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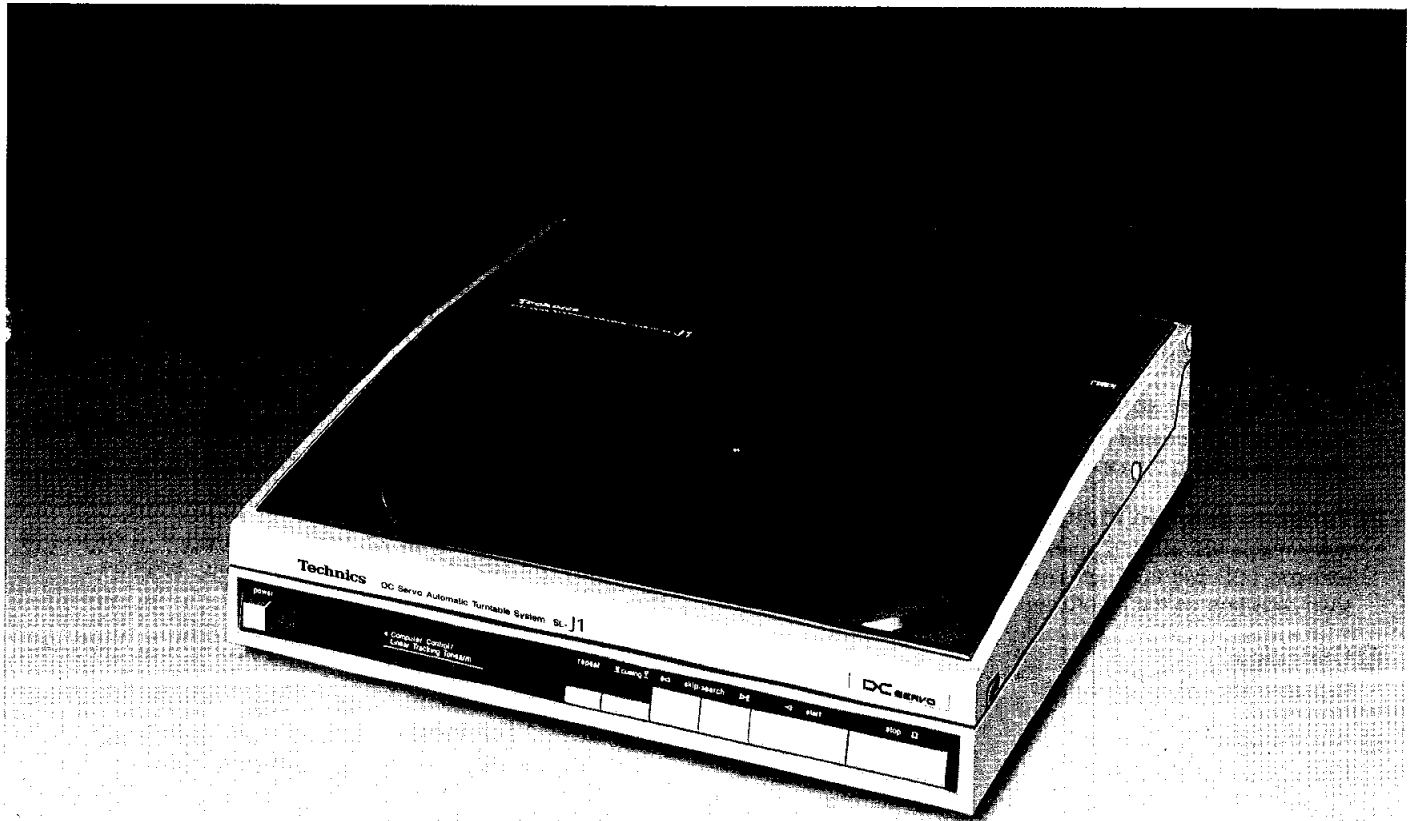
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Technics

Belt Drive
Fully Automatic Turntable System

SL-J1 series 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.

Parts identification and their functions

1 Upper cabinet (Dust cover):

(Contains tonearm drive mechanism.)
Must be closed during play.

2 Power switch:

- stand-by: This symbol indicates the "stand-by" mode.
Power is still supplied to the turntable but not to the circuits.
- on: This symbol indicates "on". Push to switch the unit on.
Push again to switch the unit to the stand-by mode.

3 Repeat switch:

Press for repeated play of the record. A red indicator lights up to indicate repeat operation. Press again to cancel repeat operation. Indicator will go out.

4 Cueing control:

Press to raise and lower tonearm. A green indicator lights up when the tonearm is lowered. A red indicator lights up when the tonearm is raised.

5 Record groove scale:

This scale is graduated in 1 mm indications.
Useful for judging tonearm position.

6 Tonearm position indicator LED:

When the power switch is pushed to the (■) on position, the tonearm LED will light up. LED position corresponds to stylus position on the record surface.

7 Cartridge:

Replacement stylus EPS-30CS.

8 Stop switch:

For stopping play (reject).
When you press the stop switch, the tonearm automatically returns to the start position. (auto-return)

9 Start switch:

For beginning play (auto-start, auto-lead-in).
When you press the start switch, the tonearm automatically moves to the record's lead-in groove and starts playing. (auto-start, auto-lead-in)

10 Backward skip/search button:

- This works two ways depending on how it is pressed.
1. If pressed momentarily, the tonearm will skip backward counting one song for each time the button was pressed. (Backward skip function.)
This can only be used during play.
 2. If kept depressed, the tonearm will move backward until the button is released. (Backward search function.)

11 Forward skip/search button:

- This works two ways depending on how it is pressed.
1. If pressed momentarily, the tonearm will skip forward counting one song for each time the button was pressed. (Forward skip function.)
Used during play.
Before play, this button can be used for direct music selection. For example, if you press this button five times and then press the start switch, play will begin from the fifth song on the disc. (Direct selection function.)
 2. If kept depressed, the tonearm will move forward until the button is released. (Forward search function.)

12 Turntable mat:

Do not use any turntable mat except the one supplied.

13 Turntable platter

14 Centre spindle

15 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.

16 Lower cabinet

17 Optical sensor

18 Reset switch:

This switch automatically returns the tonearm to the start position if the upper cabinet is opened during play. Therefore, this switch is not meant to be operated by hand.

19 Stylus set-down position adjustment knob:

Used to adjust stylus set-down position if the tonearm is starting play at the wrong point. See details on [page 9](#).

20 Record size selector:

Set to "manual" position to play transparent or colored 30 cm (12") records. Otherwise set to "auto" position.

