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Technics

Direct Drive Automatic
Turntable System

'82 SL-6

Operating Instructions

TAP is the standard mark for plug-in-connector type.
Products carrying this mark are interchangeable and adaptable
among each other.



This apparatus was produced to "BS800: 1977"

Before operating this product, please read these instructions completely.

We want to thank you for selecting the SL-6.
For optimum performance, we recommend that you read these instructions carefully.

Note:

The operating instructions are commonly applicable to units of different colors.

**Caution for safe use of this apparatus
for UNITED KINGDOM model SL-6.**

Caution:

This apparatus is double insulated, safety earth not required.

Important

The wires in this mains lead are coloured in accordance with the following code:

| | |
|---------------|----------------|
| Blue: | Neutral |
| Brown: | Live |

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows.

The wire which is coloured **BLUE** must be connected to the terminal which is marked with the letter **N** or coloured **BLACK**. The wire which is coloured **BROWN** must be connected to the terminal which is marked with the letter **L** or coloured **RED**.

This equipment should be disconnected from the mains when not in use.

■ **Checklist of parts**

| | |
|-------------------------|---|
| Turntable unit | 1 |
| Turntable mat | 1 |
| Mains cord | 1 |
| Phono cable | 1 |
| Ground earth wire | 1 |

Do not stand this unit on its side or turn it upside down when making connections as the turntable mat could come loose and damage the stylus. Make all connections to this unit before removing the packing materials.

Connections

Use the stereo phono cable to connect the turntable to your amplifier or receiver. Be sure that the white plugs are connected to the left channel sockets and the red plugs are connected to the right channel sockets. Plug the ground wire into the turntable's ground socket and connect the wire's spade lug to the amplifier or receiver's ground (GND) screw. Regarding the mains cord, plug the female end into the turntable AC socket and plug the other end into an AC wall socket. (Fig. 1)

Note that hum may occur if you neglect to connect the ground wire.

