

BOTH SIDES PLAY DISC STEREO SYSTEM

VZ-2000E

OPERATION MANUAL

APSS
Auto Program Search System

DOLBY SYSTEM®



The record shown in the photo is not supplied with this unit.

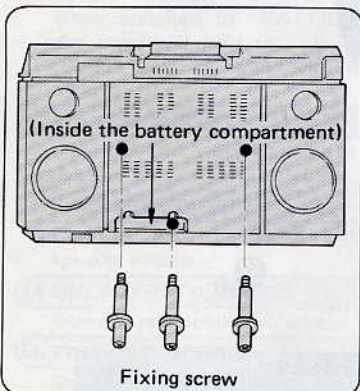
SHARP

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BEFORE USING THIS SYSTEM

BEFORE USE



You will find three screws in the rear of your stereo system for use when transporting it. Please remove the three screws as shown in the figure with a Phillips screwdriver at least 9 cm (3.5 inches) long. As these screws are necessary for transporting your stereo system, please store them in a safe place.

WHEN TRANSPORTING YOUR STEREO SYSTEM

- 1) Insert the three screws into the places provided on the rear of the unit.
- 2) Before turning off the power, push the PLAY/CUT button and return the cartridges to their rest position and protect each cartridge with its respective cover as shown in the diagram on page 7.

MAIN FEATURES

AUTOMATIC PLAYING OF BOTH SIDES OF A RECORD (BOTH-SIDE PLAY):

- Playing either side of a record is possible by the operation of one button which will automatically change the playing side from A to B or vice versa.
- Playing of both sides of a record one after the other is possible with this feature.
- Repeat playing of one side or repeat, continuous playing of both sides is possible.

FULLY AUTOMATIC CONTROL OF THE TURNTABLE WITH MICRO-COMPUTER AND LINEAR TRACKING MECHANISM:

- Auto start and auto lead-in are fully automated by the closing of the player door.
- Record size (LP or EP) is automatically distinguished by the record size sensor.
- A system for the automatic change of playing speed to match record size is also provided.
- The stylus protection function prevents unit operation when no record is inserted.

VERTICAL RECORD PLAYER WITH SLIM DESIGN TO SAVE SPACE:

APSS (Auto Program Search System):

The APSS system scans pre-recorded tapes at high speed in either the forward or reverse direction. This system enables the beginning of the next programme, or the present programme to be located and played automatically.

DOLBY NR SYSTEM:

Low noise recordings are assured and signal/noise ratio is improved with the built-in Dolby NR system.

3-WAY POWER SOURCE OPERATION:

The unit can operate on any of the following electrical current supplies: AC, external DC source of 15 volts, or on batteries.

NOTE FOR USERS IN UK

IMPORTANT

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

- BLUE: "NEUTRAL"
- BROWN: "LIVE"

CONNECTING PLUG TO MAINS LEAD:

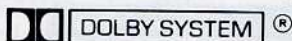
As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

- 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 apparatus must be protected by a 3A fuse in the mains plug or distribution board.

This equipment leaves the factory adjusted for use on a 240volt (50Hz) mains supply.

For other voltages see page 5.

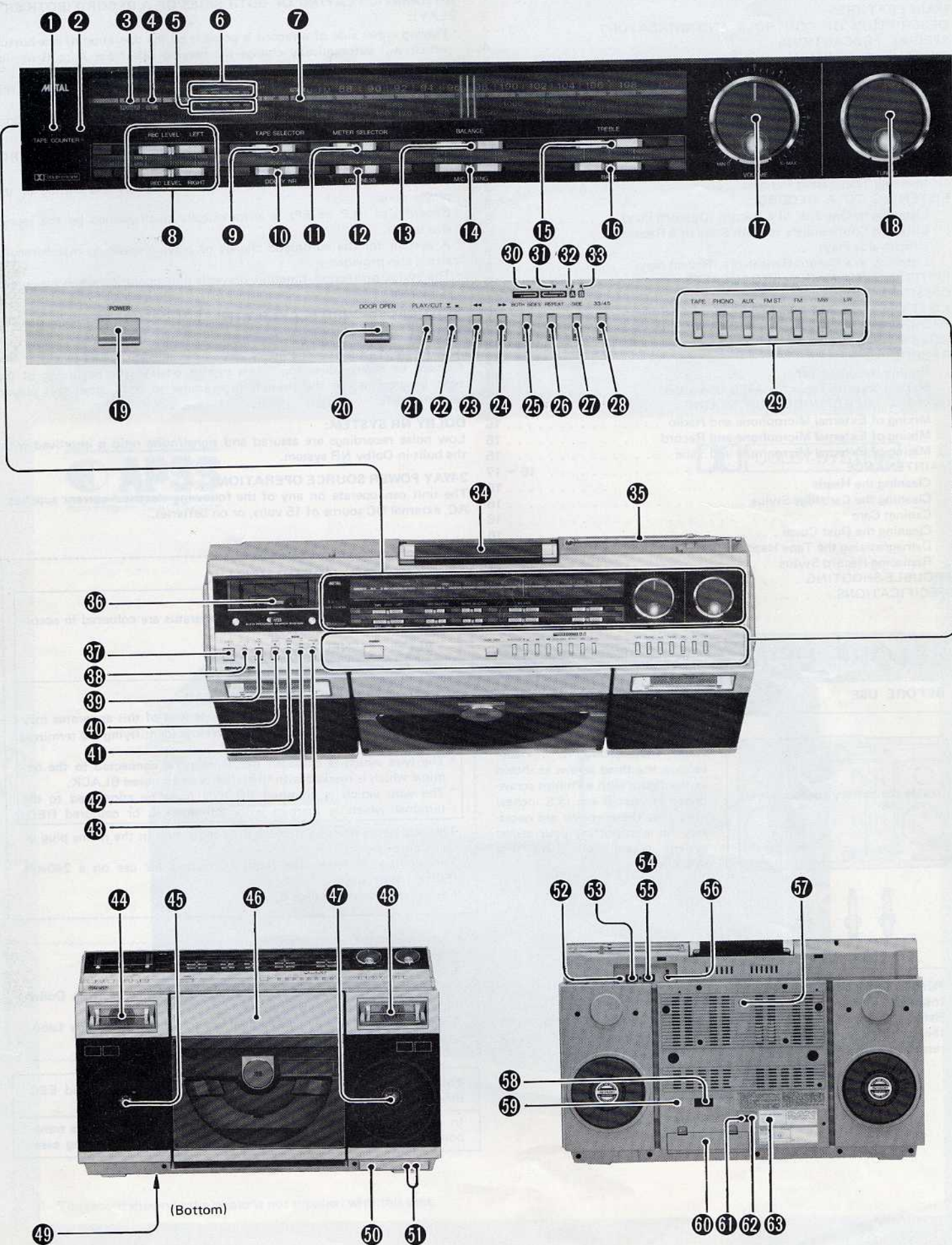


- Noise Reduction System manufactured under license from Dolby Laboratories Licensing Corporation.
- "Dolby" and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.

This apparatus complies with requirements of BS 800 and EEC directive 76/889/EEC.

In order to prevent this product from damages at times as transportation, repack it as illustrated on the flap of the packing case.

DESCRIPTION OF CONTROLS AND INDICATORS



— DESCRIPTION OF CONTROLS AND INDICATORS —

1 TAPE COUNTER

Numbers change as the tape is run. Set at "000" for the beginning of a tape and note the numbers when recording for your convenience during playback or when re-recording.

2 TAPE COUNTER RESET BUTTON

Resets tape counter to "000".

3 POWER INDICATOR

Lights up when power is turned on.

4 RECORD INDICATOR

Lights up during recording.

5 TAPE LEVEL (RIGHT)/SIGNAL METER

Indicates sound level during recording and playback of a tape. When the METER SELECTOR switch is set to "BATT/SIGNAL", this meter indicates signal strength when receiving FM/MW/LW broadcasts.

6 TAPE LEVEL (LEFT)/BATT METER

Indicates sound level during recording and playback of a tape. When the METER SELECTOR switch is set to "BATT/SIGNAL", this meter can be used to check the battery level.

7 FM STEREO INDICATOR

Lights up when an FM stereo broadcast is received.

8 RECORD LEVEL CONTROLS

Adjusts the sound level in accordance with the tape level meters, during recording.

9 TAPE SELECTOR SWITCH

Set according to the type of tape being used.

10 DOLBY NR SWITCH

Slide to "ON" when Dolby Noise Reduction System is desired during recording and when playing a Dolby NR recorded tape.

11 METER SELECTOR SWITCH

Used for switching the tape level meter to "TAPE LEVEL" or "BATT/SIGNAL". When switched to "BATT/SIGNAL", the dial plate will light up. It will return to "TAPE LEVEL" when you remove your hand.

12 LOUDNESS SWITCH

Slide to "ON" when listening at low volume levels to boost bass and treble.

13 BALANCE CONTROL

Controls the balance of right and left speaker volume.

14 MIC. MIXING CONTROL

Controls microphone volume.

15 TREBLE CONTROL

Slide to the right to boost treble.

16 BASS CONTROL

Slide to the right to boost bass.

17 VOLUME CONTROL

Controls volume of speakers and headphones.

18 TUNING CONTROL

Selects a radio broadcast and tunes for best reception.

19 POWER SWITCH

Push to turn the power on and off. When the power is turned on a click will be heard. This is part of the mechanism to insure reliable action, and is not a defect in the system.

20 DOOR OPEN BUTTON

Push to open the player door.

21 PLAY/CUT BUTTON

Push to begin playing a record and push again to stop during play.

22 CUE BUTTON (▼▼)

Push to temporarily stop record play. Push again to resume play.

23 CARTRIDGE FORWARD BUTTON (◀◀)

Push to move the cartridge toward the centre of a record. Play resumes automatically when finger is removed.

24 CARTRIDGE REVERSE BUTTON (▶▶)

Push to move the cartridge back to the outer edge or previous selections of a record. Play resumes automatically when finger is removed.

25 BOTH SIDES PLAY BUTTON

Push to play either side A or B of a record. Play of the reverse side will automatically follow.

26 REPEAT-PLAY BUTTON

Push for automatic replay of either side A or B. If this button and the BOTH SIDES button are pushed, both sides A and B will be repeated. The repeat-play will automatically stop after a record has played six times.

27 SIDE A/B SELECTOR BUTTON

Changes side of record to be played.

28 SPEED SELECTOR (33/45) BUTTON

Push to manually change the record playing speed.

29 INPUT SELECTOR BUTTONS

Change according to the desired programme source.

TAPE	Push to playback a tape.
PHONO	Push to play a record.
AUX	Push to listen to some other unit (tape deck, tuner, etc.) connected to the system.
FM ST	Push to receive FM stereo broadcasts.
FM	Push to listen to FM monaural broadcasts.
MW	Push to receive MW broadcasts.
LW	Push to receive LW broadcasts.

30 BOTH SIDES PLAY INDICATOR

Lights up when side A (side facing the listener) of a record is played. Followed by automatic playing of side B (reverse side). (Automatic playing from side B to side A is the same.)

31 REPEAT-PLAY INDICATOR

Lights up when a record is being re-played.

32 SIDE A PLAY INDICATOR

Lights up when side A (side facing the listener) of record is being played.

33 SIDE B PLAY INDICATOR

Lights up when side B (reverse side) is played.

34 HANDLE

35 FM TELESCOPIC ROD AERIAL

Raise and extend rod aerial when receiving FM broadcasts.

36 CASSETTE HOLDER

Holds cassette tape for recording or playback.

37 CASSETTE EJECT BUTTON (▲)

Push to open the cassette holder when inserting or removing a tape.

38 RECORD BUTTON (●)

Push to record. The play (▶) button will automatically be depressed simultaneously.

39 PLAY BUTTON (▶)

Push to playback a tape.

40 STOP BUTTON (■)

Push to stop tape playback, recording, fast forward or rewind.