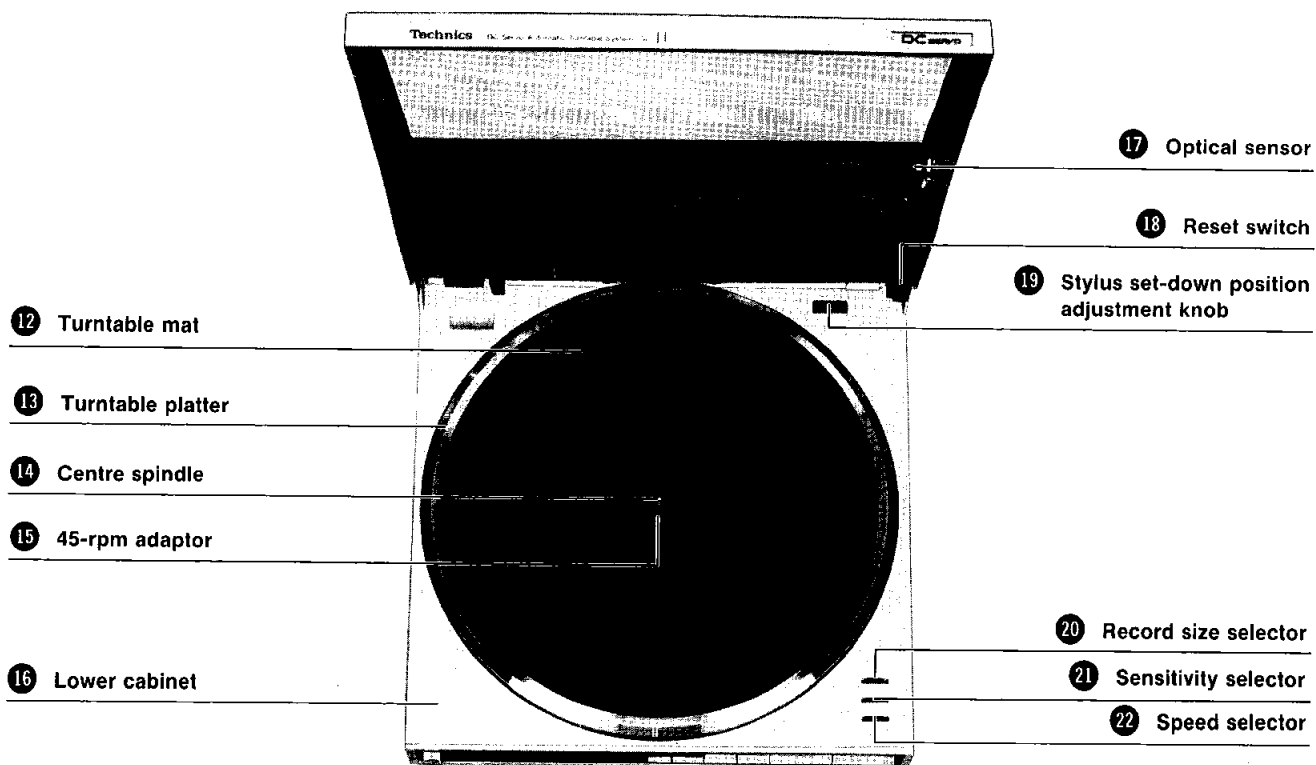
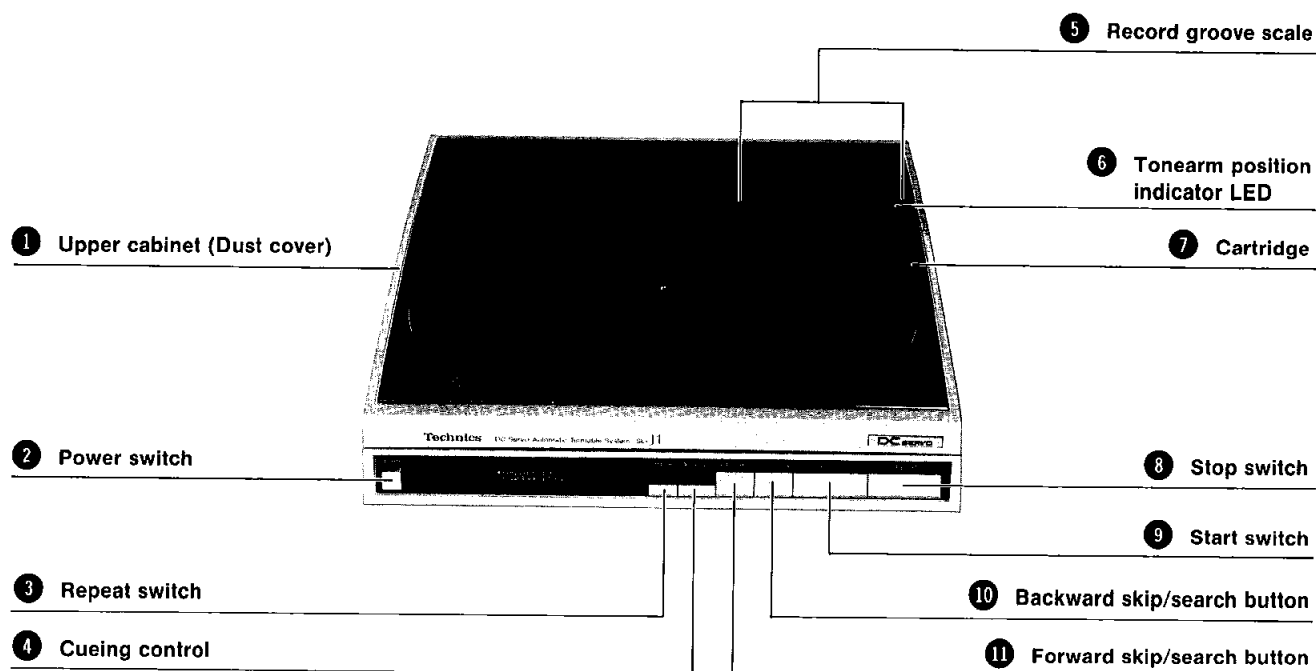
21 Sensitivity selector:

Used when playing monoral and special records. See details on [page 8](#).

22 Speed selector:

Set to appropriate speed for playing 30 cm (12") 45 rpm or 17 cm (7") 33-1/3 rpm records.

Parts identification



We want to thank you for selecting the SL-J1 series.

For optimum performance, we recommend that you read these instructions carefully.

Notes:

- Specifications differ according to the area code.
- The "EK" area code, for example, indicates United Kingdom specifications.
- The "EK" indication is shown on the packing case and serial number tag.

Caution for safe use of this apparatus for UK standard model SL-J1. ("EK" model only)

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.

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.

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 service centre).

Before use

Note:

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

■ Checklist of Parts

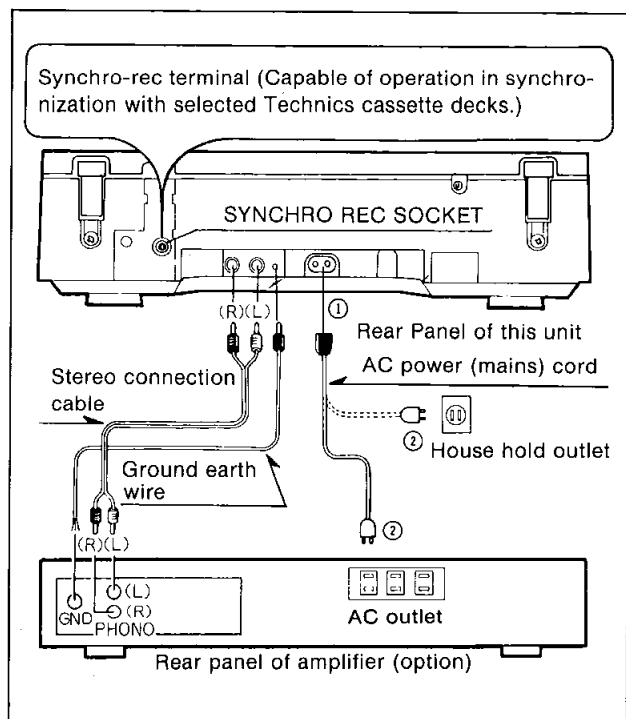
Turntable mat	1
AC power (mains) cord	1
Stereo connection cable	1
Ground earth wire	1

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 connection cable to connect the turntable to your amplifier or receiver. Be sure that the white plugs are connected to the left channel jacks and the red plugs are connected to the right channel jacks. Plug the ground earth wire into the turntable's ground jack and connect the wire to the amplifier or receiver's ground (GND) screw. Regarding the AC power (mains) cord, plug the female end into the turntable's AC IN socket and connect the other end of the AC mains cord to your AC house hold outlet.