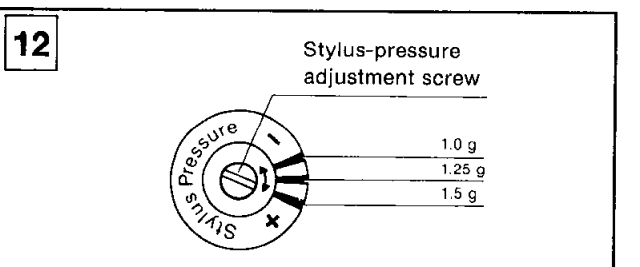
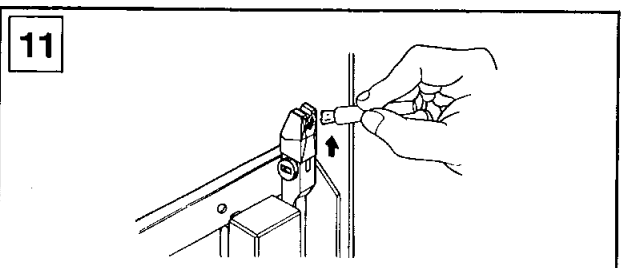
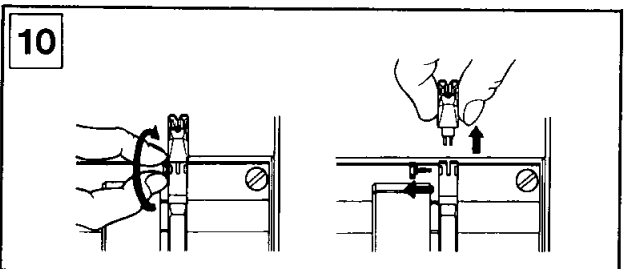
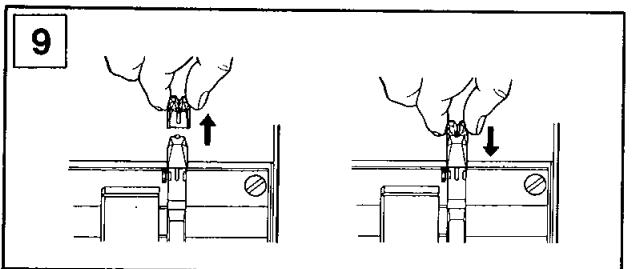
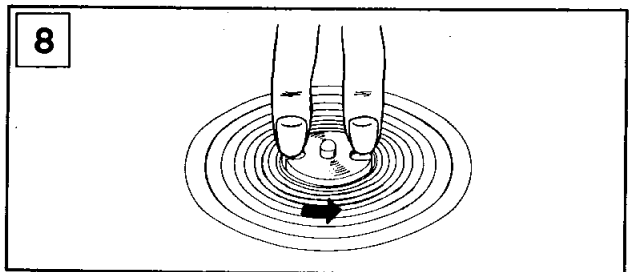
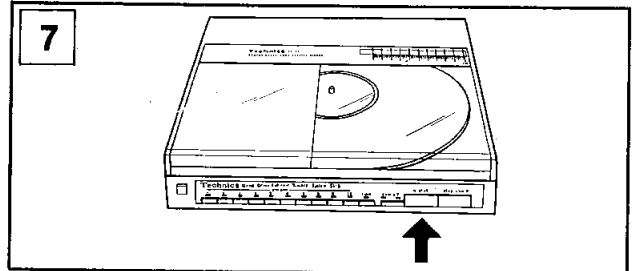
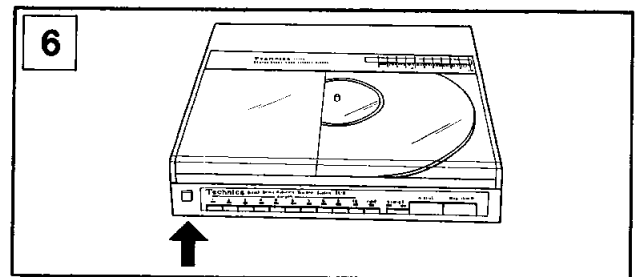
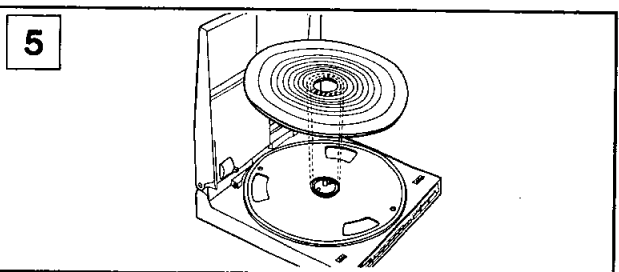
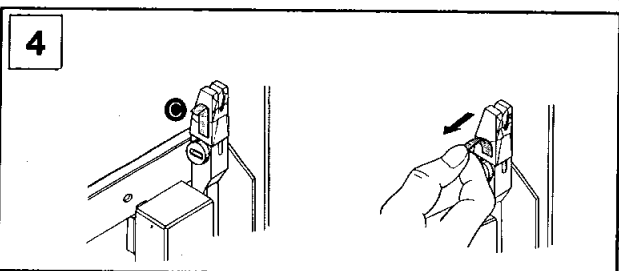
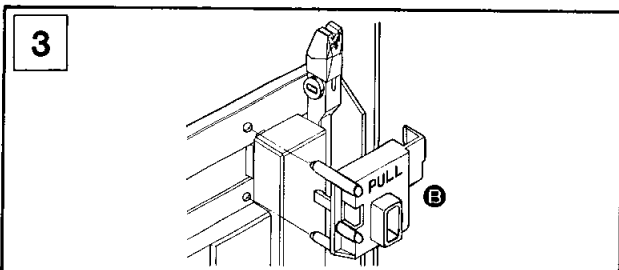
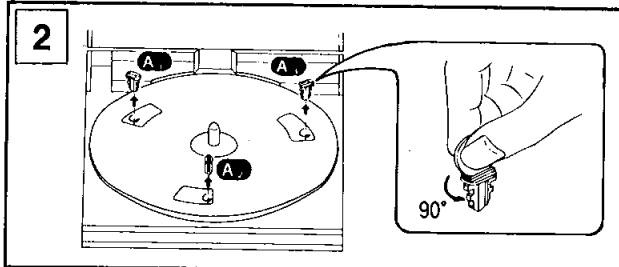
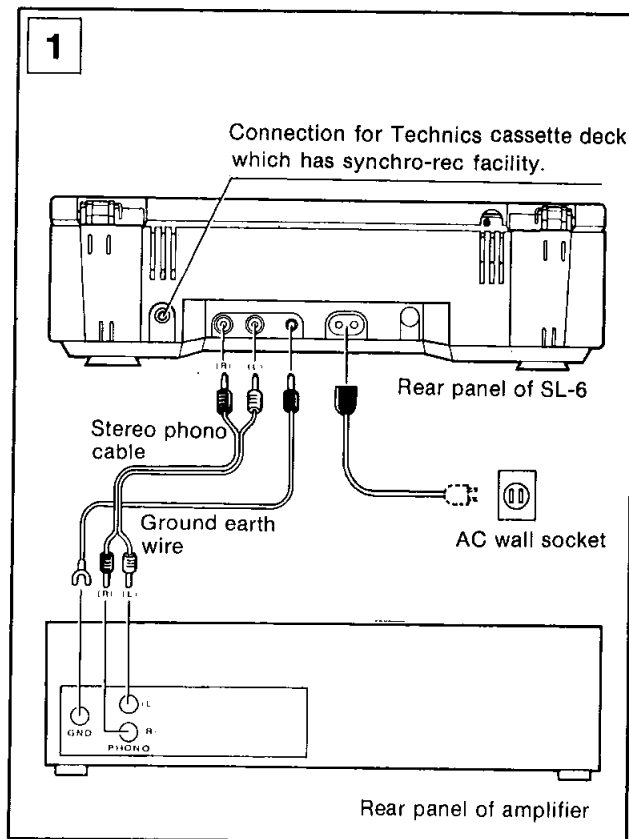
Before use

