Linear Tracking
Full Automatic
Programmable Turntable

BSR

XL-1200
WARNING: TO PREVENT FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

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.

Explanation of Graphical Symbols
The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.
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.
IMPORTANT SAFEGUARDS
SAFETY POINTS YOU SHOULD KNOW ABOUT YOUR AUDIO EQUIPMENT.

CAUTION:
• Read all of these instructions.
• Save these instructions for later use.
• Follow all warnings and instructions marked on the audio equipment.

1. Read Instructions—All the safety and operating instructions should be read before the appliance is operated.
2. Retain Instructions—The safety and operating instructions should be retained for future reference.
3. Heed Warnings—All warnings on the appliance and in the operating instructions should be adhered to.
4. Follow Instructions—All operating and use instructions should be followed.
5. Water and Moisture—The appliance should not be used near water—for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, etc.
6. Carts and Stands—The appliance should be used only with a cart or stand that is recommended by the manufacturer.
7. Wall or Ceiling Mounting—The appliance should be mounted to a wall or ceiling only as recommended by the manufacturer.
8. Heat—The appliance should be situated away from heat sources such as radiators, heat registers, stoves, or other appliances (including amplifiers) that produce heat.
9. Ventilation—The appliance should be situated so that its location or position does not interfere with its proper ventilation. For example, the appliance should not be situated on a bed, sofa, rug, or similar surface that may block the ventilation openings, or, placed in a built-in installation, such as a bookcase or cabinet that may impede the flow or air through the ventilation openings.
10. Power Sources—The appliance should be connected to a power supply only of the type described in the operating instructions or as marked on the appliance.
11. Grounding or Polarization—The precautions that should be taken so that the grounding or polarization means of an appliance is not defeated.
12. 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 appliance.
13. Cleaning—The appliance should be cleaned only as recommended by the manufacturer.
14. Power Lines—An outdoor antenna should be located away from power lines.
15. Outdoor Antenna Grounding—If an outdoor antenna is connected to the receiver, be sure the antenna system is grounded so as to provide some protection against voltage surges and built-up static charges. Section 810 of the National Electrical Code, ANSI/NFPA No. 70—1984, provides information with respect 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. See Figure below.

PORTABLE CART WARNING

16. Nonuse Periods—The power cord of the appliance should be unplugged from the outlet when left unused for a long period of time.
17. Object and Liquid Entry—Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.
18. Damage Requiring Service—The appliance should be serviced by qualified service personnel when:
A. The power-supply cord or the plug has been damaged; or
B. Objects have fallen, or liquid has been spilled into the appliance; or
C. The appliance has been exposed to rain; or
D. The appliance does not appear to operate normally or exhibits a marked change in performance; or
E. The appliance has been dropped, or the enclosure damaged.
19. Servicing—The user should not attempt to service the appliance beyond that described in the operating instructions. All other servicing should be referred to qualified service personnel.

Printed in Korea
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Turntable Features

Linear Tracking Tonearm
The linear tracking tonearm moves the way the cutting head in a record-master cutting machine does. Tracking error and distortion are reduced to a minimum—and your prized records are protected from unnecessary wear. Tracking force is just 2 grams.

Tonearm Muting
A muting switch eliminates any noise which might be produced when the stylus is raised from or lowered to the record surface.

Automatic Size and Speed Selection
The Turntable's optical system detects record size and automatically selects the correct turntable speed: 33 1/3 RPM for your 12" records and 45 RPM for 7" records.

Programmed Play
You can play up to eight selections on a record in any sequence you choose, repeating some or all of them for up to a total of fifteen selections.

Direct Access Play
You can begin play at the start of any track on a record (up to the eighth selection) and continue play till the end of the record.

Repeat Play
You can repeat the entire record (or the selections you have programmed) up to sixteen times.

Manual override is available for playing transparent records and other non-standard records.
Turntable Installation

Model XL-1200 Turntable.