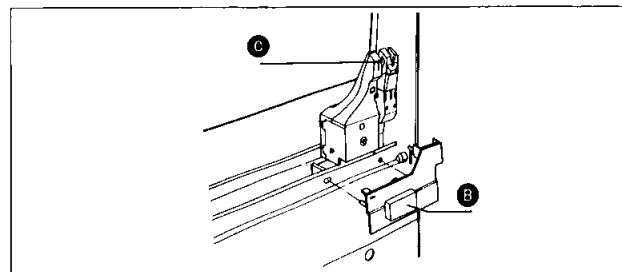
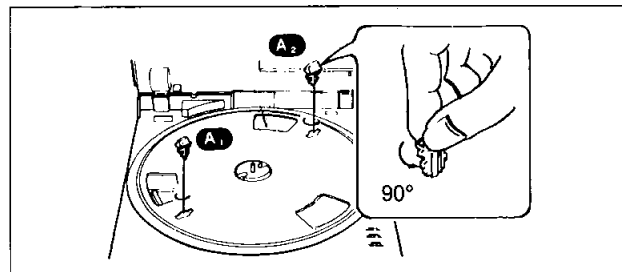
Note that hum may occur if you neglect to connect the ground earth wire.



Set-up

In order to avoid damage due to vibration or shock incurred during shipment, this unit is packed with protective materials **A**, **B** and **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**₁ ~ **A**₂.



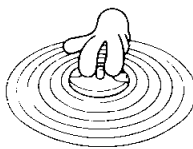

2. Pull off the tonearm protection spacer **B**.
3. Remove tape on side of cartridge **C**.
4. Put on turntable mat after you have completed set-up and connections.

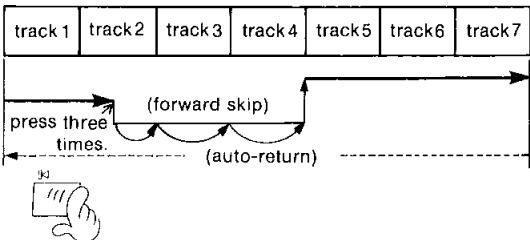
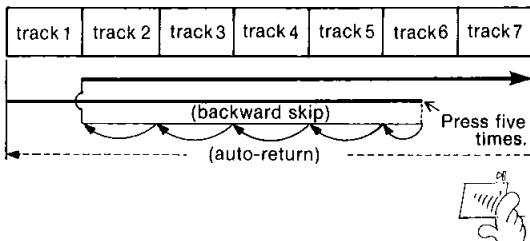


Notes:

- This precaution is required since the turntable mat may fall off and damage the stylus if the turntable is lifted up vertically or turned over.
- Use only supplied turntable mat.

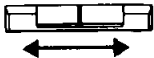
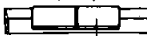
Operation

■ To help you to identify all parts of this unit, leave page 3 folded out when you read pages 4, 5, 6, 7, 8 and 9.

Procedure	Remarks/Notes
<p>■ Auto-play (To play 30 cm (12") 33-1/3 rpm LPs or 17 cm (7") 45 rpm singles.)</p> <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 power switch to the (⏻) on position. 6. Press the start switch. <ul style="list-style-type: none"> • The tonearm automatically selects the record size and speed and begins record play. (auto-start/auto-lead in function) • At the end of the record, the tonearm rises and automatically returns to the start position, and platter stops rotating. (auto-return/auto-stop function) 7. Press the power switch to the (⏻) stand-by 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 power 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 17 cm (7") record position and then return to the start position after detecting the absence of a record. • If you press the start switch while a record is being played, the tonearm returns to the lead-in groove and begins playing the record again. • If the power switch is pressed to the (⏻) stand-by position 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. • If the upper cabinet is opened during play, the tonearm returns to the start position. • For 45s (singles with large centre hole), raise 45-rpm adaptor by pressing lightly and turning counterclockwise. The adaptor will then pop up. (When adaptor is not needed, press down and turn clockwise.)  <ul style="list-style-type: none"> • At the end of record play, if occasionally the tonearm rises after the turntable stops rotating, this is not a fault condition.
<p>■ Direct music select play (Example: To begin play from the 5 th song.)</p> <ul style="list-style-type: none"> • Press the forward skip/search button five times. • Then, press the start switch. 	<ul style="list-style-type: none"> • Must be done before pressing start button. • Direct music select play and music select play by skipping forward or backward can not be used for more than nine songs. • If button is kept depressed then function will change to "search." (Tonearm will move above record surface. Press the stop switch to return tonearm to start position.) • If you skip too far forward, use the backward skip/search button to go back to the song you want.
<p>■ Repeat play</p> <ul style="list-style-type: none"> • Press the repeat switch before or during play. The red indicator will light up. • To cancel, press the repeat switch again. The indicator will go out. Repeat will also be cancelled if the stop switch or power switch is pressed. 	<ul style="list-style-type: none"> • Repeat play can only be used with 30 cm (12") or 17 cm (7") records.

Procedure	Remarks/Notes
<p>■ To temporarily interrupt play</p> <ul style="list-style-type: none"> • Press the cueing control. • The green indicator will change to red and tonearm will rise above record surface. • Press again to resume play. Indicator will change to green. 	
<p>■ To stop play</p> <ul style="list-style-type: none"> • Press stop switch. • Tonearm will return to start position. 	
<p>■ Music select play by skipping forward or backward.</p> <p>Forward skip</p> <p>(Example: Skipping forward to the fifth song during play of the second song on a 7-song record.)</p> <ul style="list-style-type: none"> • Press forward skip/search button three times. Tonearm will go to song five and begin play. <p>Backward skip</p> <p>(Example: Skipping backward from the sixth to the second song.)</p> <ul style="list-style-type: none"> • Press backward skip/search button five times. Tonearm will go to song two and begin play. 	<ul style="list-style-type: none"> • This can only be done during play (that is, when the stylus is in the grooves).  <ul style="list-style-type: none"> • During backward skip, the song in play is included in the count. 
<p>■ Forward or backward search play (manual play)</p> <p>Forward search</p> <ul style="list-style-type: none"> • Keep forward skip/search button depressed. Release button when tonearm reaches the song that you want.  <p>Backward search</p> <ul style="list-style-type: none"> • Keep backward skip/search button depressed. Release button when tonearm reaches the song that you want. 	