In order to avoid damage due to vibration or shock incurred during shipment, this unit is packed with protective materials **A** **B** **C**. Be sure to remove these before use. Keep these materials for reuse should it become necessary to transport the turntable again.

1. Remove turntable spacers **A**~**A**. (Fig. 2)
2. Pull off the tonearm protection spacer **B**. (Fig. 3)
3. Remove tape on side of cartridge **C**. (Fig. 4)
(This prevents the stylus assembly from shaking loose during shipment.)
4. Place the turntable mat on the platter. (Fig. 5)

Placement

- Place the unit in a stable and horizontal position where there is little or no vibration.
- Place the unit away from the speakers so that it will be subject to as little direct sound radiation as possible.
- Do not use or store this unit where it will be exposed to dust, dirt, high humidity or high temperature. Do not place it near heaters.
- Place it in a well ventilated location.
- Do not use under direct sunlight, spotlights, or other extremely bright light sources.
- Do not place it near or on top of a power amplifier, since power amplifiers radiate much heat.
- Place the turntable away from the power amplifier to prevent hum.
Hum may be caused by leakage flux from the transformer in the power amplifier (or integrated amplifier). Therefore, if you notice hum, try moving the turntable to a slightly different location, further away from the amplifier.
- If you try to listen to a radio near the turntable while it is turning, you may hear some interference.



Parts identification

① Upper cabinet

⑤ Record groove scale

⑥ Tonearm position indicator LED

⑦ Cartridge

② LED program indication

③ On/off switch

④ Program keys

⑧ Stop/clear switch

⑨ Start switch

⑩ Cueing control

⑪ Repeat switch

⑫ Optical sensor

⑬ Shutter switch

⑬ Stylus cue-down position adjustment screw

⑬ Stylus pressure adjustment screw

⑭ Turntable mat

⑮ Turntable platter

⑯ Lower cabinet

⑰ Optical sensor sensitivity selector

⑳ Center spindle

㉑ 45 rpm adaptor

㉒ Speed selector

Functions

① Upper cabinet (Dust cover):

(Contains tonearm drive mechanism.)

Must be closed during play.

② LED program indication:

(LED: Light-Emitting Diode)

③ On/off switch:

off: This symbol indicates the "stand-by" mode, which means that when the switch is in this position, the unit is switched off but not entirely.

on: This symbol indicates "on". Push to switch the unit on. Push again to switch the unit to the stand-by mode.

④ Program keys:

For automatic selection of up to ten bands.

Simply press the program keys in the order you want the bands played; LEDs will light up above each key pressed. The tonearm will first move across to the innermost grooves of the record so the optical sensor can read and memorize the number of bands and their positions. Then the tonearm will return to the start position.

Bands can be programmed and the program changed as long as the tonearm is in the start position. After the start switch is pressed, the tonearm will proceed to play the bands in the order programmed.

During play you can skip ahead to another of the programmed bands (the ones with lit LEDs) by pressing that band's key. For example, if bands 5, 3, 4, 2, and 1 have been programmed (in that order) and band 5 is being played, you can press key 2 to skip bands 3 and 4 and begin playing band 2. When this happens, the LEDs by keys 5, 3, and 4 will turn off.

⑤ Record groove scale:

This scale is graduated in 1 mm indications.

Useful for judging tonearm position.

⑥ Tonearm position indicator LED:

When the on/off switch is turned on, the tonearm LED will light up. LED position corresponds to stylus position on the record surface.

⑦ Cartridge:

Replacement stylus: EPS-23ES

⑧ Stop/clear switch:

For stopping play (reject) and outward cueing and program cancelling.

When you press the stop/clear switch (for less than one second), the tonearm automatically returns to the start position. (During programmed play, the program will be completely cancelled.)

If you keep the switch depressed (for more than one second), the tonearm will move outward toward the edge of the record.

(During programmed play, the tonearm will only move back to the beginning of the band being played.)

If you press the cueing control to raise the tonearm, and then press the stop/clear switch intermittently, the arm will move outward in approximately 1 mm steps.

⑨ Start switch:

For beginning play (auto-start, auto-lead-in) and inward cueing.