Location

Choose a location away from heat sources such as direct sunlight and heating units. Do not mount the Turntable (or any other components) directly above a stereo amplifier or receiver because excessive heat may rise from them. If your Turntable is to be rack-mounted with other components, be sure that there is adequate ventilation at the back and around the sides of all components.

Your Turntable should be placed on a solid, level surface for best operation. Turntable placement on top of a speaker cabinet is not recommended; vibrations may be transmitted to the platter and tonearm, resulting in sound distortion and feedback.

Unpacking

After you have removed the Turntable from its carton, three steps are required before you connect it to your stereo amplifier or receiver.

A. Remove the shipping screws from the bottom of the unit.
B. Remove the tonearm supports.
C. Remove Plastic Stylus Protector
D. Install the platter and its rubber mat.

(A) Shipping Screws

1. Place the Turntable upside down on a soft cloth.
2. Locate the two screws with the rubber spacers and remove them with a Phillips (cross-point) screwdriver.
3. Save the screws and spacers; reinstall them before transporting the Turntable.

(B) Tonearm Supports

Be careful not to damage the stylus when you perform the following steps. If you accidentally dislodge the stylus, refer to the instructions for stylus replacement on Page 7.

1. Referring to the illustration above, identify the points on the tonearm supports before you attempt to remove them.
2. Remove the tonearm supports as shown above.
3. Save the tonearm supports. Reinsert them before transporting the Turntable.

(C) Stylus Protector

1. Locate and remove the stylus protector.
2. Save the stylus protector. Reinsert it before transporting the Turntable.

(D) Platter and Mat

1. Align the center hole in the PLATTER with the SPINDLE and slip it into position.
2. Place the belt over the motor pulley, taking care not to twist the belt.
3. Align the center hole in the MAT with the SPINDLE and place it on the PLATTER.
45 ADAPTER: Place over SPINDLE in order to accommodate the large center hole of 45 RPM records.

POWER: Alternately turns power on and off.

PROGRAM Buttons: These buttons select the track to be played, either immediately or as part of a programmed sequence. Lights above the buttons indicate which track is being selected during programming and which track is playing during PROGRAMMED PLAY mode.

MEMORY/CLEAR: Enters track selections into memory or clears the memory. See Page 6

REPEAT: Repeats entire record in NORMAL PLAY; repeats programmed selections in PROGRAMMED PLAY. During REPEAT PLAY, the indicator light above the button is on.

SPEED: Selection is automatic for standard records. Use this button for manual speed selection when playing non-standard records. Lights above the button indicate the speed selected. See Page 7.

FORWARD TRACK: In DIRECT ACCESS PLAY or PROGRAMMED PLAY mode, press this button to skip to the next selection programmed into memory. In NORMAL PLAY, STOP or PAUSE mode, press this button to move the TONEARM toward the center of the record.

BACKWARD SKIP: Activates the same functions as the FORWARD SKIP button but in the opposite direction.

STOP: Stops play; returns TONEARM to its resting position.

PLAY/PAUSE: During the STOP or PAUSE mode, press this button to begin Turntable play. During PLAY mode, press this to raise and lower the TONEARM alternately.

SCANNING SENSITIVITY Button: Adjusts the optical system which determines record size and locates individual selections. For normal operation, this button should be set to M. See Page 7 for instructions on playing non-standard records.

PLATTER
MAT
SPINDLE
CARTRIDGE
LINEAR TRACKING TONEARM (referred to as TONEARM elsewhere in this manual)
DUST COVER
Manual Operation

Methods of Play
There are four basic methods of record playback:

- **NORMAL PLAY** for record playback from start to finish.
- **MANUAL PLAY** for non-standard record playback or to begin playback within a particular track.
- **DIRECT ACCESS PLAY** for record playback beginning at the start of any specified track (first through eighth on the record side).
- **PROGRAMMED PLAY** for playback of up to fifteen selections in any desired sequence, using the first through eighth tracks on the record side.

