install the shell, place the arm in the arm rest and push the knurled nut back so that you can see the white plastic sleeve on the end of the tonearm. Line up the small projections on the tubular part at the rear of the shell with the notches in the white plastic sleeve. Push the shell all the way against the plastic sleeve and tighten the knurled collar. The cartridge shell should be held parallel to the top plate without moving while the knurled collar is being tightened. While doing this, make sure the tone arm is secure in its rest. The collar should be turned to a comfortable tightness, but without any strain or forcing.

To Install Outer Platter and Mat

Check that the drive belt is wound around the inner platter and the upper pulley (for 33-1/3 rpm) without twists. Install the outer platter. Place the turntable mat on the platter with the molded "dots" facing upward.

SETTING STYLUS FORCE

A stylus force gauge with instructions has been included with your turntable. Remove the protective stylus guard. Any stylus force required, down to 1 gram, may be used with the AR tone arm. Follow the cartridge manufacturer's recommendations for optimum stylus tracking force. If there is any question in determining the optimum stylus tracking force, we recommend Stereo Review's SR12 Test Record available from Stereo Review, 1 Park Avenue, New York, N. Y. 10016, at \$5.98, which will permit you to adjust the optimal tracking force for your cartridge in the AR 77-XB.

About 1/32-inch movement of the counterweight produces 1/4-gram change of stylus force.

The stylus force required by a cartridge is not an index of its quality. Using less than the correct stylus force degrades performance and increases record wear, since the needle will not stay in proper contact with the groove walls. It is far better to use more stylus force than too little. After you have set the stylus force replace the protective stylus guard and continue with the steps following.

CONNECTING THE TURNTABLE TO AMPLIFIER OR RECEIVER

Insert the power plug into a 117 a.c. socket, either in a wall outlet or on the rear panel of the amplifier. If your amplifier/receiver has a "switched" outlet you may plug your turntable into it. Leave the switch on the turntable in the "on" position, and the unit will turn on and off automatically when the amplifier is turned on and off.

For stereo playback insert the two phono plugs into the "right" and "left" phono inputs of your amplifier. The color-coded red plug on the turntable-to-amplifier lead goes into the "right" channel input socket.

If you are using a stereo cartridge in a monaural system (only one speaker system), a simple method of connecting the turntable is to connect the two phono plugs in parallel with a "Y" adapter, which can then be plugged into the input of the amplifier. If such an adapter is not available, plug the gray connector into the phono input and the red one into any unused input socket.

OPERATING THE TURNTABLE

1. Adjust Speed

All units are preset for 33-1/3 rpm operation. If you wish to change speed to 45 rpm proceed as follows: Lift the outer platter and turntable mat and move the drive belt to the other pulley section. The larger pulley flange is for 45 rpm. Do not try to start the turntable without the outer platter in place or the belt is likely to come off. It is unnecessary to adjust the exact position of the drive belt on the pulley or inner platter; the design is self-centering. Avoid hitting the pulley when removing or replacing the outer platter.

A slight amount of vibration can normally be felt in the drive pulley when the motor is off. This is normal and harmless.

2. Remove Protective Stylus Guard from Cartridge

This may be packed in accessory tray for future use in case the turntable is to be reshipped.

3. Put Record on Turntable

If a 45-rpm record with a large center hole is being played remove the 45 rpm adapter disc from the accessory tray and place it on the turntable center spindle.

4. Turn On

To start unit depress the rocker switch on the right front control panel towards the back of the turntable.

5. Gently release arm from rest by lifting up.

You may either place the stylus on the record by hand or use the cueing mechanism.

6. Use of the Cue Device

The AR 77-XB turntable has been designed with an integral viscous damped cue mechanism. This device permits you to raise and lower the arm without touching it.

After you have released the arm from the rest (step 5) move the cue lever toward the front of the turntable. The arm will rise. Gently move the tone arm to the band on the record you wish to play. Move the cue lever back to lower the arm onto the record.

There is a delayed action in this mechanism which is caused by the damping material within the cueing mechanism.

The cueing mechanism may also be used as a "pause" control to interrupt play at any time.

At the completion of the record the tone arm will stay in the run-out groove and the turntable will continue to rotate. You should return the arm to its rest post and secure it in place unless you plan to continue playing records.

To stop rotation of the turntable unit depress the rocker switch on the control panel towards the front of the turntable.

7. Hinged Dust Cover

The AR 77-XB is supplied with a hinged dust cover which will remain in the upright position, making the tonearm and turntable platter accessible. The dust cover may be lowered and kept closed while a record is being played. Simply lift the front of the dust cover, by its two front corners and swivel upward. The automatic hinge will hold the cover upright. To close, pull the cover down by its front corners and fit its edge around the turntable base.

ADJUSTMENTS

These adjustments have been preset at the factory and the following information is provided only if readjustments are necessary.

1. Arm Length

The arm is adjusted at the factory to the correct length for cartridges which meet industry dimensional standards. Some cartridges do not conform to these standards, requiring that the arm be lengthened or shortened slightly to play records with least distortion.