When you press the start switch, the tonearm automatically moves to the record's lead-in groove and the record starts playing. (If the program keys have been pressed, the tonearm will start from the first band programmed.) If this switch is pressed during play, the tonearm will return to the

beginning of the record and begin playing it over again. (If this switch is pressed during programmed play, the tonearm will play the entire program over again after first returning to the start position.)

If you keep the switch depressed, the tonearm moves inward toward the center of the record.

* If the start switch is pressed when there is no record on the platter, the tonearm will move part way over the platter and then return to the start position after detecting that there is no record.

⑩ Cueing control:

For interrupting play

The red LED (▼) lights up when the on/off switch is turned on (▲). If the cueing control is pressed during play, the stylus will rise above the record surface. The green LED (▼) remains lit during play.

To resume play, press the control again. A muting circuit cuts out noise when the stylus initially contacts or leaves the record surface.

⑪ Repeat switch:

For repeat play

When the repeat switch is pressed, its LED lights up and the record will be played from start to finish repeatedly. If used with the program keys, the programmed bands will be played repeatedly in the sequence programmed. (The repeat switch may be pressed before or during play.)

Press the repeat switch again to cancel the repeat function.

Pressing the stop/clear switch will also cancel the repeat function, as well as cancelling the program and sending the tonearm back to the start position.

⑫ Optical sensor

⑬ Shutter switch:

For blocking the optical sensor.

Set this switch to the "F" position before playing 30 cm transparent or colored records.

For ordinary records as well as transparent and colored 17 cm and 25 cm records, be sure to set the switch to the **AUTO** position.

⑭ Turntable mat:

⑮ Turntable platter:

⑯ Lower cabinet:

⑰ Optical sensor sensitivity selector:

See page 9 for details.

⑱ Stylus cue-down position adjustment screw:

See page 10 for details.

⑲ Stylus-pressure adjustment screw:

See page 12 for details.

⑳ Center spindle:

㉑ 45 rpm adaptor:

For 45 rpm EPs

Press down lightly on the adaptor while turning counter-clockwise and the adaptor will pop up ready for use. After use, press down and turn clockwise.

㉒ Speed selector:

In the case of small size 33-1/3 records or larger size 45s, set this selector to the appropriate speed.

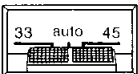
Operation

| Operation | Effect | Notes |
|---|--|---|
| ■ Auto-play | | |
| <ol style="list-style-type: none"> ① Open the upper cabinet gently. ② Place a record on the turntable mat. ③ Set the speed selector to the auto position. ④ Close the cabinet gently. ⑤ Press the on/off switch to the on (▲) position. (Fig. 6) ⑥ Press the start switch. (Fig. 7) ⑦ After the tonearm returns to the start position, press the on/off switch to turn off the unit (■). | <ul style="list-style-type: none"> • The tonearm position indicator and the LED (▼) of the cueing control will light up. • The tonearm automatically selects the record size and speed and begins record play. • The cueing control indicator LED (▼) will light up. • At the end of the record the tonearm rises and automatically returns to the start position. | <ul style="list-style-type: none"> • Do not press controls until upper cabinet is closed. • For proper operation, wait about two seconds after pressing the on/off switch before pressing any of the other switches. (This assures dependable and accurate operation.) • If no record is on the platter, the tonearm will move over to the center of the record and then return to the start position after detecting the absence of a record. • If you press the start switch for less than one second while a record is being played, the tonearm returns to the lead-in groove and begins playing the record again. The LED above the repeat switch flashes on and off to indicate that this is happening. • If the cabinet is opened during play, the tonearm returns to the start position. • If the on/off switch is turned off during play, the tonearm rises above the record and stays at that position. Then when the unit is turned on again, the tonearm will return to the start position. |
| ■ Programming automatic selection | | |
| <p>Follow steps ① through ⑤ in "Automatic operation" section above.</p> <ol style="list-style-type: none"> ⑥ Press the keys for the bands you want played, in the order you want them played. For example, if you press keys 7-5-3-1 in that order, then... | <ul style="list-style-type: none"> • LEDs will light by the keys pressed. The tonearm will move over the record to the inside and then back out to the start position as the number of bands and their positions are detected. • (in the example)...LEDs 7, 5, 3 and 1 will light up to show that they have been programmed. | <ul style="list-style-type: none"> • Before pressing the program keys, check again the order and number of selections on the record to be sure you press the correct keys. • Programming can only be performed before the start switch is pressed (when the tonearm is in the start position). Programming will not take place if the program keys are pressed during play, nor will the LEDs light. • Press the stop/clear switch if you need to cancel or change the program. This cancels the entire program. • Changes within the program can be made before the start button is pressed. Pressing the same button again will cancel it. • The stop/clear switch can be pressed during play to cancel the program and end play. • During programmed play, change records only after the tonearm has returned to the start position. Otherwise, the contents of the previous record will not be erased from the memory. |