41 REWIND BUTTON (◀◀)

Push to rewind the tape. If this button is pressed while the PLAY (▶) button is depressed, the rewind APSS (Auto Program Search System) will be activated.

42 FAST FORWARD BUTTON (▶▶)

Push to quickly wind the tape forward. If this button is pressed while the PLAY (▶) button is depressed, the fast forward APSS (Auto Program Search System) is activated.

43 PAUSE BUTTON (||)

Push to temporarily stop the tape during recording or playback.

44 TWEETER (LEFT)

45 WOOFER (LEFT)

46 PLAYER DOOR

Opens and closes for the insertion and removal of records.

47 WOOFER (RIGHT)

48 TWEETER (RIGHT)

49 PLAYER PROTECTION SWITCH

If the unit is moved or transported while a record is playing, this switch is automatically switched on and the record player will stop. Records can not be played while this switch is on.

50 HEADPHONES SOCKET

Plug-in for stereo headphones.

51 MICROPHONE SOCKETS

Accepts microphone for recording with an external mic. or for mixing.

52 FM AERIAL SELECTOR SWITCH

When using the FM rod aerial, set this switch to the "ROD" position. When using the socket, set this switch to the "EXT" position.

53 FM EXTERNAL AERIAL SOCKETS

For improved FM reception, connect the 300 ohm (balanced) FM aerial (not supplied) to the FM EXT. ANT sockets. The external FM aerial will have a higher gain than the unit's telescopic aerial which may be inadequate for the reception locality.

54 AM EXTERNAL AERIAL SOCKET

Connect an earth wire to this socket when an external AM aerial is used.

55 AERIAL EARTH SOCKET

Connect an earth wire to this socket when an external AM aerial is used.

56 AUX (REC/PB) SOCKET

Socket provided to connect another tape deck when mixing programmes of this stereo system with sound from a microphone onto another tape deck, or for listening with other tuner or tape deck.

57 BEAT CANCEL SWITCH

Set to either the A or B position in order to cancel a whistling sound sometimes generated when recording MW, LW broadcasts.

— DESCRIPTION OF CONTROLS AND INDICATORS —

58 EXTERNAL SPEAKER SOCKETS

Sockets to connect external speakers of 4 to 8 ohm impedance.

59 SPEAKER SELECTOR

When using the internal speakers, set this switch to "INT". When using external speakers connected to the unit, set this switch to "EXT". When in normal use, leave the switch set to "INT".

60 BATTERY COMPARTMENT

Compartment holds 10 batteries. Insert ten, 1.5 volt type HP-2 or UM/SUM-1 batteries. Carefully check battery polarity during insertion.

61 AC INPUT SOCKET

Socket to receive AC supply lead connector. When connected AC supply lead cuts off current from both battery and external DC electrical power supplies.

62 EXTERNAL DC INPUT SOCKET

Used when operating this unit from an external DC power supply of 12 to 16 volts. When connected external DC supply lead cuts off current the unit's internal batteries.

63 AC VOLTAGE SELECTOR

This unit is designed to operate from either a 110V, 220V or 240V AC supply. Therefore the voltage selector must be set to correspond to the power supply used in your area. The voltage selector must be set properly before the unit is plugged into the AC outlet.

SPECIAL PRECAUTIONS

- When unplugging the AC supply lead, always hold the AC supply lead plug and pull. Never pull the AC supply lead itself.

- Do not bend the AC supply lead sharply or place heavy objects such as furniture on it.

- Do not expose the unit to rain, steam, or other source of moisture in order to avoid damaging the electrical circuitry in the unit.

- As this unit is heavy, please place it in a safe, stable place to prevent damage.

- Depending on the season, the temperature inside a car can reach 80°C/150°F when exposed to direct sunlight. So avoid leaving your stereo system inside as the cabinet, records and cassette tapes may be warped or damaged.

- When using your stereo system outdoor, be sure to avoid placing it in direct sunlight as this may warp your records.

- Keep your stereo system away from heaters or places with a high temperature as the cabinet, records or cassette tapes may be warped or damaged.

- Never store the unit, any record or cassette tape in a humid or dusty environment. Records will gather dust due to static electricity, so please wipe them with a record cleaner before returning them to their jackets.

- Be sure to place your stereo system on a level surface. When placed on an unstable or uneven surface, the player protection switch will operate and the player will not work so please take note.

- Please do not play records when the unit is placed on a car seat as this might cause damage to the record or the stylus.

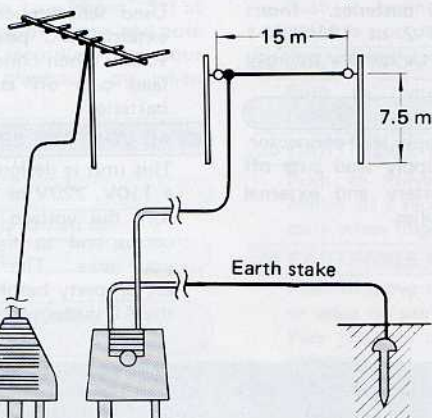
- This stereo system is designed to function without oil, so please do not attempt to lubricate the unit as this may cause damage.

WARNING:

Always remove mains plug from wall socket when not in use, or before any service operation.
Never remove covers unless qualified to do so; this unit contains dangerous voltage.

SYSTEM CONNECTION

Special 300 Ω FM aerial Outside MW, LW aerial

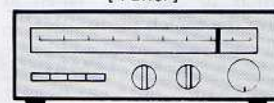


Notes

- A 75 ohm FM aerial may be used with a "BALUN" impedance matching transformer which may be obtained from your local dealer.
- Do not use a TV aerial instead of the special FM aerial, or interference will occur in TV reception.

AUX (REC/PB) socket

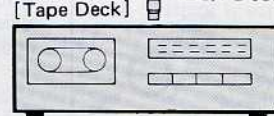
[Tuner]



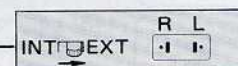
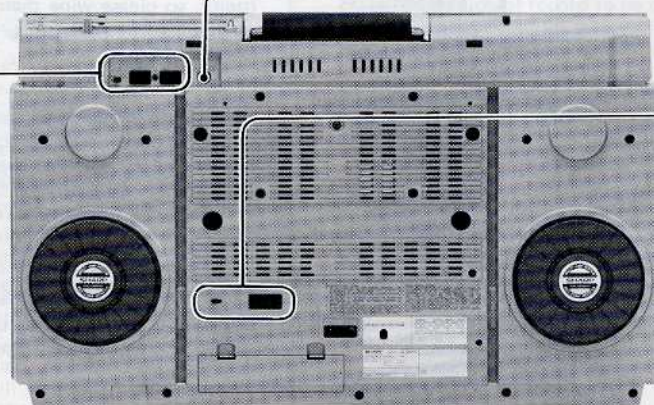
Output socket

[Tape Deck]

REC/PB socket



When using the special FM aerial connected the EXT. FM ANTENNA socket, set this switch to the "EXT" position.



Speaker (Left)

Speaker (Right)

SPEAKER SYSTEM

Note

This stereo system was designed for use with 4 ohm speakers. Though we recommend the use of 4 ohm speakers, the external speaker socket (EXT. SPEAKER) will accept speakers within a range 4 — 8 ohms.

PREPARATION FOR USE

1 SUPPLY VOLTAGE

The unit can operate on any of the following power supplies: AC 110V, 220V or 240V, 50Hz or 60Hz, internal batteries or external DC 15V power supply.

2 SUPPLY VOLTAGE SELECTOR

Check the setting of the AC voltage selector located at the rear of the unit before plugging the stereo system into an AC outlet. If necessary, adjust the selector to correspond to the AC power voltage used in your area. To adjust, turn the selector with a screwdriver until the appropriate voltage number appears in the window.

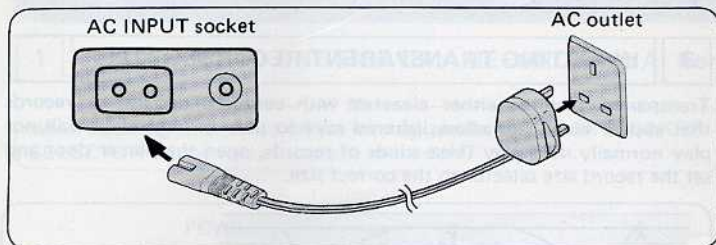


RATED LINE VOLTAGE

WARNING:

The power supply which is used must be of the same voltage as specified for this stereo system. Using the unit with a voltage higher than specified is dangerous and may result in fire or other serious damage. SHARP is not responsible for any damage resulting from use of this stereo system with a voltage other than that which is specified.

3 OPERATION WITH AC POWER SUPPLY



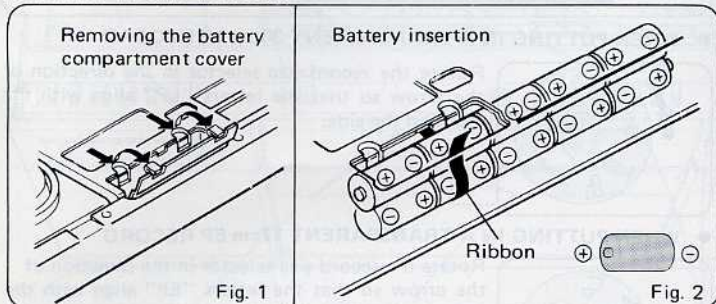
Push the POWER switch to turn the unit off, insert the AC connector into the AC input socket located on the rear of the unit. When plugged into an AC outlet, the unit is ready to use.

Notes

- Inserting the AC connector into the unit automatically cuts off the electrical current from the batteries. Because of this, the AC connector must be disconnected for the unit to operate on battery power.
- In order to conserve the batteries, we suggest that AC power be used whenever possible.
- Unplug the AC supply lead from the AC outlet when the unit is not to be used for an extended period of time.

4 OPERATION WITH DC POWER SUPPLY (BATTERIES)

BATTERY INSTALLATION



- 1 Disconnect the AC supply lead from the unit.
- 2 Place the unit on a soft surface, such as a sofa or blanket, in order not to damage the cabinet or dust cover, and remove the battery compartment cover. (Fig. 1)
- 3 Insert ten new type HP-2 or UM/SUM-1 batteries (1.5V cell) into the battery compartment as shown in Fig. 2.
 - With the ribbon underneath the batteries. The ribbon will facilitate their later removal. Be sure to observe correct polarity for all batteries.
- 4 Replace the battery compartment cover. The unit can now be operated on its internal battery power supply.

Notes

- Remove the batteries when they become weak or whenever you expect that the unit will not be used for a long period of time. This will help prevent possible damage to the unit due to battery leakage.
- If dust should accumulate between the batteries and battery terminals, contact becomes imperfect and may hinder the unit's operation. This can be avoided by keeping the contact parts clean.

BATTERY LEVEL CHECK

The battery level meter shows whether the DC power supply is adequate or inadequate to operate the unit.

- 1 Push the POWER switch to turn the unit on.
- 2 Push the "TAPE" input selector button.
- 3 Push the PLAY (▶) button.
- 4 Slide the METER SELECTOR switch to the "BATT/SIGNAL" position and hold in that position.



The battery level is adequate if three or more LED indicators light up.



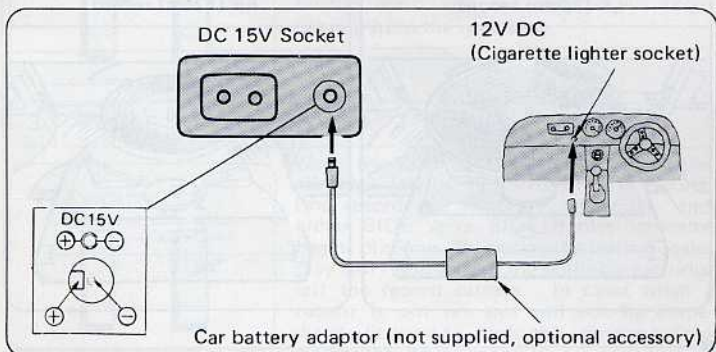
The battery level is inadequate if only 2 or less LED indicators light up.