After the cartridge has been installed and the outer platter and turntable mat are in place, the arm length can be checked using the plastic guide marked "AIM TOWARD PIVOT" in the accessory tray. Place a record on the turntable and put the hole in the plastic guide over the center spindle of the turntable, aiming the pointed end of the guide at the arm pivot. If the dimensions of the cartridge are standard and the arm length is correct, the tip of the stylus will fit into the small dimple of the plastic guide. The fit need not be perfect, as long as the stylus comes down anywhere inside the dimple. If the stylus does not rest in the dimple, first check to be sure that the guide is still pointing at the pivot. If it is, then the arm length should be adjusted. To do this, loosen the set screw on the platter side of the pivot assembly, and gently slide the entire tubular section of the arm forward or backward. Do not pull the tone arm tube hard, or you may wrench the arm out of the coupling block socket and tear out the tonearm wires. If the arm does not move freely, use a slight twisting motion to move it in or out of its mounting.

Be sure to tighten the set screw after adjusting the length, make certain the stylus is perpendicular to the record surface and that the tonearm and cartridge shell are not twisted or canted with respect to the record surface.

2. Cueing Mechanism

The rate of descent of the arm is preset at the factory for a 1 - 3 second drop. If the setting goes out of adjustment, turn the cue-cylinder hemispherical cap under the pivot assembly of the tone arm. The

hemispherical cap should be turned no more than 1/2 turn at a time. To increase the rate of descent turn it clockwise; to decrease the rate of descent turn it counterclockwise.

The height of the cueing mechanism may be adjusted by rotating the small, conical knurled cap at the top of the cue plunger. To increase height, turn the knurled cap counter-clockwise; to decrease the height, turn clockwise. The conical knurled cap should be turned 1/8 turn at a time.

MAINTENANCE

1. Lubrication

Oil is provided in a squeeze bottle packed in the accessory tray. It should be used once a year as follows:

Lift the inner platter straight up about 2" (it is not necessary to take the platter out of the bearing) and put a few drops of oil on the spindle.

Make sure that you do not get oil on the belt. If you do, the belt must be cleaned and powdered as explained under "Cleaning the belt", below.

If you lose the bottle of oil which comes with the turntable, you can use any #10 machine oil without additives, such as Golden Shell 10W.

Note: The AR 77-XB horizontal tonearm bearings are a new "oil-less" type which require no oil. DO NOT OIL THE HORIZONTAL BEARING. The vertical bearings have been permanently greased with a synthetic grease and will require no further attention.

2. Cleaning the belt

If any oil substance should get on the drive belt, remove the belt and clean it with tissue soaked in methyl alcohol (wood alcohol); rubbing alcohol should not be used. The pulley and inner platter surfaces on which the belt rides should also be wiped clean with the alcohol. After the belt is cleaned, dust it in ordinary talcum powder - this is important! Without the talcum powder the turntable will not start properly. We suggest that you clean and powder the belt once each year.

3. Cleaning the dust cover

The cover should be wiped with a dry dust cloth whenever the rest of the furniture is dusted. When it becomes difficult to wipe off fingerprints, or when the surface has accumulated a coating of grime, apply a combination cleaner and wax of good quality and wipe dry according to directions.

To remove severe dirt or grime deposits, the cover should be washed in a solution of lukewarm (not hot) water and mild dishwashing detergent, rinsed in clear, cold water, wiped dry, and then waxed as described above.

A clean dust cover will prevent dust from collecting on the record mat, from which it can be transferred by static electricity to the record itself. If used at all times the dust cover will keep the turntable, arm, record mat and record relatively clean and provide protection against accidental damage as well.

WHAT TO DO IN CASE OF CONCEALED DAMAGE

Concealed damage is damage which does not become apparent until the carton has been opened. The contents of the carton may be damaged in transit due to rough or careless handling, even though the exterior appears undamaged.

This AR product was carefully inspected and packed, and left our factory in perfect condition. Any damage which occurred before it reached you must, in all probability, have been caused in transit. Responsibility for safe delivery was assumed by the carrier upon accepting the shipment. Any claims for damage must therefore be made by the receiver against the carrier.

IF THIS WAS DELIVERED BY A TRANSPORTATION COMPANY

Notify that company immediately, make a written request for an inspection, and hold the merchandise and its carton for the inspector. After a joint inspection report is made, file a claim with that company.

If damage has occurred, you may request an "Authorized Return" label from us, advising us of the circumstances. Upon receipt of the label, you should return the turntable to us prepaid, after packing it carefully. If you need a new carton, we will be glad to send one on request; the carton price is \$10.00 postpaid. When we have made the repair, we will notify you of the charges and will remit an invoice for the repair. You may then use this invoice and the freight receipts as a basis for filing your claim.

IF THIS WAS PICKED UP FROM YOUR LOCAL DEALER

Notify the dealer immediately. He, in turn, should notify the transportation company who delivered it to him, request an inspection, and file a claim. Hold the merchandise and its carton for inspection.