Inserting a Record
Follow these two steps regardless of which playback method you are using.

1. Press the **POWER** button.
2. Place the record over the **SPINDLE**. Use the **45 ADAPTER** if you are playing a 45 RPM record. Before performing any **PLAY** function, be sure to place a record on the Turntable. The **STYLUS** could be damaged if it contacts the **MAT** or the edge of the record.

Normal Play

1. Press the **PLAY/PAUSE** button. Playback will begin with the first track on the record and continue through the end of the side. The **TONEARm** will return to its resting position and **PLATTER** rotation will halt when record playback is completed.
2. To halt playback, press the **STOP** button at the desired point. The **TONEARm** will return to its resting position and **PLATTER** rotation will halt.

Manual Play

1. Press the **SPEED** button if you need to change the **PLATTER** rotation speed.
2. Use the **|◄◄ (FORWARD SKIP)** and **|►► | (BACKWARD SKIP)** buttons to position the **TONEARm** above the record at the point where playback is to begin. When the **TONEARm** is in position, press the **PLAY/PAUSE** button to lower the **TONEARm** to the record and begin playback. Do not begin playback unless the stylus is over the record surface. It could be damaged if it contacts the **MAT** or the outer edge of the record.

Direct Access Play

1. Press the **PROGRAM** button corresponding with the number of the track with which you want to begin playback. The indicator light above the **PROGRAM** button will begin to flash.
2. Press the **PLAY/PAUSE** button. The indicator light above the desired **PROGRAM** button will stop flashing and stay on.
3. The optical system will scan the record. Playback will begin at the start of the track selected. If you have selected a track number higher than the number of tracks on the record side, the **PROGRAM** button indicator light will go off and Turntable rotation will halt.
4. After the optical system has scanned the record, playback will begin. During playback, the indicator light above the **PROGRAM** button corresponding with the track being played will light up.
5. You may interrupt record playback by pressing the **PLAY/PAUSE** button. This function operates identically during **DIRECT ACCESS PLAY** and **NORMAL PLAY**.
6. During playback, use the **|◄◄ (FORWARD SKIP)** button to skip to the next track and the **|►► | (BACKWARD SKIP)** button to skip to the beginning of the current track.
7. If you press the **PLAY/PAUSE** button during the **DIRECT ACCESS PLAY** mode, the **|◄◄ (FORWARD SKIP)** and **|►► | (BACKWARD SKIP)** buttons move the **TONEARm** toward the center or the outer edge of the record.
Programmed Play
In order to use the PROGRAMMED PLAY mode, you first must place the Turntable in the STOP mode.
Before the Turntable can operate in the PROGRAMMED PLAY mode, you must indicate which tracks you want it to play and in what sequence. This process is known as "programming the memory."

You can program the memory to play the tracks on a record in any order. Any track can be played more than once. Since the memory can store up to fifteen entries, you could choose to play five selected tracks three times each in different sequences, three tracks five times, etc. You need not fill the memory every time you program it; you can choose to program only one track if you wish. Since there rarely are more than eight tracks on one side of a record, the Turntable has been designed to program only the first eight tracks.

The Turntable's memory essentially is a small computer. Like all computers, it must receive information in a specified form and sequence. The step-by-step programming procedure is as follows:

1. Press the numbered PROGRAM button corresponding with the first track you want to play. The indicator light above it will begin to flash.

2. Press the MEMORY/CLEAR button. The indicator light above the desired PROGRAM button will stop flashing and stay on.

3. Press the numbered PROGRAM button corresponding with the second track you want to play. The indicator light above it will begin to flash.

4. Press the MEMORY/CLEAR button again. The indicator light above the PROGRAM button will stop flashing and stay on.

If you accidentally press the wrong PROGRAM button, press the correct one before pressing the MEMORY/CLEAR button. After you have pressed MEMORY/CLEAR, you cannot change a selection without cancelling ("clearing") your entire program and beginning again.