Push the POWER switch to turn the unit off, remove the old batteries and replace them with new ones.

Note

When the batteries are low, even though you can hear the radio you may not be able to play records or record. So replace the batteries as soon as possible. When using this stereo system indoors, it is advisable to use an AC power source.

5 OPERATION WITH EXTERNAL DC POWER SUPPLY (15 VOLTS)



You cannot play records on this unit inside a car. It has been designed to operate within a range of DC 12 to 16 volts. When operating on a DC 12V car battery with negative ground, use a car battery adaptor (not supplied, optional accessory).

When using a car battery as a power source, be sure to keep the unit out of direct sunlight outside of the car and to place it on a level surface.

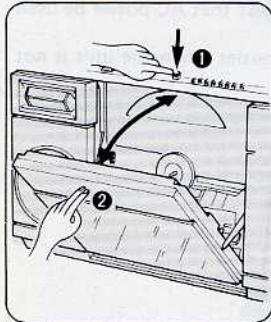
- 1 Connect the supply lead with plug of the adaptor to the external DC input socket (DC 15V).
- 2 Connect the other end of the lead into the cigarette lighter socket of the car's instrument panel.

Note

Use of an external DC power source automatically cuts off the electrical current from the internal batteries.

OPENING THE PLAYER DOOR/RECORD INSERTION

1 OPENING AND CLOSING THE PLAYER DOOR



1 TO OPEN THE PLAYER DOOR

Press lightly on the DOOR OPEN button and slowly open the door by hand.

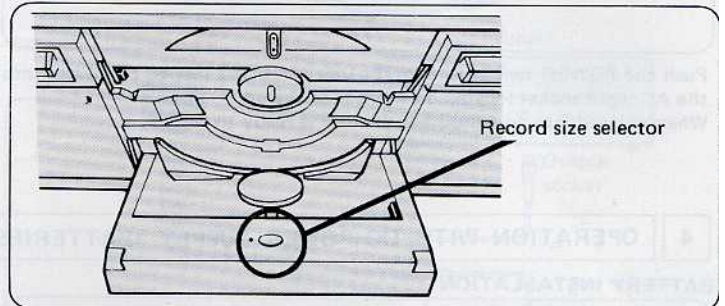
• If the unit has been placed on a sloping surface, the door may open quickly or only open halfway, so very gently and slowly open the door by hand.

2 TO CLOSE THE PLAYER DOOR

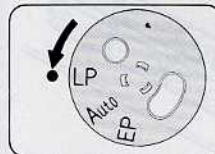
Slowly press the upper middle part of the door until you hear it clicks into place.

3 INSERTING TRANSPARENT RECORDS

Transparent records, either clear or with coloured designs, or records that appear black but allow infrared rays to pass through them will not play normally. To play these kinds of records, open the player door and set the record size selector to the correct size.



• WHEN PUTTING IN A TRANSPARENT 30cm LP RECORD



Rotate the record size selector in the direction of the arrow so that the letters "LP" align with the mark on the side.

• WHEN PUTTING IN A TRANSPARENT 17cm EP RECORD



Rotate the record size selector in the direction of the arrow so that the letters "EP" align with the mark on the side.

Note

Please do not use your stereo system with the record size selector set to the wrong position, as it will result in the record being played from the middle or at the wrong speed, or the stylus will miss the record altogether and be damaged.

• WHEN FINISHED PLAYING A TRANSPARENT RECORD

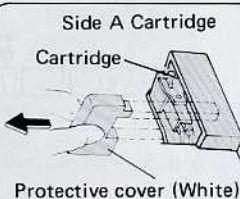
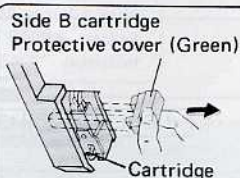


Set the record size selector to the "Auto" position. If this is not done, damage to the stylus may result when a nontransparent record is played.

2 REMOVAL OF THE CARTRIDGE PROTECTIVE COVER

Cartridge protective covers are attached to prevent damage to the cartridge when transporting the unit. Before playing make sure you remove these covers and store them in a safe place.

• When transporting the unit, put the cartridge protective covers back in their original positions, with the white cover on the side A cartridge and the green cover on the side B cartridge. Fasten the cover with adhesive tape.

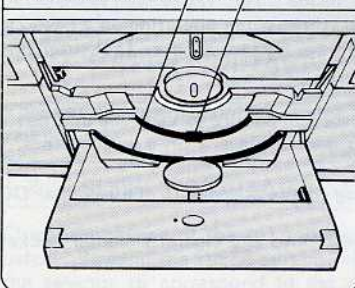


Note

If a record is played without first removing the protective covers damage to the tonearm may result. So please be sure to remove the covers.

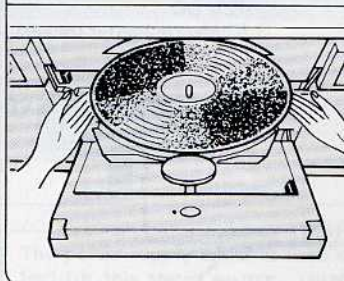
4 INSERTING A RECORD

Disc holders for LP and EP records

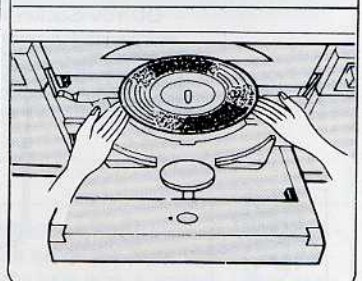


There is one disc holder for 17cm (EP) records and another holder for 30cm (LP) records. Only one record at a time may be placed on either of the disc holders.

LP (30cm) record



EP (17cm) record



Notes

- If two records are accidentally put onto the disc holder at the same time, damage to both the cartridge (stylus tip) and record will result.
- Never carry or move the unit when a record is playing or when placing the record on the disc holder. A record will not play while the player protection switch is on.
- 25cm records or very thin records are not usable with this stereo system.

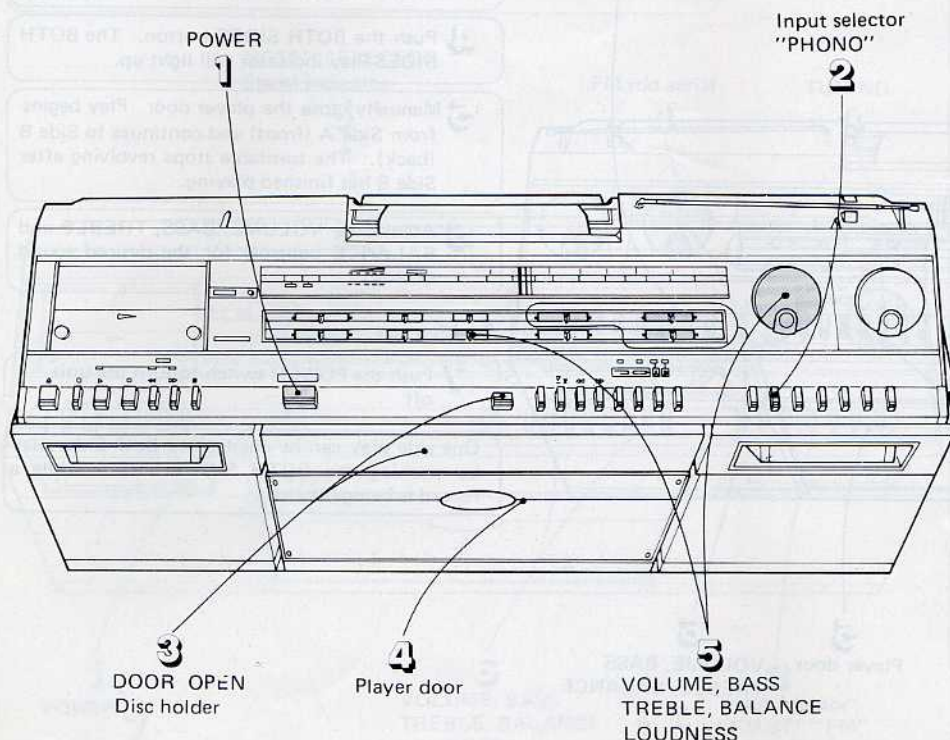
- If a non-standard sized record is played on this stereo system, the stylus may miss the beginning of the playing surface. The stylus may also not ascend from the record surface at the end of the last selection.
- The stereo system may not operate normally if a warped or severely dished record is played.

LISTENING TO A RECORD

1 LISTENING TO ONE SIDE OF A RECORD (Side A: front/Side B: back) (One-side play)

Note

When listening to a record on the internal speakers, slide the **SPEAKER SELECTOR** on the rear of the unit to the "INT" position.



1 Push the **POWER** switch to turn the unit on.

2 Push the "PHONO" input selector button.

3 Open the player door by pushing the **DOOR OPEN** button. Place the record on the disc holder. (Refer to page 7.)

4 Manually close the player door. The cartridge (stylus tip) will then move to the outer rim of Side A (front), and play will begin. The record speed is automatically set at 33 rpm for 30cm records and at 45 rpm for 17cm records.

5 Adjust the **VOLUME, BASS, TREBLE** and **BALANCE** controls for the desired sound quality. When listening at a very low volume setting, slide the **LOUDNESS** switch to the "ON" position.

After use

- After checking to make sure the record has stopped revolving, remove it from the player.
- Since the unit is still on and consumes electricity even after a record has stopped, the **POWER** switch must be pushed to completely turn it off.

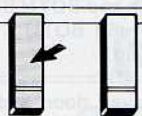
Notes

- If the power source voltage (AC power source or external DC source) should suddenly fall, you may not be able to play records. In this case, push the **POWER** switch and turn the power off, wait ten seconds, then turn the power back on.
- When batteries are in use and two or less battery level LED indicators are lit, you may not be able to play records. Push the **POWER** switch to turn the unit off and replace the batteries, or wait at least ten seconds and then change over to an AC power source.

- If you should push another input selector button by mistake when playing a record, the player will stop. If you wish to continue playing the record, push the "PHONO" input selector button, then push the **PLAY/CUT** button.
- If upon pressing a control button the player does not operate as indicated by the control button, press the **POWER** switch to turn the unit off, then press it again to turn it back on.

2 STOPPING DURING PLAY

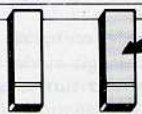
PLAY/CUT ▼▼



When the **PLAY/CUT** button is pushed, the cartridge (stylus tip) lifts off the record, the record will stop revolving. Push this button again and the record will begin playing from the beginning.

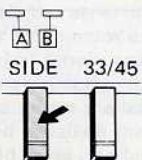
3 PAUSE DURING PLAY

PLAY/CUT ▼▼



When the **CUE** (▼/▼) button is pushed, the cartridge (stylus tip) lifts off the record, (the record will continue revolving), and either **SIDE A** or **SIDE B** play indicator begins blinking. By pushing the button again, play will resume from the point the cartridge left the record surface. In cases when a record is put on and will not be immediately listened to push this button before closing the player door.

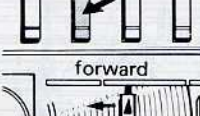
4 LISTENING TO SIDE B OF A RECORD



Push the **SIDE A/SIDE B** selector button before closing the player door. Side B of the record will begin playing. If this button is pushed while one side is being played, the player will begin playing the reverse side of the record from the beginning.

5 PLAYING FROM MIDDLE OF A RECORD

forward



By pushing the cartridge forward (▶▶) button, the cartridge (stylus tip) will move forwards the centre of the record, (in the direction indicated by the arrows), for as long as the button is depressed. The cartridge stops at the position the button is released and play begins.

backward



By pushing the cartridge reverse (▶▶) button, the cartridge (stylus tip) will move backwards the outer edge of the record, (in the direction indicated by the arrows), for as long as the button is depressed. The cartridge stops at the position the button is released and play begins.