■ Playing monoral and special records

Procedure	Remarks/Notes	
<ul style="list-style-type: none">• 17 cm (7") 33-1/3 rpm record.• 30 cm (12") 45 rpm record.	<ul style="list-style-type: none">• Set speed selector to correct speed.	<div><div>speed</div><div>33 auto 45</div><div></div></div> <ul style="list-style-type: none">• For normal use, remember to return the speed selector to the "auto" position.
<ul style="list-style-type: none">• Tonearm goes past desired song when using direct music select play or skip play. (Sets down on later song.) (On records with narrow gaps between songs.)	<ul style="list-style-type: none">• Set sensitivity selector to "H" position.• Always return to "M" position for playing ordinary records.	<p>About the sensitivity selector. 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, direct select 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">• Tonearm starts playing song before desired song, or starts playing (or rises) from middle of song.	<ul style="list-style-type: none">• Set sensitivity selector to "L" position.	<div><div>sens</div><div>L M H</div><div></div><div>Sensitivity selector</div></div>
<ul style="list-style-type: none">• Song is extremely short.• Record is badly warped or eccentric (spindle hole is off centre).• Colour printing on record groove area.• Outer edge of record is raised (Groove guard) on 17 cm (7") record.• Record is very dirty or badly scratched.• 30 cm (12") transparent (translucent) records. (Includes red, yellow, green, blue, or other coloured records and extremely thin black records that allow light to pass through.)• 30 cm (12") records that are transparent or coloured, or Sono-sheets, or black records that are highly reflective.	<ul style="list-style-type: none">• Use auto-play or search-play modes to play the record.• Direct music select and skip play can not be used.	
<ul style="list-style-type: none">• 25 cm (10") records and monoral records.	<ul style="list-style-type: none">• Use search-play mode to play the record.• Direct music select play can not be used.	

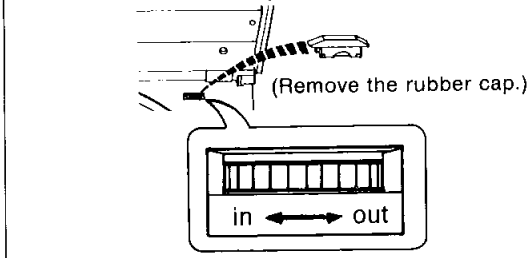
Adjustments

■ Stylus set-down position adjustment.

Perform adjustment as follows if tonearm does not start playing from the correct position when using direct music select play or skip play to play ordinary records.

- Take off rubber cap from right rear of lower cabinet.
- If tonearm sets down before beginning of desired song.
Turn toward IN (counterclockwise).

One or two clicks correspond to about 0.1 mm.



- If tonearm sets down in song (doesn't start from beginning).
Turn toward OUT (clockwise).

Replacement of stylus

Note:

Be sure you have the amplifier volume knob turned down all the way to avoid amplification of shock noise produced when handling the stylus and cartridge.

This unit is equipped with a diamond stylus.

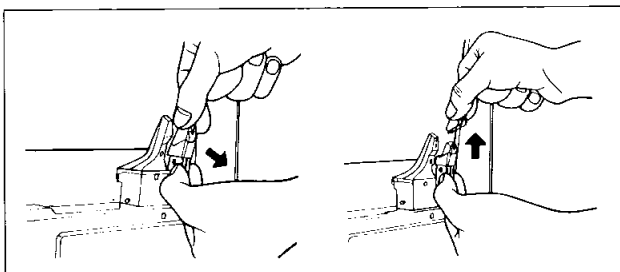
The replacement stylus for this cartridge is EPS-30CS.

The life of the stylus varies according to the conditions of use. Noise or scratchiness may indicate a worn or damaged stylus. To prevent damage to your records, the stylus should be replaced at the first sign of wear.

You will have easier access to the stylus with the tonearm toward the centre.

Therefore, follow the instructions below.

1. Place a 30 cm (12") record on the turntable mat and close the cabinet.
2. Push the power switch to the (⬆) on position.
3. Keep forward skip/search button depressed until the tonearm moves over to about the 25 cm (10") position.
4. Push the power switch to the (⬇) stand-by position and open the cabinet.
5. As shown in the figure, remove the old stylus while tipping the tonearm downward.
6. Push in the new stylus assembly.



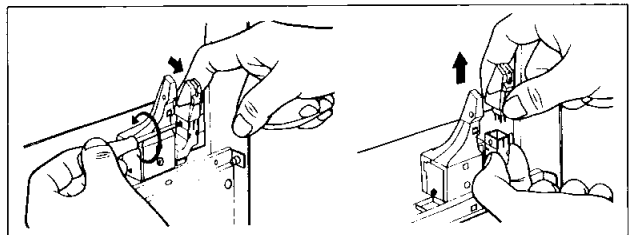
Note:

If you open the cabinet before pushing the power switch to the (⬇) stand-by position, the tonearm will return to the start position. Push the power switch to the (⬇) stand-by position before opening the upper cabinet.

Replacement of cartridge

Plug-in connector cartridges are now available from Ortofon (Denmark), Shure (U.S.A.), Audio Technica (Japan), as well as from Technics. All of these cartridges are designed for perfect matching with this turntable in all areas including weight, tracking force, stylus tip position, and centre of gravity. Therefore, you have the option of employing a wide range of cartridges from the world's top manufacturers without the trouble of lead wire connections or tracking force adjustment.

1. Move the tonearm to the centre of the platter by following the steps mentioned (Replacement of stylus).
2. Loosen the cartridge set screw completely, and remove the cartridge.
(As shown in the figure, remove the cartridge set screw while tipping the tonearm downward.)
3. Insert the new cartridge firmly into place.
4. Tighten the set screw.



Notes and maintenance

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

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

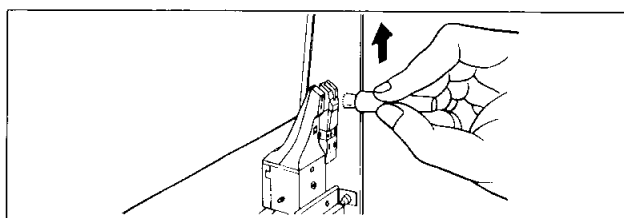
Therefore, if you then press the switch again to turn it on, the tonearm will go back to the start position.

- **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 a brush to remove dust and dirt by brushing upward.

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 mains cord. 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.

- **Unplug from AC outlet if unit will not be used for an extended period of time.**

Specifications

■ General

Power supply:	~240 V, 50 Hz
Power consumption:	8.5 W
Dimensions: (W × H × D)	31.5 × 8.8 × 31.5 cm (Maximum height when dust cover is opened.)
Weight:	39 cm 3.5 kg

■ Turntable section

Type:	Belt drive
Features:	Fully automatic turntable Auto start/Auto lead-in Auto return, Auto stop Repeat play Direct music select play Forward and backward skip play Forward and backward search play Record presence detection
Drive method:	Belt drive
Motor:	DC motor
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:	0.045% WRMS (JIS C5521) ±0.06% peak (IEC 98A Weighted)
Rumble:	-48 dB (IEC 98A Unweighted) -70 dB (IEC 98A Weighted)

■ Tonearm section

Type:	Linear tracking tonearm 4-pivot gimbal suspension
Effective length:	10.5 cm
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

Type:	Moving magnet stereo cartridge
Magnetic circuit:	All laminated core
Frequency response:	10 Hz ~ 35 kHz
Output voltage:	2.5 mV at 1 kHz 5 cm/s. zero to peak lateral velocity (7 mV at 1 kHz, 10 cm/s. zero to peak 45° velocity [DIN 45 500])
Channel separation:	22 dB at 1 kHz
Channel balance:	Within 2 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 (12.5±2.5 mN)
Weight:	6 g (cartridge only)
Replacement stylus:	EPS-30CS

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

Matsushita Electric Trading Co., Ltd.