| Operation | Effect | Notes |
|--|---|---|
| <p>⑦ Press the start switch.</p> | <ul style="list-style-type: none"> • The tonearm plays the bands programmed in the order the keys were pressed (7→5→3→1, in the example). • During play, the LED for the band being played will flash on and off. • After a band has been played, its LED will turn off. • After all bands are played, the tonearm returns to the start position. | <ul style="list-style-type: none"> • If you press the start switch when the tonearm is tracing the innermost grooves, the tonearm will set down at the first selection in the program instead of returning to the start position. <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>If problems occur during programmed play, refer to page 9 for details: "Playing monoral and special records"</p> </div> |
| ■ Repeat play | | |
| <p>Follow steps ① through ⑤ in "Automatic operation" section.</p> <p>⑥ Press the repeat switch.</p> <p>⑦ Press the start switch.</p> | <ul style="list-style-type: none"> • The repeat indicator LED will light up and the record will be played repeatedly. • Repeat play will continue until the repeat switch is pressed again. | <ul style="list-style-type: none"> • The repeat switch may be pressed before or during play. • Press the stop/clear switch (for less than 1 second) to cancel repeat play and send the tonearm back to the start position. |
| ■ Program repeat | | |
| <p>Follow steps ① through ⑤ in "Automatic operation" section.</p> <p>⑥ Press the repeat switch after programming.</p> <p>⑦ Press the start switch.</p> | <ul style="list-style-type: none"> • The repeat indicator LED lights and the program will be played repeatedly. • The program will be played repeatedly until the repeat switch is pressed again. | <ul style="list-style-type: none"> • The repeat switch may be pressed during play. Note that all bands programmed will be played repeatedly (not just the ones remaining when the repeat switch is pressed). • When only one band is programmed and the repeat switch is pressed, the tonearm will go directly from the end to the beginning of the band (without going all the way back to the start position). This "quick repeat" function is especially useful when playing 17 cm and 25 cm records having only one band. • Press the repeat switch again to cancel repeat operation. • Press the stop/clear switch (for less than 1 second) to stop play as well as cancel repeat operation and clear the program. |
| ■ Search | | |
| <p>(Moving the tonearm inward and outward)</p> <ul style="list-style-type: none"> • If you press the start switch or stop/clear switch continuously (for more than 2 seconds)... • If you then press intermittently (after pressing continuously for more than 1 second)... • When you stop pressing... • Press the cueing control. | <ul style="list-style-type: none"> • The tonearm will rise above the record surface and moves slowly inward or outward for about 1 second, and then move fast. • The tonearm will move inward or outward in small steps. • The tonearm will stop. • The tonearm will descend onto the record surface and begin playing the record. | <ul style="list-style-type: none"> • Note that operation depends on how these switches are pressed. • If the start switch is pressed for less than 1 second, play begins. • If the stop/clear switch is pressed for less than 1 second, all functions are cancelled. • The search function can only be used to move the tonearm between the innermost and outermost (lead-in) grooves of the record being played. Therefore, search cannot be used to return the tonearm to the start position when a 17 cm or 25 cm record is on the platter. To return the tonearm to the start position, first press the cueing control to lower the tonearm onto the record. Then press the stop/clear switch for less than 1 second. |

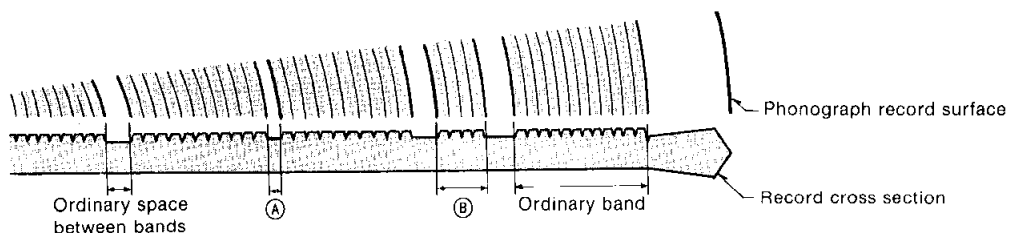
Operation

(continued)