6 LISTENING TO A RECORD IN PLAY FROM THE BEGINNING AGAIN

Push the cartridge reverse (▶▶) button until the cartridge has moved past the outer edge of the record. It will then automatically set down on the first groove and play begins.

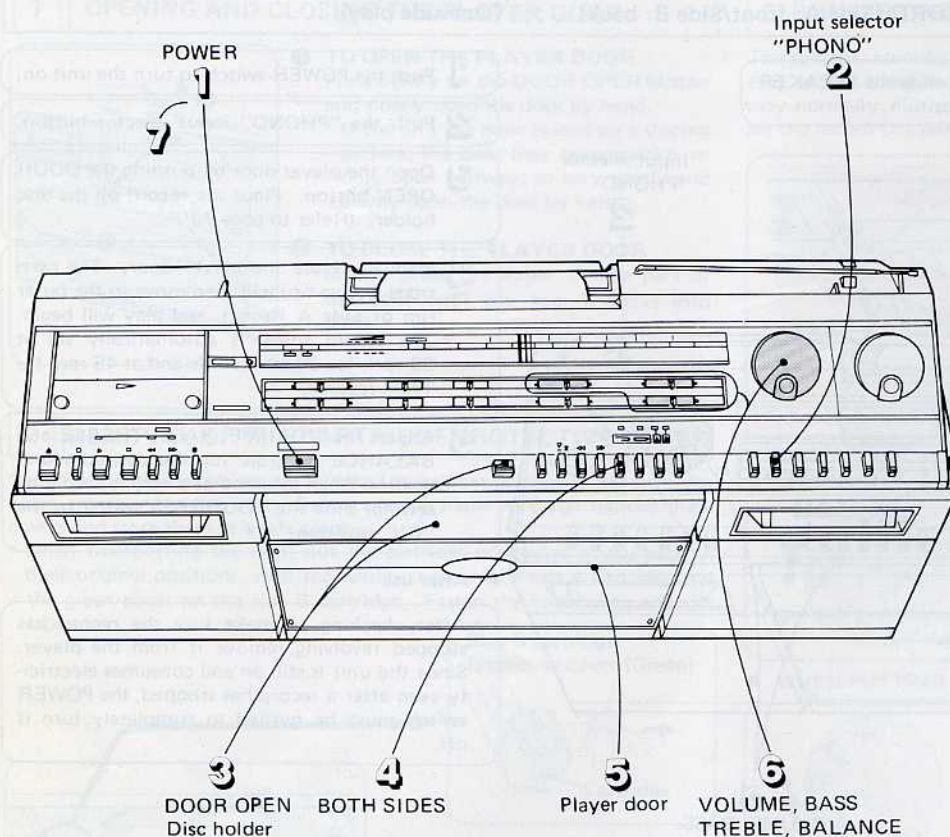
7 CHANGING RECORD SPEED

SIDE 33/45



If 30cm record is to be played at 45 rpm or a 17cm record at 33 rpm, set the desired speed by pushing the speed selector button (33/45) after the record begins to revolve.

8 LISTENING CONTINUOUSLY TO BOTH SIDES OF A RECORD (Both-sides play)



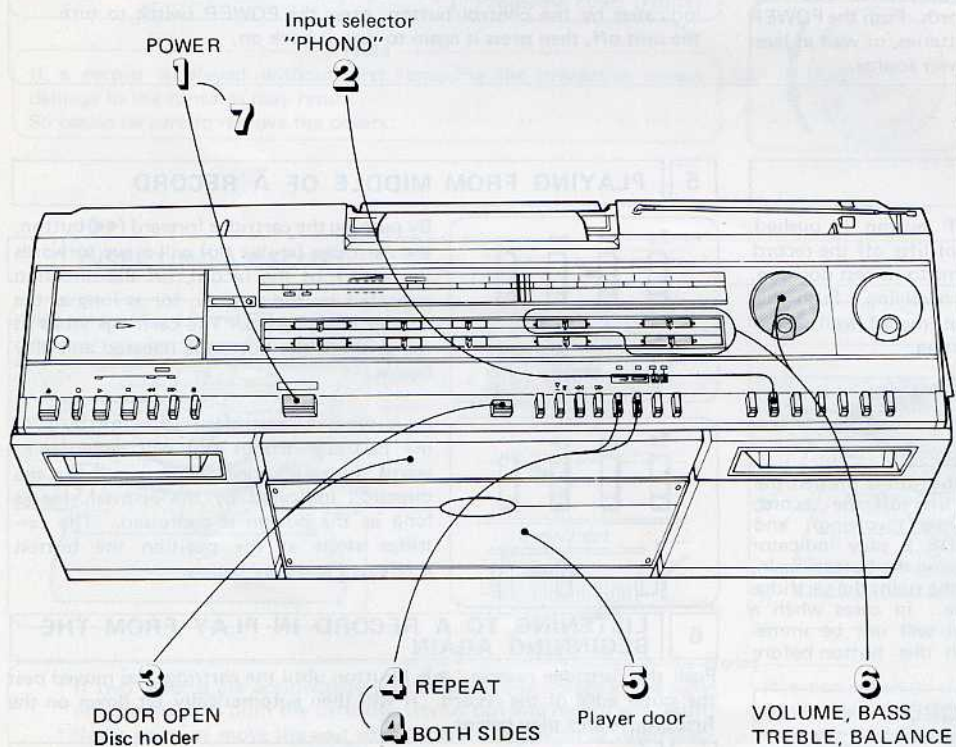
- 1 Push the POWER switch to turn the unit on.
- 2 Push the "PHONO" input selector button.
- 3 Open the player door by pushing the DOOR OPEN button. Place the record on the disc holder. (Refer to page 7.)
- 4 Push the BOTH SIDES button. The BOTH SIDES Play indicator will light up.
- 5 Manually close the player door. Play begins from Side A (front) and continues to Side B (back). The turntable stops revolving after Side B has finished playing.
- 6 Adjust the VOLUME, BASS, TREBLE and BALANCE controls for the desired sound quality.

• After use

- 7 Push the POWER switch to turn the unit off.

One side play can be changed to Both-Sides play by pushing the BOTH SIDES button while a record is being played.

9 LISTENING TO A RECORD REPEATEDLY (Both-sides or One-side) (Repeat-play)



- 1 Push the POWER switch to turn the unit on.
- 2 Push the "PHONO" input selector button.
- 3 Open the player door by pushing the DOOR OPEN button. Place the record on the disc holder. (Refer to page 7.)
- 4 **CONTINUOUS PLAY OF ONE-SIDE**
Push the REPEAT button. The REPEAT play indicator will light up.
- 4 **CONTINUOUS PLAY OF BOTH SIDES**
Push the REPEAT button and BOTH SIDES button. The REPEAT and BOTH SIDES play indicators will light up.

- 5 Manually close the player door and the repeated playing of either one or both sides will begin.

- 6 Adjust the VOLUME, BASS, TREBLE and BALANCE controls for the desired sound quality.

• After use

- 7 Push the POWER switch to turn the unit off.

Play can be changed to Repeat-play by pushing the REPEAT button while a record is playing. To cancel Repeat-play, push this button again.

Note

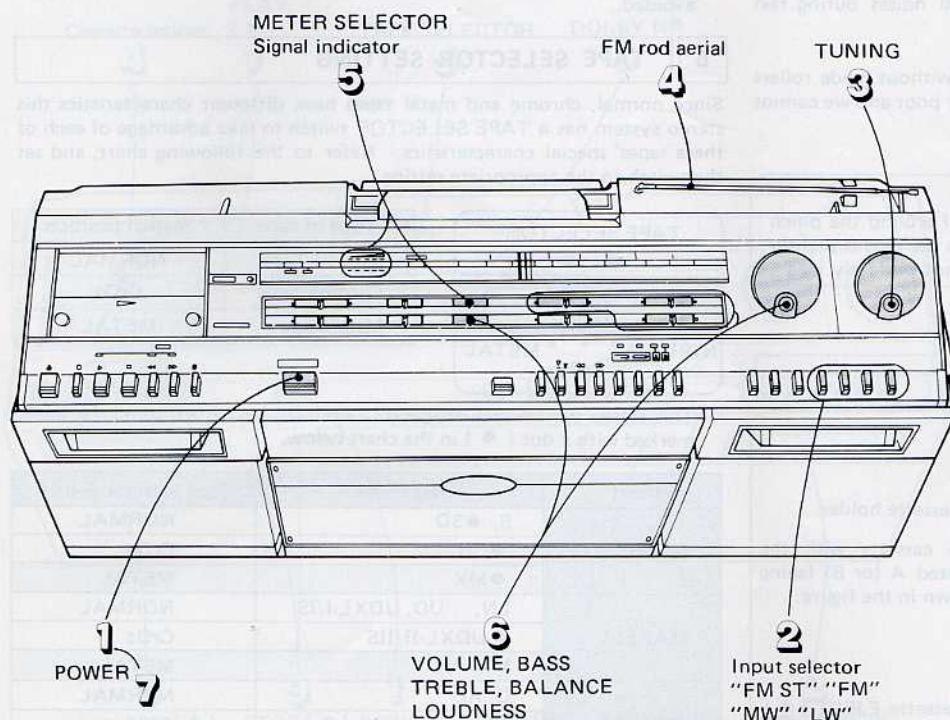
Should you forget to push the REPEAT button again the player will automatically stop after a record has played six time. After the record has stopped playing, push the POWER switch again to turn the unit off.

LISTENING TO RADIO BROADCASTS

1 LISTENING TO RADIO BROADCASTS

Note

When listening to the radio through the unit's internal speakers, slide the **SPEAKER SELECTOR** on the rear of the unit to the "INT" position.



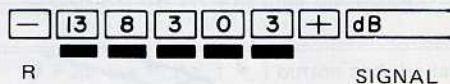
1 Push the **POWER** switch to turn the unit on.

2 Push the appropriate input selector button to receive the desired radio broadcasts. For FM broadcasts, either the "FM" or "FM ST" button may be used.

3 Select the desired station with the **TUNING** control. The "FM ST" indicator will light up when the FM broadcast is in stereo.

4 Adjust the position and length of the FM rod aerial if the "FM" or "FM ST" input selector is being used. (Refer to "FM AERIAL SELECTOR" and "AERIAL" below.)

5 After you have turned the **METER SELECTOR** to the "BATT/SIGNAL" position, fine tune with the **TUNING** control until the maximum number of LED indicators are lit.

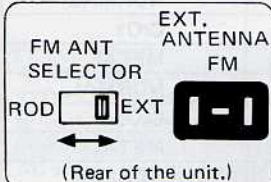


6 Adjust the **VOLUME**, **BASS**, **TREBLE** and **BALANCE** controls for the desired sound quality. When listening at a very low volume setting, slide the **LOUDNESS** switch to the "ON" position.

After use

7 Push the **POWER** switch to turn the unit off.

2 FM AERIAL SELECTOR

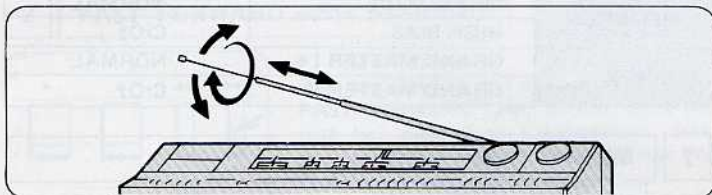


When using the FM rod aerial, set this switch to the "ROD" position. When using the special FM aerial connected to the EXT. FM ANTENNA socket, set this switch to the "EXT" position.

3 AERIAL

FM Aerial

< Strong signal areas >



Raise and extend the telescopic aerial. Turn the **TUNING** control in either direction until the desired broadcast is clearly received. Adjust the length and position of the aerial until the broadcast reception is received at peak strength.