P.O. Box. 288, Central Osaka Japan



Technics

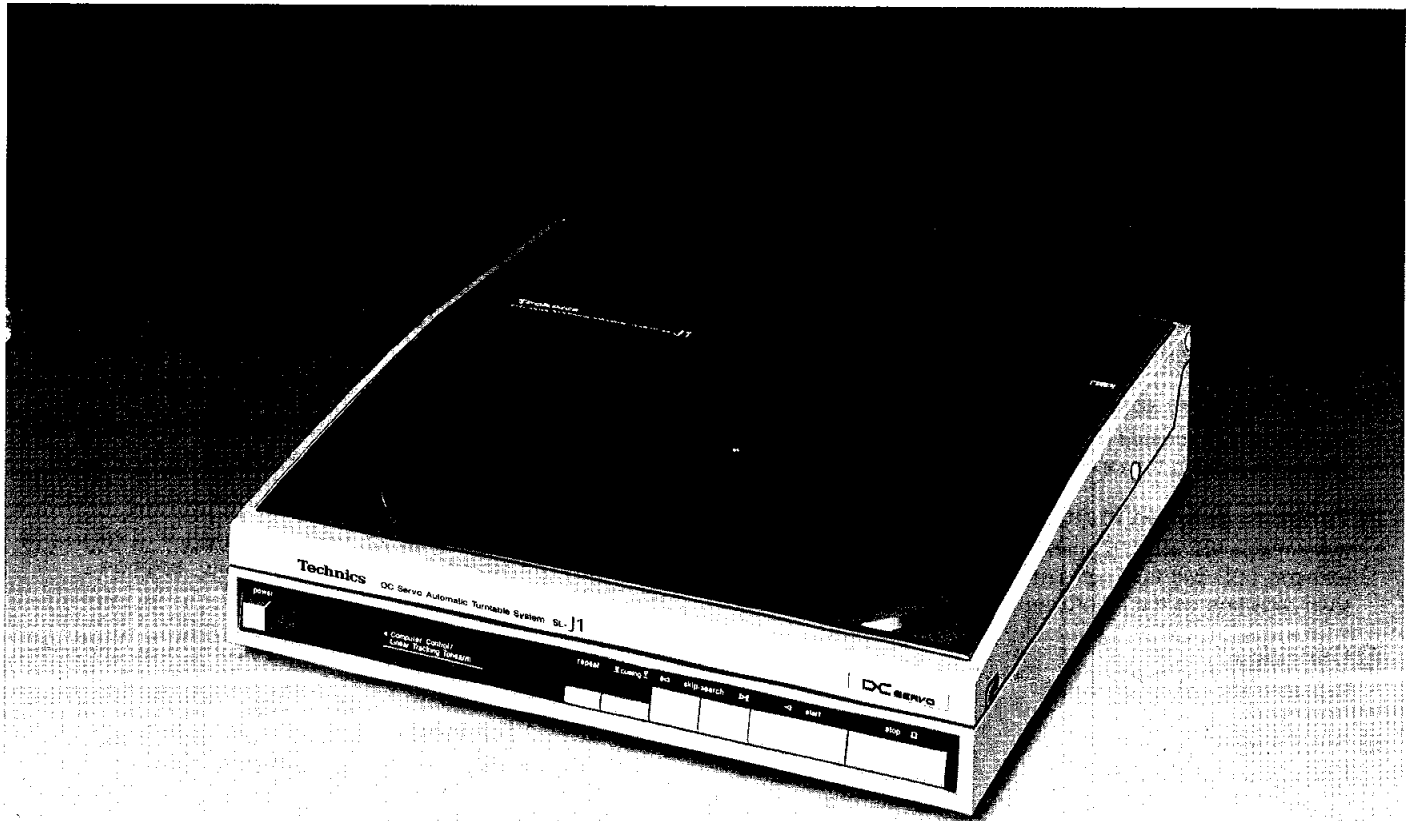
Belt Drive

Fully Automatic Turntable System

SL-J1 series

Operating Instructions

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Parts identification and their functions

1 Upper cabinet (Dust cover):

(Contains tonearm drive mechanism.)
Must be closed during play.

2 Power switch:

- stand-by: This symbol indicates the "stand-by" mode.
Power is still supplied to the turntable but not to the circuits.
- on: This symbol indicates "on". Push to switch the unit on.
Push again to switch the unit to the stand-by mode.

3 Repeat switch:

Press for repeated play of the record. A red indicator lights up to indicate repeat operation. Press again to cancel repeat operation. Indicator will go out.

4 Cueing control:

Press to raise and lower tonearm. A green indicator lights up when the tonearm is lowered. A red indicator lights up when the tonearm is raised.

5 Record groove scale:

This scale is graduated in 1 mm indications.
Useful for judging tonearm position.

6 Tonearm position indicator LED:

When the power switch is pushed to the (■) on position, the tonearm LED will light up. LED position corresponds to stylus position on the record surface.

7 Cartridge:

Replacement stylus EPS-30CS.

8 Stop switch:

For stopping play (reject).
When you press the stop switch, the tonearm automatically returns to the start position. (auto-return)

9 Start switch:

For beginning play (auto-start, auto-lead-in).
When you press the start switch, the tonearm automatically moves to the record's lead-in groove and starts playing. (auto-start, auto-lead-in)

10 Backward skip/search button:

- This works two ways depending on how it is pressed.
1. If pressed momentarily, the tonearm will skip backward counting one song for each time the button was pressed. (Backward skip function.)
This can only be used during play.
 2. If kept depressed, the tonearm will move backward until the button is released. (Backward search function.)

11 Forward skip/search button:

- This works two ways depending on how it is pressed.
1. If pressed momentarily, the tonearm will skip forward counting one song for each time the button was pressed. (Forward skip function.)
Used during play.
Before play, this button can be used for direct music selection. For example, if you press this button five times and then press the start switch, play will begin from the fifth song on the disc. (Direct selection function.)
 2. If kept depressed, the tonearm will move forward until the button is released. (Forward search function.)

12 Turntable mat:

Do not use any turntable mat except the one supplied.

13 Turntable platter

14 Centre spindle

15 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.

16 Lower cabinet

17 Optical sensor

18 Reset switch:

This switch automatically returns the tonearm to the start position if the upper cabinet is opened during play. Therefore, this switch is not meant to be operated by hand.

19 Stylus set-down position adjustment knob:

Used to adjust stylus set-down position if the tonearm is starting play at the wrong point. See details on [page 9](#).

20 Record size selector:

Set to "manual" position to play transparent or colored 30 cm (12") records. Otherwise set to "auto" position.