You can clear the entire program by pressing MEMORY/CLEAR twice. If you clear the memory while you are programming it, begin again.

Playback of Programmed Selections
After you have programmed the memory, simply press the PLAY/PAUSE button to start playback of your selections. The optical system will scan the record to locate the beginning of each selection. Playback will begin once scanning is completed. As each track begins to play, the indicator light above the corresponding MEMORY/PROGRAM button will light up. When the last selection in your program has been played, the TONEARM will return to its resting position and PLATTER rotation will halt.

The PLAY/PAUSE button operates identically in PROGRAMMED PLAY and NORMAL PLAY. To halt playback and return the TONEARM, press the STOP button.

1. During playback, use the \[\rightarrow \rightarrow \] (FORWARD SKIP) and \[\rightarrow \rightarrow \rightarrow \] (BACKWARD SKIP) buttons to skip to the track before or after the track in the program memory.

2. If you press the PLAY/PAUSE button during the PROGRAMMED PLAY mode, the \[\rightarrow \rightarrow \] (FORWARD SKIP) and \[\rightarrow \rightarrow \rightarrow \] (FORWARD SKIP) buttons move the TONEARM toward the center or the outer edge of the record and clear the program memory. When you resume playback after moving the TONEARM, the Turntable will play to the end of the record and stop. Pressing any of the following buttons during the PROGRAMMED PLAY mode will clear the program memory:
   - The STOP button
   - The PLAY/PAUSE button followed by either the \[\rightarrow \rightarrow \] (FORWARD SKIP) or the \[\rightarrow \rightarrow \rightarrow \] (BACKWARD SKIP) button.

Repeat Play
Press the REPEAT button to begin repeat playback. The indicator light above the REPEAT button comes on to show that the REPEAT PLAY mode is operating. REPEAT PLAY will continue for sixteen plays, then stop and turn off automatically.

You can halt the REPEAT PLAY mode at any time by pressing the REPEAT button again. The indicator light above the REPEAT button will go out. Record play will continue until the end of the record side (or until the end of the programmed sequence in PROGRAMMED PLAY mode).

1. Do not use the REPEAT button during the MANUAL PLAY mode.

2. If you activate REPEAT PLAY during the NORMAL PLAY mode, the entire record will be repeated.

3. If you activate REPEAT PLAY during the DIRECT ACCESS PLAY mode, the entire record will be repeated.

4. If you activate REPEAT PLAY during the PROGRAMMED PLAY mode, only the programmed tracks will be repeated.
**Playing Non-Standard Records**

Your Turntable uses a sophisticated optical system to detect the size of the record placed on the **PLATTER** and the location of the unrecorded bands between the tracks. The system relies on the difference between the amount of light reflected off the platter **MAT** and off the outer rim of the record to determine record size. It relies on the difference between the reflectivity of the smooth surface between tracks and the grooved surface of the recorded tracks to locate the start of each track. The optical system can tolerate normal variations in the appearance of good-quality records which meet industry standards for size, material, recording technique, etc. Records which have been damaged or which do not conform to industry standards may need to be played in the **MANUAL PLAY**.

Some non-standard records may be played in the **DIRECT ACCESS PLAY** and **PROGRAMMED PLAY** modes if the setting of the **SCANNING SENSITIVITY** button is changed. For playback of standard records, this switch should be set to the **M** position. Changing the sensitivity setting to **L** or **H** may improve optical system operation in some instances. Consult the table below.

**NOTE:** The unrecorded surfaces at the outer edge of the record, between tracks and following the end of the last track on the side are called “lands” in the following table.