Poor reception telescopic aerial areas

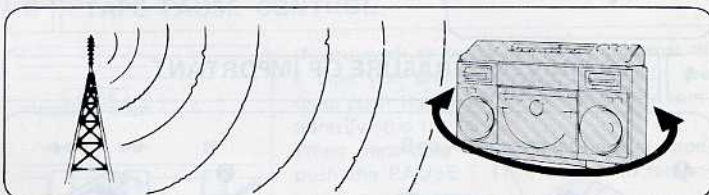
In areas where signals are weak due to long distances or interference from buildings, etc., it is advised that a special FM aerial (3-8 elements) be installed. Connect the aerial to EXT. FM ANTENNA socket with a feeder line (impedance 300Ω). A 75Ω aerial may be used with a "BALUN." (Refer to "SYSTEM CONNECTION" on page 5)

Position of special FM aerial installation

1. Install the aerial in a place where broadcast signals can be picked up with a minimum of interference. In areas where buildings or the geographical terrain cause unavoidable interference or in areas where signals are not directly received, listen to the sound and install the aerial in the place where the least amount of distortion and noise can be detected.
2. Avoid installing the aerial near roads or places where automobile noise would cause interference.

MW, LW Aerial

< Strong signal areas >



In strong broadcast signal areas, the ferrite bar aerial which is built into the stereo system is sufficient for reception. Since this aerial is a directional one, move the unit into that direction which provides the best possible reception.

Poor reception ferrite bar aerial areas

In areas where there is much interference (inside ferroconcrete building, or when weak signals are being received from distant stations, etc.) connect an aerial lead-in wire to the EXT. AM ANTENNA socket. Use an external aerial that is as close as possible to a standard aerial (7.5m high, 15m long [horizontal section]). When preparing the earth wire, connect it from the "GND" socket to an earth stake buried in the ground or to a metal water pipe.

(Refer to "SYSTEM CONNECTION" on page 5.)

WARNING

Do not connect the earth wire to a gas pipe as a spark may cause an explosion.

CASSETTE TAPE

1 DO NOT USE THE FOLLOWING CASSETTE TAPES

Some tapes available on the market are of poor quality and, if used on this stereo system, it will result in unsatisfactory operation and performance. We therefore suggest you avoid the following types of tapes.

• Cassette tapes with imperfect cases:

Do not use tapes enclosed in deformed cases, those whose tape position varies during use, or those that produce abnormal noises during fast forward.

• Low cost, unsophisticated cassette tapes:

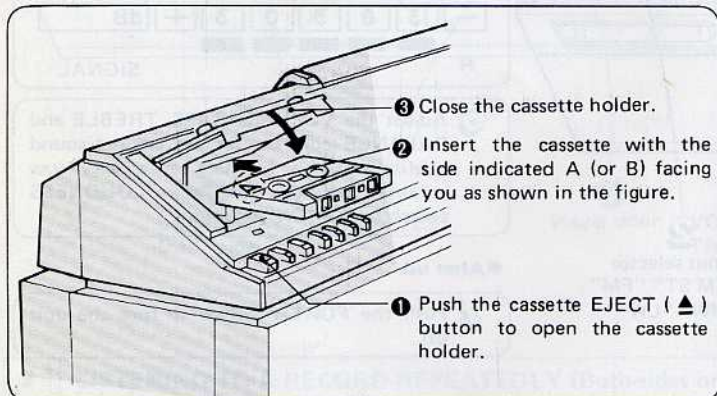
In order to cut cost, these cassette tapes are made without guide rollers and pad springs. The shielding effect is consequently poor and we cannot recommend them for use.

Note

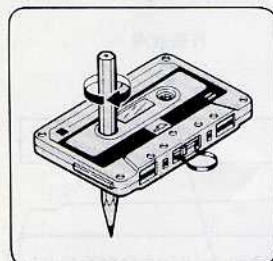
We do not recommend the long C-120 tape.

Since this tape is especially thin, it can wind itself around the pinch roller and capstan, especially in circumstances when the tape is slightly out of shape or the pinch roller and capstan are not perfectly clean.

2 INSERTING/EJECTING

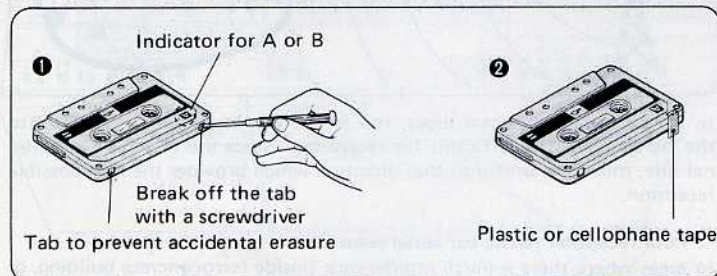


3 CHECK FOR TAPE LOOSENESS



Since a slack tape may break or become tangled in the mechanism, check to see that the tape is properly tight before using it. If the tape is loose, tighten it by winding it back onto the cassette reel with a pencil as shown in the figure.

4 TO PREVENT ERASURE OF IMPORTANT RECORDINGS



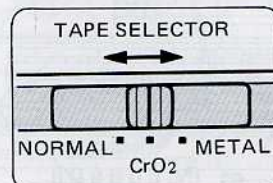
- To prevent accidental erasure of important recorded tapes, break off the tabs located on the top of the cassette tape. There are separate tabs for side A and B, remove one or both of the tabs as desired.
- A cassette tape with its accidental erasure tabs removed may still be used for recording purposes if a covering of cellophane tape is placed over the tab holes, as shown in figure 2.

5 STARTING CASSETTE TAPE

- Do not place recorded cassette tapes near objects which generate a strong magnetic field such as magnets, TVs, speakers, etc., as this may cause unwanted noise or erasure of the recording.
- Do not expose tapes to direct sunlight for extended periods of time. Areas near windows, heaters, inside cars or other hot places should be avoided.

6 TAPE SELECTOR SETTING

Since normal, chrome and metal tapes have different characteristics this stereo system has a TAPE SELECTOR switch to take advantage of each of these tapes' special characteristics. Refer to the following chart, and set the switch to the appropriate setting.



Type of tape	Switch position
Normal Tape	NORMAL
Chrome Tape	CrO ₂
Metal Tape	METAL

- This stereo system was designed to perform best when using the tapes marked with a dot (•) in the chart below.

Brand	Tape Name	Tape Selector Switch
SHARP	S, •SD	NORMAL
	•CR	CrO ₂
	•MX	METAL
MAXELL	LN, UD, UDXL-I/IS	NORMAL
	•UDXL-II/IIS	CrO ₂
	MX	METAL
TDK	D, AD	NORMAL
	SA	CrO ₂
	•MA, MA-R	METAL
SONY	LNx, HFX, SHF	NORMAL
	CD- α	CrO ₂
	METALLIC	METAL
FUJI FILM	FL, FX-I	NORMAL
	FX-II	CrO ₂
	METAL	METAL
SCOTCH	MASTER-I	NORMAL
	MASTER-II	CrO ₂
	METAFINE	METAL
BASF	LH, FSLH	NORMAL
	METAL	METAL
MEMOREX	MRX ₃ OXIDE	NORMAL
	HIGH BIAS	CrO ₂
AMPEX	GRAND MASTER I	NORMAL
	GRAND MASTER II	CrO ₂

7 METAL TAPE

Over the film base, conventional tapes are coated with iron oxide while chrome (CrO₂) and Ferri chrome (Fe-Cr) tapes have a coating of chrome oxide which acts as magnetic powder on the tape. However, the new type of metal tape uses a magnetic material coating of nonoxidized pure iron. Metal tape has the following features which make it superior to conventional tapes.

- High maximum output level (MOL) over the entire frequency range.
- Lower distortion at high input levels.
- Low noise in the high frequency range.
- Excellent recording and playback quality at high input levels.
- Wide dynamic range (recording and playback with little distortion or noise; wide range between soft and loud sound).

This stereo system has a metal tape setting on the TAPE SELECTOR switch to fully utilize the outstanding features of Metal tape.

Note

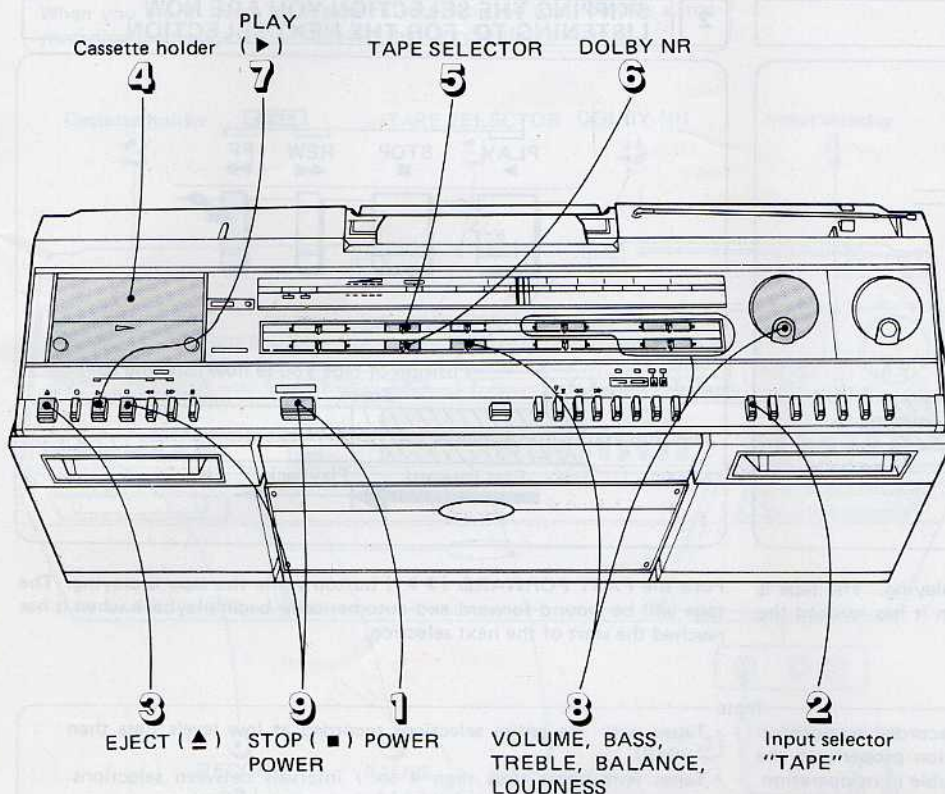
Carefully read the Metal tape reference guide before use.

LISTENING TO A TAPE

1 LISTENING TO A TAPE

Note

When listening to a tape through the unit's internal speakers, slide the **SPEAKER SELECTOR** on the rear of the unit to the "INT" position.



1 Push the **POWER** switch to turn the unit on.
• If the tape deck does not function properly when the **POWER** switch is on and the operation buttons have been pushed, push the **STOP** (■) button and repeat the process again.

2 Push the "TAPE" input selector button.

3 Push the cassette **EJECT** (▲) button to open the cassette holder.

4 Hold the side of the tape you want to listen to towards you, and insert it in the cassette holder. (Refer to "CASSETTE TAPE" on page 11.)

5 Set the **TAPE SELECTOR** switch according to the type of tape being used.

6 When playing a tape recorded with the **DOLBY NR** system, slide the **DOLBY NR** switch to the "ON" position.

7 Push the **PLAY** (▶) button and the tape will begin to play.

8 Adjust the **VOLUME**, **BASS**, **TREBLE** and **BALANCE** controls for the desired sound quality.
When listening at a very low volume setting, set the **LOUDNESS** switch to the "ON" position.

• After Playing Tape

9 Push the **STOP** (■) button and push the **POWER** switch to turn the unit off.

CAUTION:

Accidentally pushing the **PLAY** (▶), or **RECORD** (●) button and **STOP** (■) button in sequence when the AC supply lead is unplugged or batteries removed will cause the unit to enter the play mode upon pushing the **FAST FORWARD** (▶▶) or **REWIND** (◀◀) button after the AC supply lead has been plugged in or batteries installed.