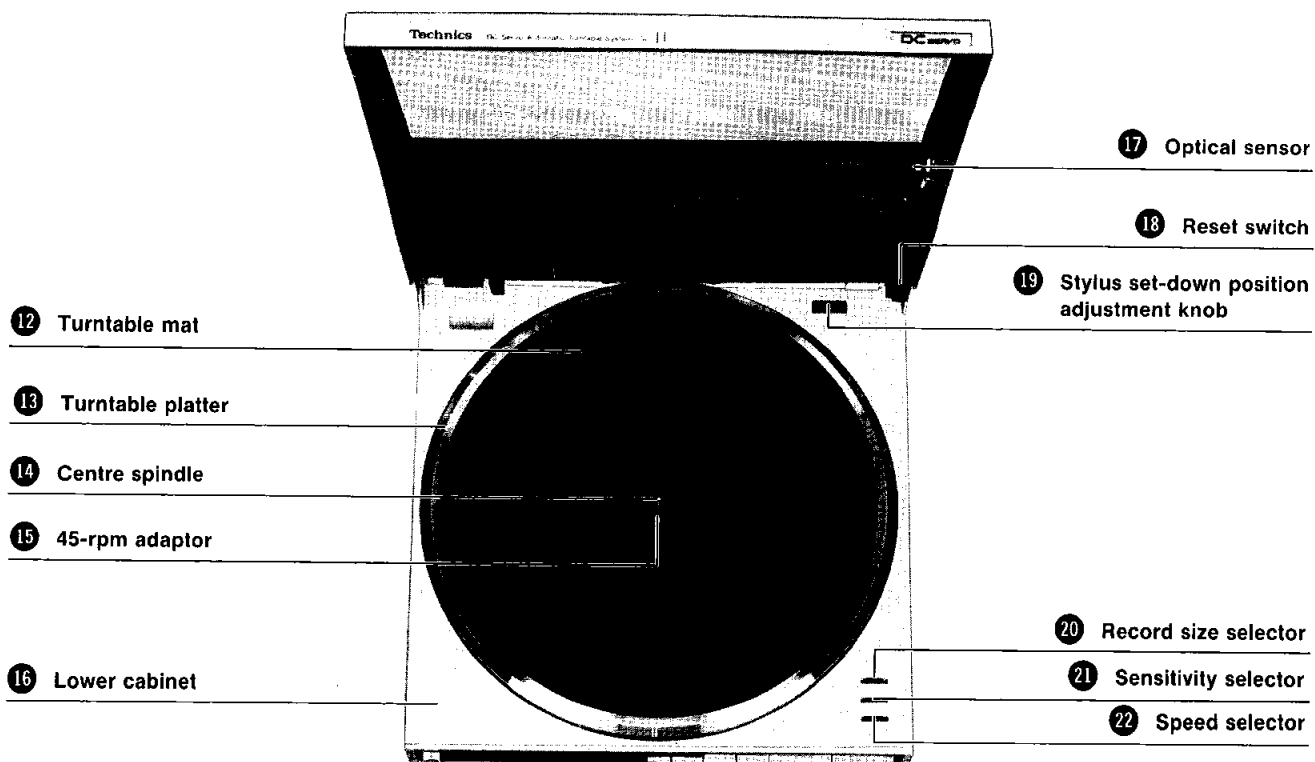
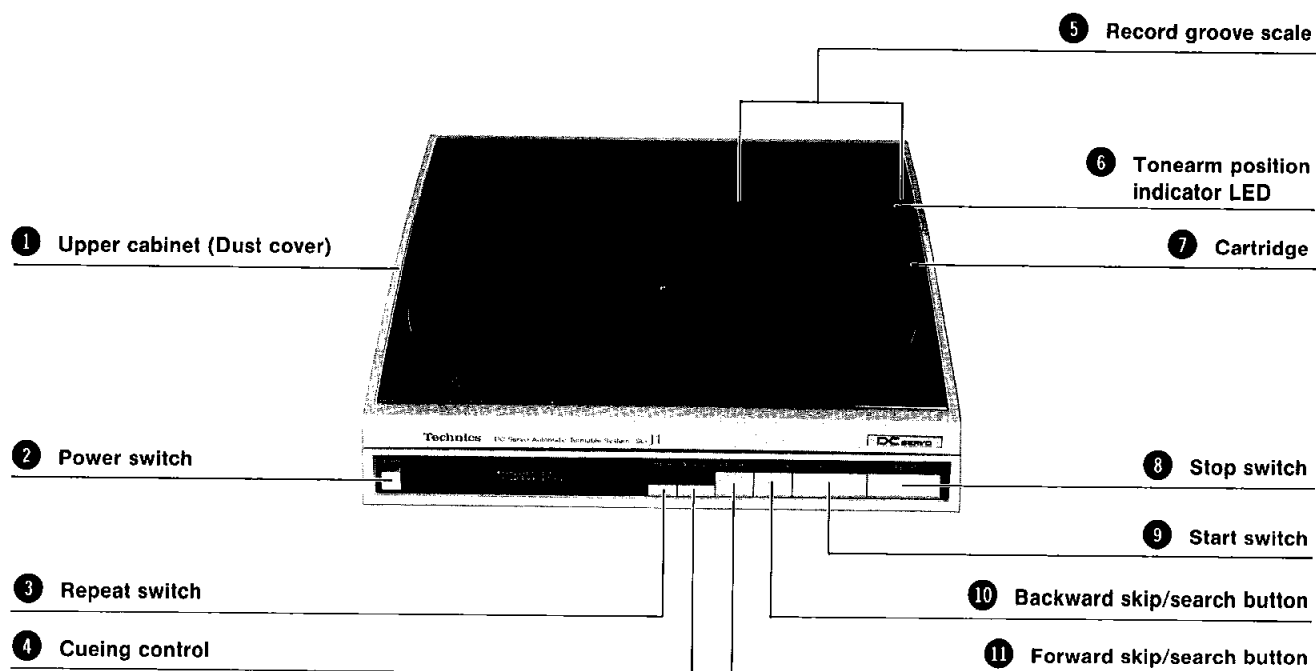
21 Sensitivity selector:

Used when playing monoral and special records. See details on [page 8](#).

22 Speed selector:

Set to appropriate speed for playing 30 cm (12") 45 rpm or 17 cm (7") 33-1/3 rpm records.

Parts identification



We want to thank you for selecting the SL-J1 series.

For optimum performance, we recommend that you read these instructions carefully.

Notes:

- Specifications differ according to the area code.
- The "EK" area code, for example, indicates United Kingdom specifications.
- The "EK" indication is shown on the packing case and serial number tag.

Caution for safe use of this apparatus for UK standard model SL-J1. ("EK" model only)

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.

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.

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 service centre).

Before use

Note:

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

■ Checklist of Parts

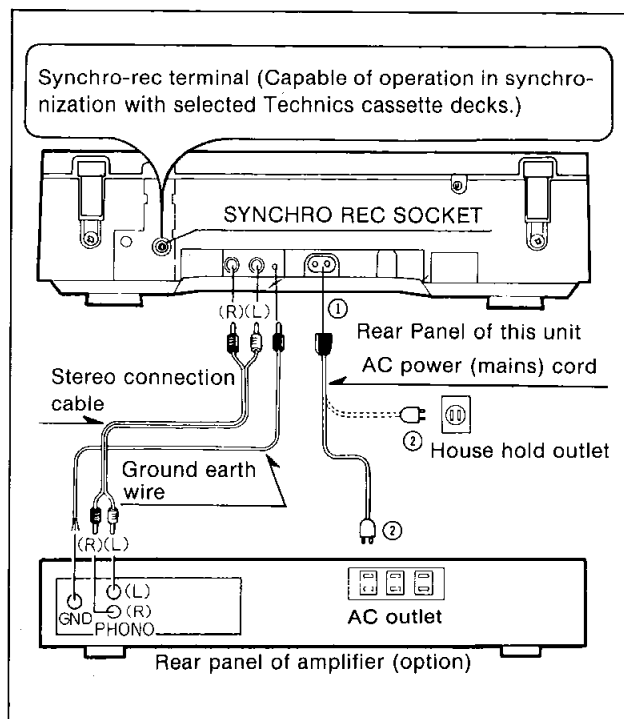
Turntable mat	1
AC power (mains) cord	1
Stereo connection cable	1
Ground earth wire	1

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 connection cable to connect the turntable to your amplifier or receiver. Be sure that the white plugs are connected to the left channel jacks and the red plugs are connected to the right channel jacks. Plug the ground earth wire into the turntable's ground jack and connect the wire to the amplifier or receiver's ground (GND) screw. Regarding the AC power (mains) cord, plug the female end into the turntable's AC IN socket and connect the other end of the AC mains cord to your AC house hold outlet.