<table>
<thead>
<tr>
<th>RECORD TYPE OR CONDITION</th>
<th>PROCEDURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>33 1/3 RPM, not 12” in diameter</td>
<td>Set <strong>SPEED</strong> to 33 1/3 and play manually</td>
</tr>
<tr>
<td>45 RPM, not 7” in diameter</td>
<td>Set <strong>SPEED</strong> to 45 and play manually</td>
</tr>
<tr>
<td>Transparent, translucent, non-black or has printed image on surface</td>
<td>Play manually</td>
</tr>
<tr>
<td>Warped or eccentric (hole not centered)</td>
<td>Play manually</td>
</tr>
<tr>
<td>Dirty or scratched</td>
<td>Clean if possible or play manually</td>
</tr>
<tr>
<td>Very short tracks</td>
<td>Use <strong>NORMAL PLAY</strong> (these may be skipped in <strong>DIRECT ACCESS PLAY</strong> and <strong>PROGRAMMED PLAY</strong></td>
</tr>
<tr>
<td>Very narrow lands between tracks</td>
<td>Set <strong>SCANNING SENSITIVITY</strong> button to <strong>H</strong> or use <strong>NORMAL PLAY</strong></td>
</tr>
<tr>
<td>Recorded grooves in track very rough or widely separated</td>
<td>Set <strong>SCANNING SENSITIVITY</strong> button to <strong>L</strong> or use <strong>NORMAL PLAY</strong></td>
</tr>
<tr>
<td>Unusual shape (heart-shaped, square, etc.)</td>
<td>Play manually</td>
</tr>
</tbody>
</table>

**Adjusting Point of Stylus Descent**

The descent position on the first track of the disc is not user adjustable. The stylus ascent/descent position for tracks other than the first track has been adjusted before delivery. However, if the stylus sets down before or after the beginning of a track perform the following adjustment procedure.

1. Choose a 12-inch 33-1/3 RPM disc that has none of the faults in the preceding table. It will be helpful if you are familiar with its program content.
2. Obtain a small crosspoint (Phillips) screwdriver to turn the adjusting screw.
3. Use **Programmed Play** to start play at the second or a subsequent track.
4. Note the point at which the track begins to play:
   * If play begins too late
     Turn the screw counter clockwise (illustrated above with the letter **B**).
   * If play begins too soon (possibly near the end of the preceding track)
     Turn the screw clockwise (illustrated above with the letter **A**).

**NOTE:** A full turn of the adjusting screw changes the point of descent about 0.35 **MILIMETERS** (slightly less than 1/32 inch). This is roughly 2-1/2 to 3 revolutions of most discs.

5. Repeat Step 4 as required.

**Stylus Replacement**

If sound becomes distorted or noisy, check the stylus for accumulated dust. To clean the stylus, use a stylus cleaner.

If cleaning does not correct the problem, have the stylus checked for wear. The typical playing life of a diamond stylus is approximately 700 hours.

1. Press the **POWER** button.
2. Press and hold the **I ◄** (FORWARD SKIP) button on the Turntable to move the **TONEARM** approximately 2" from its resting position.
3. Grasp the stylus as shown and gently pull it downward.
4. Install the new stylus by slipping it into position.
For Continued Enjoyment

Cleaning
Dust the exposed surfaces as required using a soft cloth or the dusting attachment of your vacuum cleaner. Some of the plastic surfaces are easily scratched; they can be marred by alcohol and various solvents. Glass wax applied with a soft cloth or tissue will restore the original sparkle. Avoid excessive use of oil-based furniture polishes since the materials used in this cabinet are non-porous and the residue will accumulate more dust.

Turn the Turntable off before cleaning it. This disables all controls except the POWER button. When you are cleaning or dusting the back of the Turntable, be especially careful not to loosen any connections.

Heat and Moisture Protection
Place the Turntable on a hard, level surface which is large enough to allow all four mounting feet to rest on it. Do not allow other electronic components, deep-pile mats, rugs, etc. to obstruct the ventilation holes in your equipment’s cabinets.