To correct this, first push the **STOP** (■) button and then either the **FAST FORWARD** (▶▶) or **REWIND** (◀◀) button. The unit will return to normal operation and enter either the fast forward or rewind mode, respectively.

When the batteries are too weak, the unit will not function by pushing the **PLAY** (▶) button or **RECORD** (●) button and it is then not possible to return the **PLAY** (▶) button or **RECORD** (●) button completely by pushing the **STOP** (■) button.

In that case, replace the batteries or use an AC supply lead and push the **PLAY** (▶) button or **RECORD** (●) button.

2 FAST FORWARD AND REWIND

• FAST FORWARD

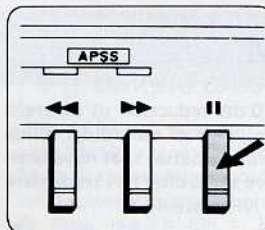
Push the **STOP** (■) button and then the **FAST FORWARD** (▶▶) button. Once the tape has reached the appropriate area, push the **STOP** (■) button and then the **PLAY** (▶) button to begin the tape. The tape will stop automatically when completely wound to its end.

• REWIND

Push the **STOP** (■) button and then the **REWIND** (◀◀) button. Once the tape has reached the appropriate area, push the **STOP** (■) button and then the **PLAY** (▶) button to begin the tape.

The tape will automatically stop when completely wound to its end.

3 TAPE PAUSE CONTROL



If you wish to write down the contents of a tape you are listening to or to edit the tape, push the **PAUSE** (II) button to temporarily stop the tape.

When recording or playing back a tape, push the **PAUSE** (II) button to temporarily stop the tape.

Push the button again to start the tape running.

4 FULL AUTO STOP MECHANISM

The tape deck in this stereo system is equipped with a full auto stop mechanism for your convenience. This automatic stop will release all buttons in any mode, whether it be in record, play, fast forward, or rewind, when the tape has completely been wound to its end. This convenience feature will not cause any harm to important tapes.

Note

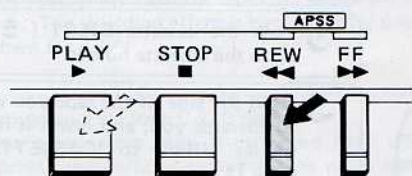
If the **STOP** (■) button is pushed before the auto stop mechanism is allowed to function, the auto stop may cause the unit to stop when operation is resumed. This, however, does not indicate trouble in the unit, simply repeat operation procedure.

PROGRAMME SEARCH ... APSS (Auto Program Search System)

What is APSS (Auto Program Search System)?

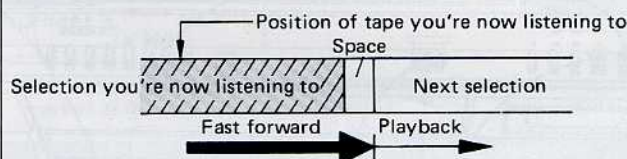
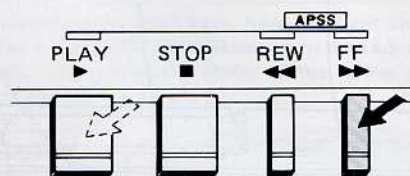
APSS is a device which automatically searches for the beginning of individual selections so they can easily be played from the start.

1 REPEATING THE SELECTION BEING LISTENED TO ...



Push the REWIND (◀◀) button while the tape is playing. The tape is rewound, and will automatically begin playback when it has reached the beginning of the desired selection.

2 SKIPPING THE SELECTION YOU ARE NOW LISTENING TO FOR THE NEXT SELECTION



Push the FAST FORWARD (▶▶) button while the tape is playing. The tape will be wound forward and automatically begin playback when it has reached the start of the next selection.

Note

The APSS device operates by searching for unrecorded sections on prerecorded tapes. It may, however, not function properly in the cases listed below. This does not indicate any trouble in its operation. We suggest you use the APSS function accordingly.

- Tapes of conversation where breaks occur in speech.
- Tapes with long, continuous selections of music in pianissimo, (sound is very soft) or with parts which are silent.

- Tapes with the entire selections recorded at low levels (less than -20dB).
- Tapes with short (less than 4 sec.) intervals between selections.
- Tapes recorded with loud noise or hum between selections.

3 PROGRAMMED STOP AT THE BEGINNING OR END OF THE SELECTION PRESENTLY BEING LISTENED TO ...

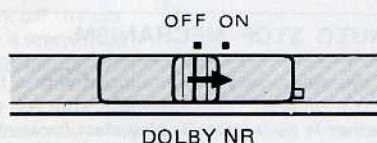
While the tape is playing, push the PAUSE (||) button and then either the FAST FORWARD (▶▶) or the REWIND (◀◀) button. The tape will automatically stop when it reaches the end or beginning of the selection you are listening to.

Note

If nothing is recorded on the tape, it will run to its beginning or end. Push the PAUSE (||) button to cancel operation when the tape winds to its end.

DOLBY NR SYSTEM

The Dolby Noise Reduction system gives a 10 dB reduction of inherent tape noise and thereby increases the dynamic range of recording. Slide the DOLBY NR switch to "ON" position to play cassettes that have been recorded with Dolby NR system and which have the Dolby NR trademark , or for low noise recording with the Dolby NR system.



Note

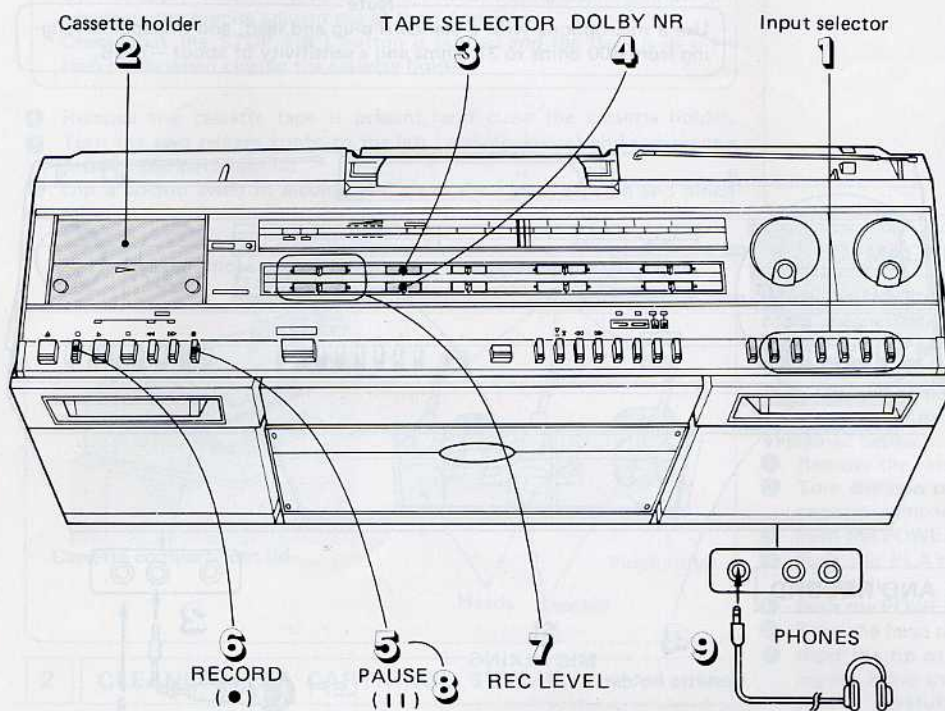
Tapes recorded with the DOLBY NR system should be listened to with the DOLBY NR switch "ON". Correct sound quality is not possible with this switch "OFF".

RECORDING

Recording and playback of any material may require consent, which SHARP are unable to give. Please refer particularly to the provisions of Copyright Act 1956, the Dramatic and Musical Performers Protection Act 1958, the Performers Protection Act 1963 and 1972 and to any subsequent statutory enactments and orders.

Note

When you are to make an important recording, be sure to make a trial recording to check that the stereo system is recording properly.



1 RECORDING FROM THE RADIO

Push "FM ST" "FM" "MW" or "LW" input selector buttons and select desired station. (Refer to page 10.)

RECORDING FROM A DISC RECORD

Push the "PHONO" input selector button and record will begin playing. (Refer to pages 8 and 9.)

RECORDING FROM OTHER UNITS

Push "AUX" input selector button to record from other units (tuner, deck, etc.) which are connected to this stereo system by AUX (REC/PB) socket.

Begin operation of another unit. (Refer to "SYSTEM CONNECTION" on page 5.)

2 Insert the cassette tape to be recorded into the cassette holder. (Refer to page 11.)

3 Slide the TAPE SELECTOR switch to the appropriate setting for type of tape used.

4 Set the DOLBY NR switch to "ON" for low noise recording with the DOLBY NR system.

5 Push the PAUSE (II) button.

6 Push the RECORD (●) button and the PLAY (▶) button will be automatically depressed. The REC indicator lights up and the deck is in the stand-by mode for recording.

7 Adjust the right/left recording level. (See "RECORDING LEVEL" below.)

8 Push the PAUSE (II) button again to start recording the programme.

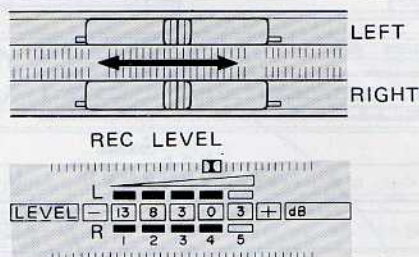
9 Connect stereo headphones to listen to the sound during recording.

1 BEAT CANCEL SWITCH



A whistling or beat sound is sometimes generated when recording MW, LW broadcasts. Set to the "A" or "B" position to cancel this beat sound.

2 RECORDING LEVEL



While watching the tape level meter, adjust the right/left recording level with the REC LEVEL controls so that the maximum level of the programme does not exceed the "0" VU level on the tape level meter.

3 TAPE COUNTER

The numbers on the tape counter change as the tape moves. When recording from the beginning of a tape, push the reset button before beginning the recording to reset the counter numbers to "000". Note the starting and finishing numbers of the recorded material for convenience in locating a specific section on a tape, or when using fast forward or rewind.

4 ERASING RECORDED TAPES

When a recording is made, anything on the tape is automatically erased before the new material is recorded. To erase previously recorded material and record new information simultaneously, simply follow the normal recording method.

To erase a recorded tape without making a new recording:

- 1 Slide the REC LEVEL controls to "MIN".
- 2 Push the RECORD (●) button. This will begin erasing the tape.
- 3 When the end of tape is reached, the deck will return to its neutral operating mode (Full auto stop).

5 MAKING CASSETTE TAPES FOR APSS OPERATION

The APSS will function only if the tape has a minimum of three second gaps between recorded programmes.

Most commercially recorded cassette tapes are recorded according to these requirements; home recorded tapes may require editing.

- 1 Push the PAUSE (II) button after recording a programme item.
- 2 Slide the REC LEVEL controls to "MIN".
- 3 Push the PAUSE (II) button again to start the tape. Allow a five second interval to elapse while no signal is recorded.
- 4 After waiting five seconds, push the PAUSE (II) button and prepare for the next recording.
- 5 Reset the REC LEVEL controls to the original position they were in before.
- 6 Release the PAUSE (II) button by pushing it again and to record the next programme item.
- 7 Repeat the insertion procedure and continue recording. Follow steps 1 to 6 outlined in this section until the tape end is reached.

USING A MICROPHONE FOR MIXING

What is "mic. mixing"?

"Mic. mixing" is the mixing of sound, usually vocal, from a microphone along with records, tapes, or radio broadcasts. When recorded, it is usually referred to as mixing recording, and when played back, called mixing playback.

Ways to Use Mic. Mixing

1. For vocal accompaniment with background music from records.
 2. For vocal accompaniment with background music from tapes.
 3. For recording and playback from radio broadcasts.
- Mic. mixing can be used to record home participation language study programmes, for vocal accompaniment with the radio, etc.