| Operation | Effect | Notes |
|--|--|--|
| ■ Program in-band search | | |
| <ul style="list-style-type: none"> Operation is the same as for "Search" except that the tonearm will not move outside of the band being played. | | <ul style="list-style-type: none"> Search cueing is only possible within the band being played (as long as the turntable is being used with the program keys for automatic selection). |
| ■ Program skip | | |
| <ul style="list-style-type: none"> During programmed play, press the program key of the programmed band you want to skip to. For example, if bands 6, 5, 3, 1, and 4 are programmed in that order and band 6 is being played, you can skip bands 5 and 3 by pressing program key 1. | <ul style="list-style-type: none"> In this example, the tonearm will stop playing band 6 and will skip bands 5 and 3. Instead, it will begin playing band 1, after which it will play band 4. The 5 and 3 LEDs will turn off. | |
| ■ Program in-band repeat | | |
| <ul style="list-style-type: none"> When you want to start play again from the beginning of the programmed band being played, press that band's program key (the one with the flashing LED). | <ul style="list-style-type: none"> The tonearm will go back to the beginning of the band that was being played and will begin playing it again. For example, if band 5 is being played (its LED is flashing) and you press the 5 key, the tonearm will go back to the beginning of band 5 and begin playing it again. | |
| ■ Playing 45 rpm EPs (large center-hole) | | |
| <ul style="list-style-type: none"> Press lightly on the adaptor and turn counterclockwise. (Fig. 8) | <ul style="list-style-type: none"> The adaptor will pop up. Speed and size selection are automatic so operate the turntable as usual, referring to the operating instructions as necessary. | |
| ■ Playing 45 rpm LPs and 33-1/3 rpm singles (17 cm) | | |
| <ul style="list-style-type: none"> Set the speed selector to the correct position (33 or 45).  | <ul style="list-style-type: none"> In this case, speed is not selected automatically. However, record size is still detected automatically, so operate the turntable as usual, referring to the operating instructions as necessary. | <ul style="list-style-type: none"> Remember to set the selector to the "auto" position after playing monoral records. Otherwise, other records will also be played at the manually selected speed and automatic speed selection will not take place. |
| ■ Temporary interruption of play | | |
| <ul style="list-style-type: none"> Press the cueing control to interrupt play. Press again to resume play. | <ul style="list-style-type: none"> The tonearm will rise above the record surface. The tonearm will be lowered back onto the record surface and the green illuminator (▼) will light up. | <ul style="list-style-type: none"> The red illuminator (▼) lights up when the tonearm is cued up. The green illuminator (▼) lights up when the tonearm is cued down. |
| ■ Stopping play | | |
| <ul style="list-style-type: none"> Press the stop/clear switch (for less than 1 second). | <ul style="list-style-type: none"> The tonearm will rise and return to the start position and the turntable will stop. | <ul style="list-style-type: none"> Pressing the stop/clear switch will only cause play to stop if the switch is pressed for less than 1 second during play (when the stylus is in the grooves). Otherwise (when the tonearm is above the record surface), search operation will take place. |

■ Playing monoral and special records

Programmed play is not recommended for the following kinds of records, since the tonearm may not operate properly. This is not a malfunction of the turntable. Should problems occur, refer to the chart below and play the record automatically or with the assistance of the search function.

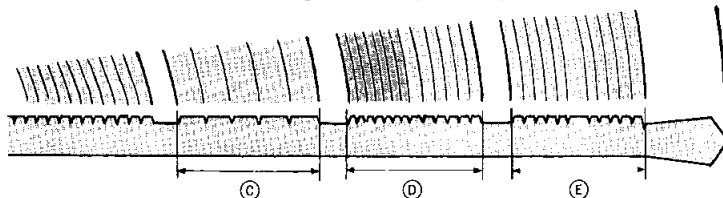


(A) Records with extremely narrow lead-in grooves between bands.

- The tonearm skips a programmed band.

(B) Records with extremely short bands.

- This will not be sensed as one song and the stylus will pass over that section and lower at the beginning of the next song.



(C) Records with extremely wide groove pitch.

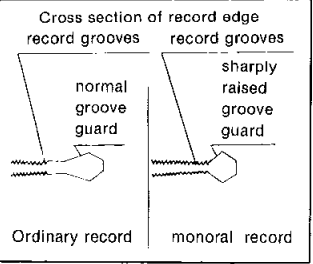
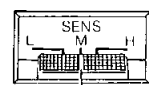
(D) Records in which the groove pitch varies a great deal (records surface gloss differs greatly).

(E) In records in which the groove pitch becomes extremely large during a song.

- The stylus cues down before the programmed band's lead-in groove.
- The stylus cues down inside the band or cues up before the band has finished.
- That section may be sensed as between-song grooves and the stylus will lower at that point.