Turntable placement on top of a speaker cabinet is not recommended; vibrations may be transmitted to the PLATTER and TONEARM, resulting in sound distortion and feedback.

Trouble Checks

Does Not Turn On
- Make sure the power cord is firmly seated in the power outlet.
- Make sure the receptacle is operational by plugging some other device into the same socket for a test.

No Sound
- Make sure the Turntable has been selected as the playback source.

Hum
- Make sure the ground wire in the phonograph cable is attached to the ground screw on the amplifier.
- Make sure the cable is completely plugged into the jacks on the amplifier.

Very Low Volume
- Check the CARTRIDGE.

Sound Distorted or Noisy
- Check the stylus for wear. Replace it if necessary. A worn stylus can damage your records.
- Make sure your records are clean. Use record cleaning materials (available from record stores and audio equipment stores) or mild detergent and a soft cloth.
- Make sure your stylus is free from dust. Clean it regularly with a stylus cleaner.

Skips some Tracks in PROGRAMMED PLAY
- See the table on Page 9 for additional information.
**Specifications**

<table>
<thead>
<tr>
<th>Turntable Type</th>
<th>2-speed, belt-drive fully automatic turntable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Platter Drive</td>
<td>DC servo motor</td>
</tr>
<tr>
<td>Speeds</td>
<td>33 1/3 and 45 RPM, automatically switched by record size, with manual override</td>
</tr>
<tr>
<td>Platter</td>
<td>11 5/8” diameter, die-cast aluminum alloy</td>
</tr>
<tr>
<td>Signal-to-Noise (S/N) Ratio</td>
<td>&gt;65 dB (DIN-B)</td>
</tr>
<tr>
<td>Wow and Flutter</td>
<td>0.06% (WRMS)</td>
</tr>
<tr>
<td>Power Requirement</td>
<td>9.5 watts at 120 volts, 60 Hz</td>
</tr>
<tr>
<td>Dimensions</td>
<td>(W)16 1/2”×(D)14 11/16”×(H)4”</td>
</tr>
<tr>
<td>Weight (approx.)</td>
<td>9 lbs.</td>
</tr>
</tbody>
</table>

**Tonearm**

<table>
<thead>
<tr>
<th>Type</th>
<th>Linear tracking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effective Length (approx.)</td>
<td>5 3/8”</td>
</tr>
</tbody>
</table>

**Cartridge**

<table>
<thead>
<tr>
<th>Type</th>
<th>Dual magnet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stylus</td>
<td>DS-ST16</td>
</tr>
<tr>
<td>Frequency Range</td>
<td>10 Hz to 25 kHz</td>
</tr>
<tr>
<td>Output Voltage</td>
<td>2.5 mV at 1 kHz</td>
</tr>
<tr>
<td>Channel Difference</td>
<td>0.5 dB at 1 kHz</td>
</tr>
<tr>
<td>Channel Separation</td>
<td>23 dB at 1 kHz</td>
</tr>
<tr>
<td>Tracking Force</td>
<td>2 grams</td>
</tr>
</tbody>
</table>

NOTE: Specifications are subject to change without notice.

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**Transporting the Turntable**

To prepare the turntable for shipping, perform the following steps before disconnecting the power cord plug.

1. Press the POWER button to turn off the Turntable.
2. After the TONEARM has reached its resting position, remove the Turntable MAT and PLATTER.
3. Install the tonearm support and plastic stylus protector as shown on page 3.
4. Remove the power cord plug from the wall outlet and place the Turntable upside down on a soft cloth.
5. Install the spacers and shipping screws. (Refer to Page 3 for correct procedures.)
6. Use the original outside packing materials and carton to ship or transport the Turntable.

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**Removing Dust Cover**

The dust cover can be removed by first opening the lid and then lifting up as shown. This gives you additional flexibility when positioning your Turntable in an audio rack or furniture stand. If your rack has limited space, you can remove the dust cover.