1 MIXING OF EXTERNAL MICROPHONE AND RADIO

1 Tune in desired broadcast, adjust volume and sound quality. (See "LISTENING TO RADIO BROADCASTS", page 10.)

2 Insert microphone plug into the microphone (MIC) socket. To record in stereo, insert two microphones into the (L) and (R) sockets, respectively; to record in monaural, insert one mic to the left channel socket (L). Turn the microphone switch to "ON".

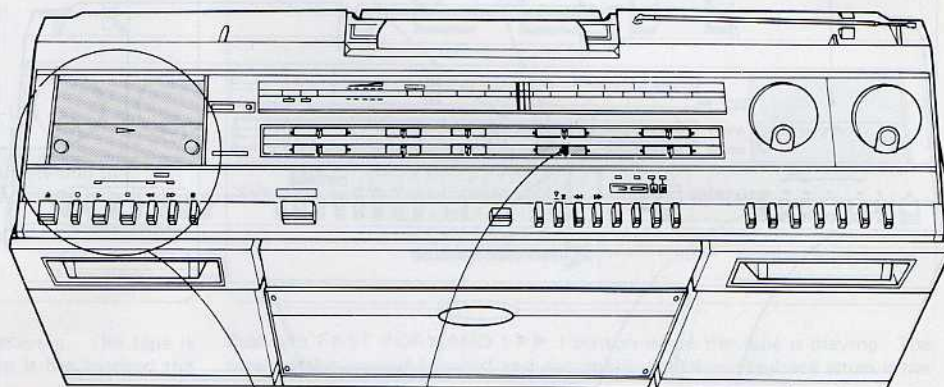
3 Adjust the MIC MIXING volume control to the desired mixing level.

• For mixed recording:

4 Insert tape to be recorded into the cassette holder and push the RECORD (●) button. (See "RECORDING", page 14.)

Note

Use a microphone with a standard plug and lead, and impedance ranging from 400 ohms to 3K ohms and a sensitivity of about -74dB.



2 MIXING OF EXTERNAL MICROPHONE AND RECORD

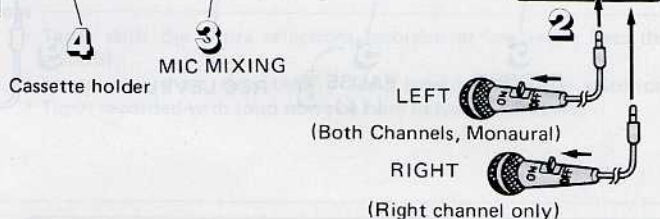
1 Begin playing record, adjust the volume and sound quality. (See "LISTENING TO A RECORD", pages 8 and 9.)

2 Insert microphone plug into the microphone socket and turn mic switch "ON". (See section 1, above.)

3 Adjust the MIC MIXING volume control to the desired mixing level.

• For mixed recording:

4 Insert tape to be recorded into the cassette holder and push the RECORD (●) button. (See "RECORDING", page 14.)



Notes

- Howling may occur at high volume. To avoid this howling noise, either reduce the volume or move the microphone away from the speakers.
- Monaural sound issues from both speakers when a microphone is connected to the left channel socket (L), but only from the right speaker when connected to the right channel socket (R).

3 MIXING OF EXTERNAL MICROPHONE AND TAPE

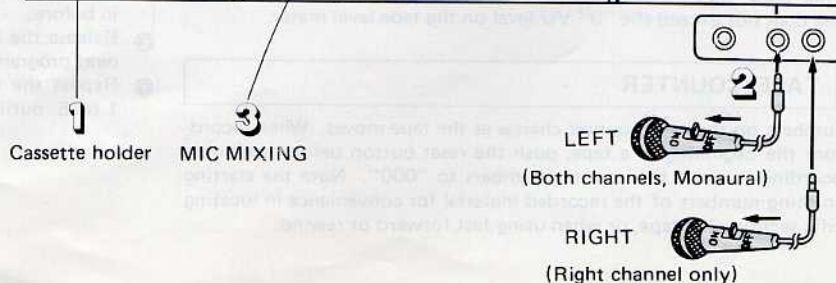
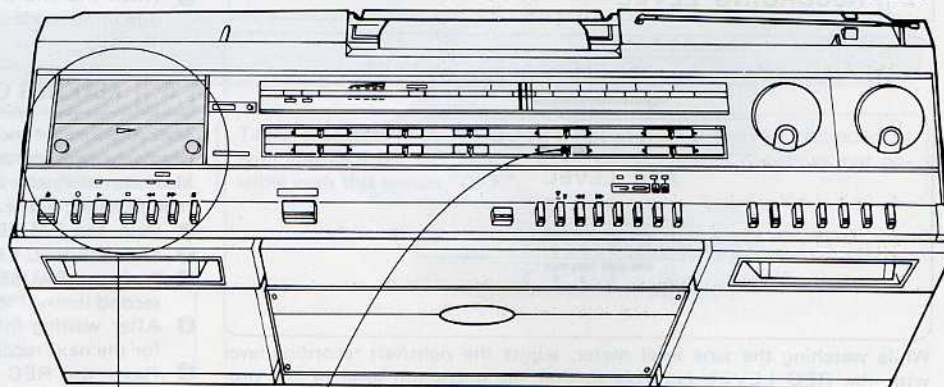
1 Begin playing tape, adjust the volume and sound quality. (See "LISTENING TO A TAPE", page 12.)

2 Insert microphone into the microphone socket and turn mic switch "ON". (See section 1, above.)

3 Adjust the MIC MIXING volume control to the desired mixing level.

• For mixed recording:

4 Connect another tape deck to the AUX (REC/PB) socket of this unit. (See page 5 "SYSTEM CONNECTION".) Adjust the record level of the other tape deck and start recording.



MAINTENANCE

1 CLEANING THE HEADS

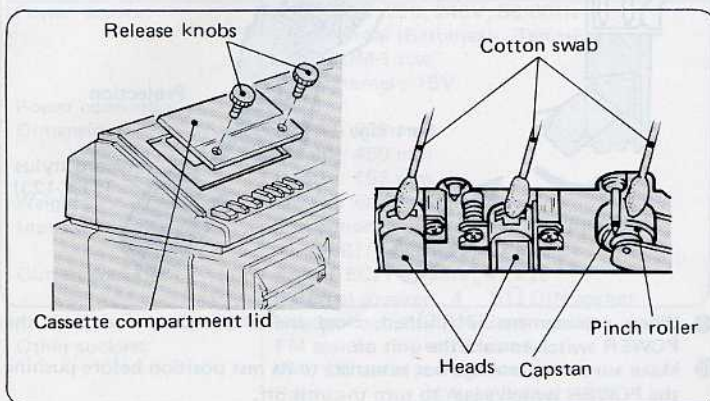
If dirt or powder from the magnetic coating collects on the surfaces which directly contact the tape, (such as the heads, capstan, pinch roller, etc.) the sound quality produced can be weak or irregular. It is therefore necessary to regularly clean the head surfaces.

Remove the cassette compartment lid and wipe the heads gently with a cotton swab. (Swab may be moistened with alcohol when cleaning especially dirty heads.)

Notes

- Do not apply excessive pressure to the heads during cleaning to avoid upsetting the precise adjustment of their positions.
- Check that the STOP (■) button is pushed and the deck is in the stop mode when closing the cassette holder.

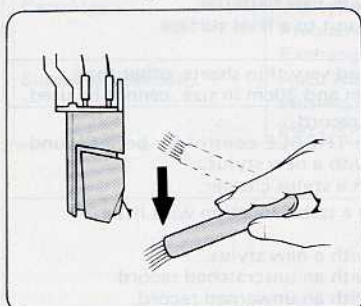
- 1 Remove the cassette tape if present, and close the cassette holder.
- 2 Turn the two release knobs to the left (anti-clockwise) and remove the cassette compartment lid.
- 3 Dip a cotton swab in alcohol and clean the heads, capstan and pinch roller.



2 CLEANING THE CARTRIDGE STYLUS

Accumulated dust or dirt on the record stylus will produce noise during record play and may cause damage to the stylus tip or record itself.

- 1 Push the POWER switch to turn the unit on.
- 2 Push the "PHONO" input selector button.
- 3 Open the player door by pushing the DOOR OPEN button.
- 4 Push the cartridge forward (◀) button until the cartridge reaches a point near the centre position.
- 5 Push the POWER switch again to turn the unit off.
- 6 Clean stylus with a stylus tip cleaner (not supplied) in the direction indicated by the arrow.



Note

Since the stylus is a delicate instrument, never clean it with your finger or any other object which could cause damage.

- 7 When finished cleaning, close the player door and push the POWER switch to turn the unit on.
- 8 Make sure the cartridge has returned to its rest position before pushing the POWER switch again to turn the unit off.

3 CABINET CARE

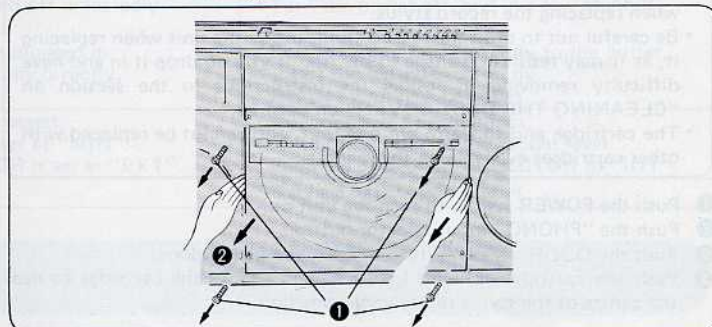
Clean the cabinet and operation panel by wiping with a soft cloth dipped in neutral cleanser.

Note

Do not use chemical cloths or strong organic chemicals or oils such as benzene, thinner, etc., since this may cause clouding, cracking or paint removal. Avoid using insecticides near the unit.

4 CLEANING THE DUST COVER

- 1 Remove the four Phillips (+) screws holding the dust cover.
- 2 Remove the dust cover.
- 3 Wipe the dust cover with a soft cloth soaked with a cleaning solution.
- 4 When finished cleaning, attach in the reverse order.



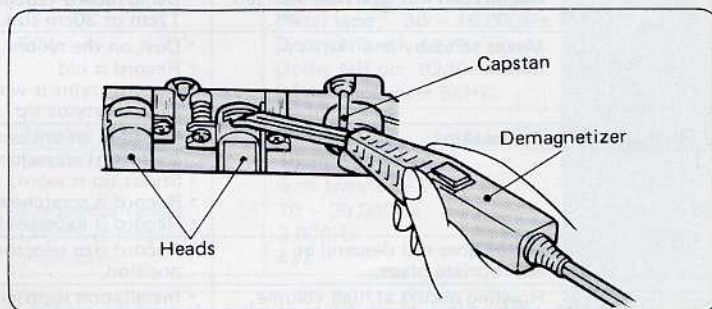
5 DEMAGNETIZING THE TAPE HEAD SECTION

When the tape heads have been used for a long time, they sometimes become magnetized. They may also become magnetized when magnetic metals, such as screwdrivers, etc., are held near them. As a result, treble quality deteriorates and a humming noise may appear on the recording. Use any commercially available head demagnetizer after approximately 30 hours of use and demagnetize the heads according to the procedure explained below.

- 1 Remove the cassette tape if present, and close the cassette holder.
- 2 Turn the two release knobs to the left (anti-clockwise) and remove the cassette compartment lid. (See "CLEANING THE HEADS" at left.)
- 3 Push the POWER switch to turn the unit on.
- 4 Push the PLAY (▶) button to make the head section more easily accessible.
- 5 Push the POWER switch to turn the unit off.
- 6 Turn the head demagnetizer on.
- 7 Hold the tip of the head demagnetizer above the head without touching it. Move the head demagnetizer slowly back and forth about 4-5 times. Carefully move the head demagnetizer from the head to the capstan and repeat process.
- 8 Remove the demagnetizer slowly from the unit to distance of some 30cm (twelve inches) and turn demagnetizer off.
- 9 Push the POWER switch again to turn the unit on.
- 10 Push the STOP (■) button.
- 11 Push the POWER switch again to turn the unit off.