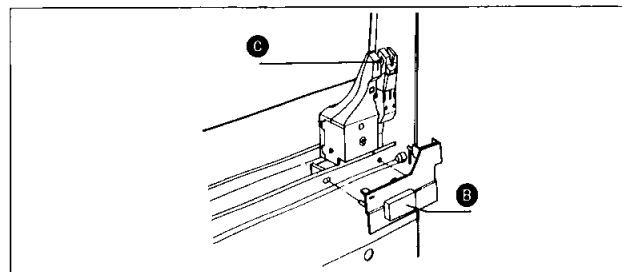
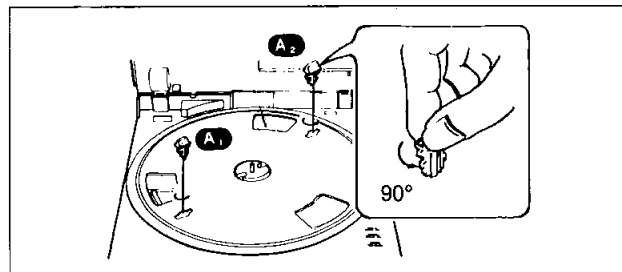
Note that hum may occur if you neglect to connect the ground earth wire.



Set-up

In order to avoid damage due to vibration or shock incurred during shipment, this unit is packed with protective materials **A**, **B** and **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**₁ ~ **A**₂.



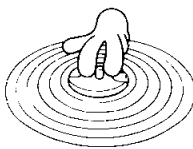

2. Pull off the tonearm protection spacer **B**.
3. Remove tape on side of cartridge **C**.
4. Put on turntable mat after you have completed set-up and connections.

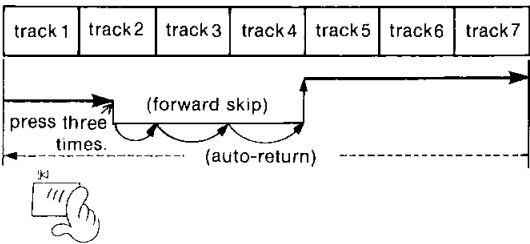
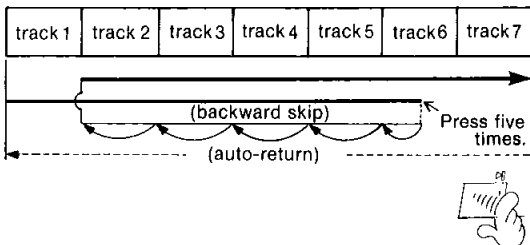


Notes:

- This precaution is required since the turntable mat may fall off and damage the stylus if the turntable is lifted up vertically or turned over.
- Use only supplied turntable mat.


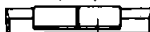
Operation

■ To help you to identify all parts of this unit, leave page 3 folded out when you read pages 4, 5, 6, 7, 8 and 9.

Procedure	Remarks/Notes
<p>■ Auto-play (To play 30 cm (12") 33-1/3 rpm LPs or 17 cm (7") 45 rpm singles.)</p> <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 power switch to the (■) on position. 6. Press the start switch. <ul style="list-style-type: none"> • The tonearm automatically selects the record size and speed and begins record play. (auto-start/auto-lead in function) • At the end of the record, the tonearm rises and automatically returns to the start position, and platter stops rotating. (auto-return/auto-stop function) 7. Press the power switch to the (■) stand-by 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 power 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 17 cm (7") record position and then return to the start position after detecting the absence of a record. • If you press the start switch while a record is being played, the tonearm returns to the lead-in groove and begins playing the record again. • If the power switch is pressed to the (■) stand-by position 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. • If the upper cabinet is opened during play, the tonearm returns to the start position. • For 45s (singles with large centre hole), raise 45-rpm adaptor by pressing lightly and turning counterclockwise. The adaptor will then pop up. (When adaptor is not needed, press down and turn clockwise.)  <ul style="list-style-type: none"> • At the end of record play, if occasionally the tonearm rises after the turntable stops rotating, this is not a fault condition.
<p>■ Direct music select play (Example: To begin play from the 5 th song.)</p> <ul style="list-style-type: none"> • Press the forward skip/search button five times. • Then, press the start switch. 	<ul style="list-style-type: none"> • Must be done before pressing start button. • Direct music select play and music select play by skipping forward or backward can not be used for more than nine songs. • If button is kept depressed then function will change to "search." (Tonearm will move above record surface. Press the stop switch to return tonearm to start position.) • If you skip too far forward, use the backward skip/search button to go back to the song you want.
<p>■ Repeat play</p> <ul style="list-style-type: none"> • Press the repeat switch before or during play. The red indicator will light up. • To cancel, press the repeat switch again. The indicator will go out. Repeat will also be cancelled if the stop switch or power switch is pressed. 	<ul style="list-style-type: none"> • Repeat play can only be used with 30 cm (12") or 17 cm (7") records.

Procedure	Remarks/Notes
<p>■ To temporarily interrupt play</p> <ul style="list-style-type: none"> • Press the cueing control. • The green indicator will change to red and tonearm will rise above record surface. • Press again to resume play. Indicator will change to green. 	
<p>■ To stop play</p> <ul style="list-style-type: none"> • Press stop switch. • Tonearm will return to start position. 	
<p>■ Music select play by skipping forward or backward.</p> <p>Forward skip</p> <p>(Example: Skipping forward to the fifth song during play of the second song on a 7-song record.)</p> <ul style="list-style-type: none"> • Press forward skip/search button three times. Tonearm will go to song five and begin play. <p>Backward skip</p> <p>(Example: Skipping backward from the sixth to the second song.)</p> <ul style="list-style-type: none"> • Press backward skip/search button five times. Tonearm will go to song two and begin play. 	<ul style="list-style-type: none"> • This can only be done during play (that is, when the stylus is in the grooves).  <ul style="list-style-type: none"> • During backward skip, the song in play is included in the count. 
<p>■ Forward or backward search play (manual play)</p> <p>Forward search</p> <ul style="list-style-type: none"> • Keep forward skip/search button depressed. Release button when tonearm reaches the song that you want.  <p>Backward search</p> <ul style="list-style-type: none"> • Keep backward skip/search button depressed. Release button when tonearm reaches the song that you want. 	