Note:

Even if properly adjusted, the stylus may not set down at the correct point when playing eccentric records, those with a very narrow space between bands, or records in which there is music in the grooves between selections.

| Record | Problems | Solution |
|--|---|---|
| <ul style="list-style-type: none"> • Badly warped or eccentric records (where the center hole is off center). • Records with color printing on the groove area. • 17 cm records having sharply raised "groove guard" design at the outer edge of the record.  <p>Ordinary record monoral record</p> <ul style="list-style-type: none"> • Records having monoral lead-out grooves at the end of the record. For example, lead-out groove pitch may be very narrow if the record grooves extend very close to the label. • Dusty, dirty or damaged records. | <ul style="list-style-type: none"> • The tonearm may not operate properly. | <ul style="list-style-type: none"> • Do not use the programming keys. Instead, play the record with the assistance of the search function. <p>About the optical sensor sensitivity selector.</p> <p>The sensitivity of the optical sensor which detects the number of bands on the record and their positions has been factory adjusted for optimum performance. However, by setting the sensitivity selector to the H or L position, programmed play of some special records is possible. Always return the selector to the center position to play ordinary records.</p> <ul style="list-style-type: none"> • For programmed play of records having very narrow lead-in grooves between bands: Set the selector to the H position. • To play records having very wide groove pitch or records in which the groove pitch varies a great deal: Set the selector to the L position.  <p>Optical sensor sensitivity selector</p> |

Notes and maintenance

- **Auto-return operation will not function if you press the on/off switch while a record is being played.**

The tonearm will rise above the record surface but stay where it is.

Therefore, if you then press the switch again to turn it on, the tonearm will go back to the start position.

- **Be sure to remove all dirt and dust from the stylus tip and the record.**

The cartridge stylus is an extremely delicate and precisely manufactured device designed for picking up the subtle nuances of the record grooves. Therefore, be very careful not to touch it, push on it, or apply excessive force in any way.

The stylus tip cannot retain proper groove contact when it is dirty. This causes bad sound reproduction and excess wear on the stylus tip and grooves. Therefore, use the brush to remove dust and dirt by brushing upward. (Fig. 11)

Also, use a good record cleaner to remove dust and dirt from the grooves.

- **Wipe the cabinet with a soft, dry cloth.**

Never use volatile cleaners such as alcohol, benzine or thinner.

Do not use chemically treated dust cloths. Do not expose the panel to insecticide spray.

To remove stubborn spots, first pull out the AC plug.

Then wipe the cabinet with a soft cloth slightly moistened with a mild soap and water solution.

Do not wipe the upper cabinet during play, or the tonearm may be attracted toward the upper cabinet due to the generation of static electricity.

- **Open the upper cabinet gently.**

- **Always close the upper cabinet completely.**

If the upper cabinet is not completely closed, the stylus cannot contact the grooves properly and turntable will not operate correctly.

Check again before starting play.

- **Adjust the stylus pressure in the following cases.**

Stylus pressure is normally set to 1.25 g but may be raised or lowered by ± 0.25 g.

It may be necessary to increase stylus pressure when playing records cut at high levels, or when room temperature is low, or when the unit easily picks up external vibrations.

This will help prevent distortion and groove-skipping.

In such cases, turn the stylus-pressure adjustment screw clockwise (+), as indicated in the illustration. (Fig. 12)

Note:

Do not turn the adjustment screw further than the set limits (1.5 g~1.0 g).

- **Neither programmed play, nor automatic operation are suitable for playing record sizes other than 17 cm, 25 cm and 30 cm. Use search to play monoral records.**

Suggestions for safety

Before using this unit, be sure to read applicable items of the operating instructions and these safety suggestions carefully; and afterwards keep them handy for future reference. Take special care to follow the warnings indicated on the unit itself as well as in the operating instructions.

1. **Avoid places where there is water or humidity.**

Do not use this unit near a bathtub, washbasin, swimming pool, or the like. Damp basements should also be avoided.

2. **Do not allow water or any foreign object to get inside this unit.**

Do not place small metal objects or anything containing liquid on or near the unit.

3. **Avoid placement of the unit where it will be exposed to the direct rays of the sun, or where ventilation is inadequate.**

Do not place this unit in a bookcase or between cabinets, unless proper ventilation is provided, or where curtains or furniture may obstruct the ventilation holes.

4. **Place this unit away from heat-emitting appliances.**

Never place this unit on or near a radiator, heat register, stove, or any other heat-emitting equipment (including amplifiers).

5. **Placement**

Place the unit on a stable, vibration-free, level shelf or stand.

6. **Check the voltage rating of this unit before connecting the unit to a power source.**

Be sure to connect the unit only to the type of power source indicated in the operating instructions, or as indicated on the unit itself.

7. **Care of the mains cord and plug.**

Take care that the cord is not bent sharply (especially near its connection to the unit or near the plug), that nothing is placed on it, and that it is not pinched or crushed or frayed. Never take hold of the plug or cord if your hand is wet, and always be sure to grasp the plug body when connecting or disconnecting it.

8. **Maintenance**

Refer to the operating instructions for details.

9. **Repairs**

Except for adjustments explained in the operating instructions, do not attempt any repairs yourself. Be sure to request service from a qualified technician (or your dealer or nearest servicenter).