Notes

- Be careful not to remove demagnetizer quickly from the head surface or turn the demagnetizer off near the head since this may magnetize the head instead of demagnetizing it.
- Carefully read the demagnetizer instruction manual.



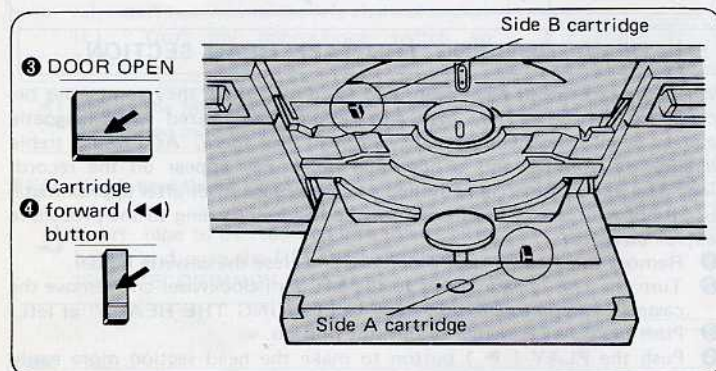
6 REPLACING RECORD STYLUS

This unit uses a diamond tip stylus. Although the life of this record stylus varies according to use, it should last for approximately 500 hours. Replace the record stylus as soon as necessary. When either or both styli need replacement, please contact a SHARP dealer or service centre and specify Part No. STY-123.

Notes

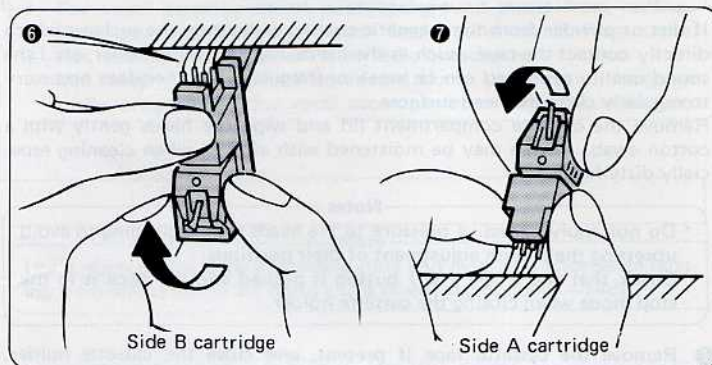
- The tonearm is a delicate instrument, so do not apply excessive force when replacing the record stylus.
- Be careful not to drop the record stylus inside the unit when replacing it, as it may result in damage to the tip. If you do drop it in and have difficulty removing it, follow the instructions in the section on "CLEANING THE DUST COVER" on page 16.
- The cartridge and tonearm are one unit, and cannot be replaced with other cartridges available on the market.

- 1 Push the POWER switch to turn the unit on.
- 2 Push the "PHONO" input selector button.
- 3 Push the DOOR OPEN button to open the player door.
- 4 Push the cartridge forward (◀◀) button. Move the cartridge to near the centre of the stylus replacement position.

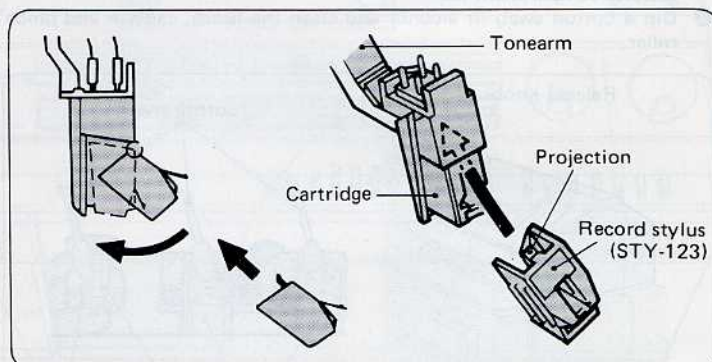


- 5 Push the POWER switch to turn the unit off.

- 6 Remove the stylus from the side B cartridge.
- 7 Then remove the stylus from the side A cartridge.



- 8 Attach in the reverse order.



- 9 When replacement is finished, close the player door and push the POWER switch to turn the unit on.
- 10 Make sure the cartridge has returned to its rest position before pushing the POWER switch again to turn the unit off.

TROUBLE-SHOOTING

When the Both Sides Play Disc Stereo system is not operating properly, check the following points before calling your service centre.

Note

Use in a temperature range between 5°C (41°F) to 35°C (95°F) for the horizontal and vertical operation of the player cartridge will become abnormal at temperatures below 0°C (32°F).

	Problem	Cause	Remedy
Record Play	Doesn't play.	• Using special records that pass light such as transparent, infrared transparent or non-transparent records. • Batteries are weak. • Player protection switch is on.	• Refer to page 7 for using special records that pass light. • Replace with new batteries. • Move the unit to a level surface.
	Record can not easily be inserted.	• Using record (25cm record, etc.) other than 17cm or 30cm size one.	• Records and very thin sheets, other than those 17cm and 30cm in size, cannot be used.
	Makes scratchy and fluttery noises.	• Dust on the record. • Record is old. • Record stylus is worn. • Dust on stylus tip.	• Clean the record. • Adjust the TREBLE control for better sound. • Replace with a new stylus. • Clean with a stylus cleaner.
	Stylus skips.	• Placed in an unstable location where there are lots of vibrations. • Stylus tip is worn. • Record is scratched. • Record is excessively warped.	• Change to a stable location with little vibration. • Replace with a new stylus. • Replace with an unscratched record. • Replace with an unwarped record.
	Stylus does not descend at appropriate place.	• Record size selector is not turned to "Auto" position.	• Set record size selector to "Auto" position.
	Howling occurs at high volume.	• Installation location is unstable. • Positioned in a place that easily vibrates.	• Move it to a more stable location. • Move it to a more open place.
MW, LW Broadcast	Continuous buzzing occurs.	• Noise from electric appliance.	• Set up an external MW, LW aerial and earth it. • Move unit away from electric appliance.
	Continuous high hiss occurs.	• Noise from TV or beat between broadcast stations.	• Turn off the TV. • Cut out the treble with the TREBLE control and then try listening.
	Low hum interferes when tuned to a station.	• The signal transmitted by the supply lead is modulated by the power frequency.	• Reverse the way the supply lead is inserted in the outlet. • Set up an external MW/LW aerial and earth it.
FM Broadcast	Ignition sound.	• Caused by motorcycle or car ignition noise.	• Install a special FM aerial as far from the road as possible.
	No sound in the "FM ST" position.	• Signal is too weak. • Position of the rod aerial is unsuitable.	• Switch to "FM". • Install a special FM aerial. • Change the direction, length and angle of the rod aerial.
	Continuous buzzing occurs.	• FM ANT SELECTOR is in the wrong position.	• Set the FM ANT SELECTOR to the correct position. (Refer to page 10.)

	Problem	Cause	Remedy
Tape Play	Tape doesn't turn.	• PAUSE button pushed. • Using tape with strong take-up torque.	• Release PAUSE button. • Replace the tape.
	Doesn't record even when record button is pushed.	• No cassette tape in deck. • Cassette tape tab has been removed.	• Put in a cassette tape. • Attach cellophane tape over tab hole.
	Unclear sound (record/playback)	• Dust on head. • Tape stretched on one side.	• Clean head. • Replace tape.
	Excessive wow (record/playback).	• Capstan, pinch roller, etc. are dirty. • Tape inside the cassette has ridges and is stiff.	• Clean capstan and pinch roller. • Try to fix it by running it at fast forward.
Other	No power.	• Power is turned on and off repeatedly in a short while. • AC supply lead is not plugged in. • Batteries are inserted incorrectly. • Batteries are weak.	• Turn the power off, and in a few seconds turn the power on. • Plug in supply lead correctly to the outlet. • Insert the batteries correctly. • Replace with new batteries.
	No sound.	• Headphones are connected. • VOLUME control is set at "MIN". • SPEAKER SELECTOR is set at "EXT".	• Disconnect the headphones. • Raise the volume to the proper level. • Slide the SPEAKER SELECTOR to "INT".
	Reduced speaker sound.	• Batteries are weak.	• Replace with new batteries.

SPECIFICATIONS

General		Amplifier Section	
Power source:	AC; 110, 220, 240V, 50/60Hz DC Internal (Batteries); Ten HP-2 or UM/SUM-1 size DC External; 15V	Circuit:	Multi-channel amplifier
Power consumption:	60 W	Power output: (DIN 45324)	Woofer RMS; 10W(5W+5W)/4 ohms(DC 15V supply operation) MPO; 16W(8W+8W)/4 ohms(Rated AC supply operation)
Dimensions:	Width; 738 mm Height; 459 mm Depth; 193 mm		Tweeter RMS; 10W(5W+5W)/4 ohms(DC 15V supply operation) MPO; 16W(8W+8W)/4 ohms(Rated AC supply operation)
Weight:	16.5 kg without batteries	Supplied devices:	Bass control, treble control, balance control.
Input sockets:	Microphone; 1mV/600 Ω , ϕ 6.3mm jack Aux (PB); 120mV, 47 k Ω	Tuner Section	
Output sockets:	Aux (REC); 100mV, 47 k Ω External speaker; 4 - 8 Ω DIN socket Headphones; 8 Ω , ϕ 6.3mm socket	Circuit:	Superheterodyne FM/MW/LW tuner, PLL stereo demodulation circuit
Other sockets:	FM aerial; outside aerial MW, LW aerial; outside aerial Earth; MW, LW aerial earth	Frequency range:	FM; 87.6 - 108 MHz MW; 520 - 1.620 kHz LW; 148.5 - 285 kHz
Semiconductors:	1 LSI, 16 ICs, 1 FET, 65 transistors, 41 diodes, 9 LEDs, 3 photo-interruptors, 2 infrared LEDs, 2 LED arrays	Intermediate frequency:	FM; 10.7 MHz MW, LW; 468 kHz
Player Section		Cassette Deck Section	
Type:	Microcomputer control, linear tracking full auto	Recording tracks:	4 track 2 channel stereo system
Motor:	DC motor with FG (for platter drive) x 1, DC motor (for tonearm drive) x 1	Recording system:	AC bias (88 kHz)
Drive system:	Belt drive system	Erasing system:	AC erasing system (88 kHz)
Speeds:	33-1/3, 45 rpm	Heads:	Record/playback head x 1, erase head x 1
Wow & Flutter:	0.1% (DIN)	Motor:	Electronic control DC motor
Tonearm:	Dynamic balanced	Tape speed:	4.8 cm/sec.
Cartridge:	VM type	Fast forward time:	100 sec. (C-60 tape)
	Frequency response; 20 - 20,000Hz Exchangeable stylus; STY-123	Rewind time:	100 sec. (C-60 tape)
Supplied devices:	Auto lead-in, auto return, auto record size sensing, automatic speed selection, both sides play, repeat play	Wow & flutter:	0.2% (DIN)
		Frequency response:	Normal tape; 30 - 14,000Hz Chrome tape; 30 - 15,000Hz Metal tape; 30 - 16,000Hz Dolby NR off; 52dB Dolby NR on; 62dB (Metal tape, over 5kHz)
		S/N:	
		Speaker Section	
		Speakers:	16cm woofer x 2 5cm tweeter x 2
		Frequency range:	70 - 20,000Hz
		Crossover frequency:	3,000Hz
		Impedance:	4 Ω

*Sharp reserves the right to make design and specification changes for product improvement. The performance specification figures indicated are nominal values of production sets. There may be some deviations from these values in individual units.

SHARP

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