■ Playing monoral and special records

Procedure	Remarks/Notes	
<ul style="list-style-type: none">• 17 cm (7") 33-1/3 rpm record.• 30 cm (12") 45 rpm record.	<ul style="list-style-type: none">• Set speed selector to correct speed.	<div><p>speed</p><p>33 auto 45</p></div> <ul style="list-style-type: none">• For normal use, remember to return the speed selector to the "auto" position.
<ul style="list-style-type: none">• Tonearm goes past desired song when using direct music select play or skip play. (Sets down on later song.) (On records with narrow gaps between songs.)	<ul style="list-style-type: none">• Set sensitivity selector to "H" position.• Always return to "M" position for playing ordinary records.	<p>About the sensitivity selector. 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, direct select play of some special records is possible. Always return the selector to the center position to play ordinary records.</p> <div><p>sens</p><p>L M H</p><p>Sensitivity selector</p></div>
<ul style="list-style-type: none">• Tonearm starts playing song before desired song, or starts playing (or rises) from middle of song.	<ul style="list-style-type: none">• Set sensitivity selector to "L" position.	
<ul style="list-style-type: none">• Song is extremely short.• Record is badly warped or eccentric (spindle hole is off centre).• Colour printing on record groove area.• Outer edge of record is raised (Groove guard) on 17 cm (7") record.• Record is very dirty or badly scratched.• 30 cm (12") transparent (translucent) records. (Includes red, yellow, green, blue, or other coloured records and extremely thin black records that allow light to pass through.)• 30 cm (12") records that are transparent or coloured, or Sono-sheets, or black records that are highly reflective.	<ul style="list-style-type: none">• Use auto-play or search-play modes to play the record.• Direct music select and skip play can not be used.	
<ul style="list-style-type: none">• 25 cm (10") records and monoral records.	<ul style="list-style-type: none">• Use search-play mode to play the record.• Direct music select play can not be used.	

Adjustments

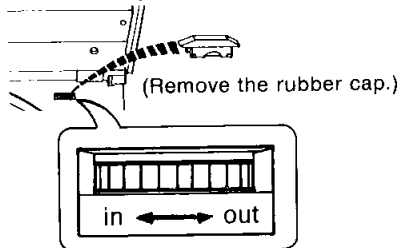
■ Stylus set-down position adjustment.

Perform adjustment as follows if tonearm does not start playing from the correct position when using direct music select play or skip play to play ordinary records.

- Take off rubber cap from right rear of lower cabinet.
- If tonearm sets down before beginning of desired song.

Turn toward IN (counterclockwise).

One or two clicks correspond to about 0.1 mm.



- If tonearm sets down in song (doesn't start from beginning).

Turn toward OUT (clockwise).

Replacement of stylus

Note:

Be sure you have the amplifier volume knob turned down all the way to avoid amplification of shock noise produced when handling the stylus and cartridge.

This unit is equipped with a diamond stylus.

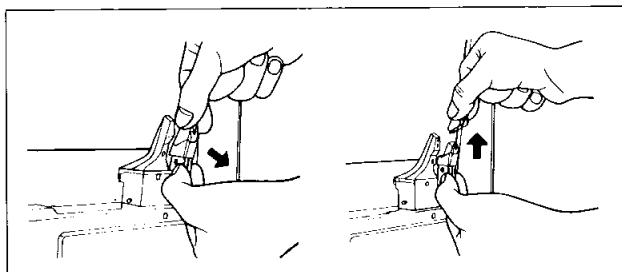
The replacement stylus for this cartridge is EPS-30CS.

The life of the stylus varies according to the conditions of use. Noise or scratchiness may indicate a worn or damaged stylus. To prevent damage to your records, the stylus should be replaced at the first sign of wear.

You will have easier access to the stylus with the tonearm toward the centre.

Therefore, follow the instructions below.

1. Place a 30 cm (12") record on the turntable mat and close the cabinet.
2. Push the power switch to the (⬆) on position.
3. Keep forward skip/search button depressed until the tonearm moves over to about the 25 cm (10") position.
4. Push the power switch to the (⬆) stand-by position and open the cabinet.
5. As shown in the figure, remove the old stylus while tipping the tonearm downward.
6. Push in the new stylus assembly.



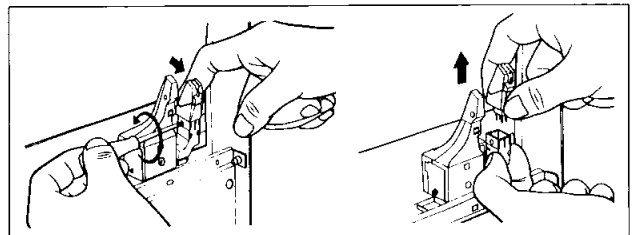
Note:

If you open the cabinet before pushing the power switch to the (⬆) stand-by position, the tonearm will return to the start position. Push the power switch to the (⬆) stand-by position before opening the upper cabinet.

Replacement of cartridge

Plug-in connector cartridges are now available from Ortofon (Denmark), Shure (U.S.A.), Audio Technica (Japan), as well as from Technics. All of these cartridges are designed for perfect matching with this turntable in all areas including weight, tracking force, stylus tip position, and centre of gravity. Therefore, you have the option of employing a wide range of cartridges from the world's top manufacturers without the trouble of lead wire connections or tracking force adjustment.

1. Move the tonearm to the centre of the platter by following the steps mentioned (Replacement of stylus).
2. Loosen the cartridge set screw completely, and remove the cartridge.
(As shown in the figure, remove the cartridge set screw while tipping the tonearm downward.)
3. Insert the new cartridge firmly into place.
4. Tighten the set screw.



Notes and maintenance

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

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

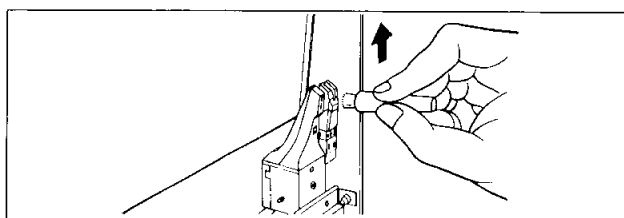
Therefore, if you then press the switch again to turn it on, the tonearm will go back to the start position.

- **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 a brush to remove dust and dirt by brushing upward.

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 mains cord. 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.

- **Unplug from AC outlet if unit will not be used for an extended period of time.**

Specifications

■ General

Power supply:	~240 V, 50 Hz
Power consumption:	8.5 W
Dimensions: (W × H × D)	31.5 × 8.8 × 31.5 cm (Maximum height when dust cover is opened.)
Weight:	39 cm 3.5 kg

■ Turntable section

Type:	Belt drive
Features:	Fully automatic turntable Auto start/Auto lead-in Auto return, Auto stop Repeat play Direct music select play Forward and backward skip play Forward and backward search play Record presence detection
Drive method:	Belt drive
Motor:	DC motor
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:	0.045% WRMS (JIS C5521) ±0.06% peak (IEC 98A Weighted)
Rumble:	-48 dB (IEC 98A Unweighted) -70 dB (IEC 98A Weighted)

■ Tonearm section

Type:	Linear tracking tonearm 4-pivot gimbal suspension
Effective length:	10.5 cm
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

Type:	Moving magnet stereo cartridge
Magnetic circuit:	All laminated core
Frequency response:	10 Hz ~ 35 kHz
Output voltage:	2.5 mV at 1 kHz 5 cm/s. zero to peak lateral velocity (7 mV at 1 kHz, 10 cm/s. zero to peak 45° velocity [DIN 45 500])
Channel separation:	22 dB at 1 kHz
Channel balance:	Within 2 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 (12.5±2.5 mN)
Weight:	6 g (cartridge only)
Replacement stylus:	EPS-30CS

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

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