Specifications

■ General

| | |
|-------------------------------|--|
| Mains: | 240 V AC, 50 Hz |
| Power consumption: | 11 W |
| Dimensions: (W×H×D) | 31.5 × 8.8 × 31.5 cm (12-1/2" × 3-1/2" × 12-1/2") 31.5 × 39 × 31.5 cm (12-1/2" × 15-23/64" × 12-1/2") (Maximum height when top (dust cover) is open.) |
| Weight: | 4.6 kg (10.1 lb.) |

■ Turntable section

| | |
|------------------------------|---|
| Type: | Direct drive Automatic turntable Auto start/Auto lead-in Auto return Auto stop Programmable band selection Repeat play Auto speed select Manual speed selection possible Auto size select Record presence detection |
| Drive method: | Direct drive |
| Motor: | Brushless DC motor |
| Drive control method: | F-G servo control |
| Turntable platter: | Aluminum die-cast Diameter 30 cm (12") |
| Turntable speeds: | 33-1/3 rpm and 45 rpm Auto speed select (Manual selection possible) |
| Wow and flutter: | 0.012% WRMS* 0.025% WRMS (JIS C5521) ±0.035% peak (IEC 98A Weighted) |

* Measured by obtaining signal from built-in frequency generator of motor assembly.

| | |
|----------------|--|
| Rumble: | -56 dB (IEC 98A Unweighted) -78 dB (IEC 98A Weighted) |
|----------------|--|

■ Tonearm section

| | |
|-------------------------------------|---|
| Type: | Dynamic balanced type Linear tracking tonearm 4-pivot gimbal suspension |
| Effective length: | 10.5 cm (4-1/8") |
| Tracking error angle: | Within ±0.1° |
| Effective mass: | 9 g (including cartridge) |
| Resonance frequency: | 12 Hz |
| Tonearm drive motor: | DC motor |
| Phono cable capacitance: | 150 pF |

■ Cartridge section

| | |
|--|---|
| Model No: | EPC-P23 |
| Type: | Moving magnet stereo cartridge One point suspension system Samarium cobalt (Sm-Co) |
| Magnet: | 10 Hz~40 kHz |
| Frequency response | 20 Hz~10 kHz ±1 dB |
| Output voltage: | 2.5 mV at 1 kHz, 5 cm/s. zero to to peak lateral velocity (7 mV at 1 kHz, 10 cm/s. zero to peak 45° velocity [DIN 45 500]) |
| Channel separation: | More than 22 dB at 1 kHz |
| Channel balance: | Within 1.8 dB at 1 kHz |
| Recommended load impedance: | 47 kΩ~100 kΩ |
| Compliance (dynamic): | 12×10 ⁻⁶ cm/dyne at 100 Hz |
| Stylus pressure range: | 1.25 ±0.25 g (1.25± 2.5 mN) |
| Weight: | 6 g (cartridge only) |
| Replacement stylus: | EPS-23ES (Elliptical stylus) |

Specifications subject to change without notice.
Weight and dimensions shown are approximate.

Quick Reference Chart for Start and Stop/Clear Switch Operation

| Switch pressed Cueing up/down | Start Switch | | | | Stop/Clear Switch | | | |
|--|---|--|--|--|--|--|--|--|
| | Pressed momentarily (less than one second) | Pressed intermittently | Pressed continuously | | Pressed momentarily (less than one second) | Pressed intermittently | Pressed continuously | |
| | | | (about 1 second) | (more than 2 seconds) | | | (about 1 second) | (more than 2 seconds) |
| Cueing up (▼) | — | Tonearm moves inward in approx. 1 mm steps. | Tonearm moves inward. | Moves faster. | — | Tonearm moves outward in approx. 1 mm steps. | Tonearm moves outward. | Moves faster. |
| Cueing down (▼) | Tonearm rises and returns to start position and begins play again. | — | Tonearm rises and moves inward. | Tonearm rises and moves faster. | Auto-return (reject) | — | Tonearm rises and moves outward. | Tonearm rises and moves faster. |
| Cueing up (▼) during programmed play | — | Tonearm moves toward end of band being played in approx. 1 mm steps. | Tonearm moves to end of band being played. | Tonearm moves to end of band being played. | — | Tonearm moves toward beginning of band being played in approx. 1 mm steps. | Tonearm moves to beginning of band being played. | Tonearm moves to beginning of band being played. |
| Cueing down (▼) during programmed play | Tonearm returns to first band in programmed sequence and begins play. | — | Tonearm moves to end of band being played. | Tonearm moves to end of band being played. | Tonearm returns to start position, program is cancelled and turntable stops. | — | Tonearm moves to beginning of band being played. | Tonearm moves to beginning of band being played. |

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