

SHARP

MD/CD COMPONENT SYSTEM

MODEL

MD-X7H

OPERATION MANUAL

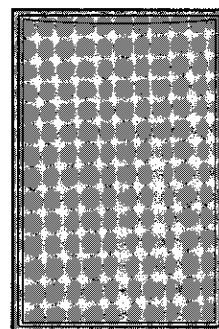
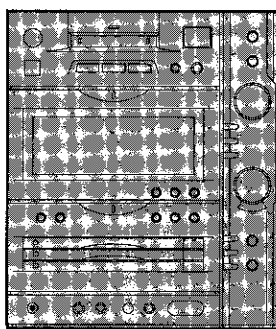
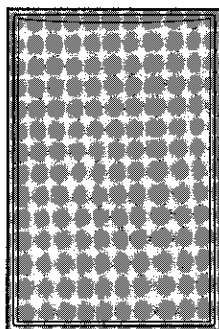
Thank you for purchasing this SHARP product.
To obtain the best performance, from this product please
read this manual carefully.
It will guide you in operating your SHARP product.

MD-X7H MD/CD component system consisting of
MD-X7H MD/CD component system
CP-X7H speaker system.



COMPACT
disc
DIGITAL AUDIO

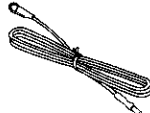
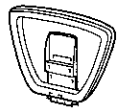

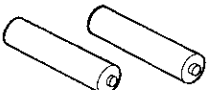
R-D-SEON



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
ACCESSORIES

 FM aerial x 1	 AM loop aerial x 1	 Remote control x 1	 "AA" size battery (UM/SUM-3, R6, HP-7 or similar) x 2
------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------------------------------------------

Note:
Parts and equipment mentioned in this operation manual other than those shown on the above are not included.

SPECIAL NOTES

NOTE FOR USERS IN THE U.K.

The mains lead of this product is fitted with a non-rewireable (moulded) plug incorporating a 3A fuse. Should the fuse need to be replaced, a BSI or ASTA approved BS 1362 fuse marked  or  and of the same rating as above, which is also indicated on the pin face of the plug must be used.

Always refit the fuse cover after replacing the fuse. Never use the plug without the fuse cover fitted.

In the unlikely event of the socket outlet in your home not being compatible with the plug supplied, cut-off the mains plug and fit an appropriate type.

DANGER:

The fuse from the cut-off plug should be removed and the cut-off plug destroyed immediately and disposed of in a safe manner.

Under no circumstances should the cut-off plug be inserted elsewhere into a 13A socket outlet as a serious electric shock may occur.

To fit an appropriate plug to the mains lead, follow the instructions below:

IMPORTANT:

The wires in the 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 product 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 plug terminal which is marked N or coloured black.
- The wire which is coloured brown must be connected to the plug terminal which is marked L or coloured red.

Ensure that neither the brown nor the blue wire is connected to the earth terminal in your three pin plug.

Before replacing the plug cover, make sure that:

- If the new fitted plug contains a fuse, its value is the same as that removed from the cut-off plug.
- The cord grip is clamped over the sheath of the mains lead and not simply over the lead wires.

IF YOU HAVE ANY DOUBT, CONSULT A QUALIFIED ELECTRICIAN.

SERVICE INFORMATION

In the unlikely event of your equipment requiring repair, please contact the dealer or supplier from whom it was purchased. Where this is not possible, please contact the telephone number listed below. You will then be given details of how to obtain service.

- 0345-125387 -

Please note; all calls will be charged at local rate.

Certain replacement parts and accessories may be obtained from our main parts distributor.

WILLOW VALE ELECTRONICS LTD.

MANCHESTER 0161-682-1415
READING 01734-876444

In the unlikely event of this equipment requiring repair during the guarantee period, you will need to provide proof of the date of purchase to the repairing company. Please keep your invoice or receipt, which is supplied at the time of purchase.

- Recording and playback of any material may require consent, which SHARP is unable to give. Please refer particularly to the provisions of the Copyright Act 1956, the Dramatic and Musical Performers Protection Act 1958, the Performers Protection Acts 1963 and 1972 and to any subsequent statutory enactments and orders.
- This equipment complies with the requirements of Directives 89/336/EEC and 73/23/EEC as amended by 93/68/EEC.
- When the ON / STAND-BY button is set at STAND-BY position, mains voltage is still present inside the unit.
When the ON / STAND-BY button is set at STAND-BY position and the clock is displayed, the unit may be brought into operation by the timer mode or remote control.

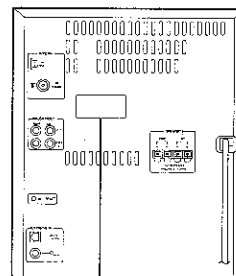
Warning:

This unit contains no user serviceable parts. Never remove covers unless qualified to do so. This unit contains dangerous voltages, always remove mains plug from the socket before any service operation and when not in use for a long period.

- SRS technology Licensed from SRS Labs. SRS technology holds the following patents: U.S. Patent No. 4,748,669 and U.S. Patent No. 4,841,572.
- **SRS**, the SRS Logo (●) and the **SOUND RETRIEVAL SYSTEM** are registered trademarks of SRS Labs, Inc. in the United States.
- Us and foreign patents licensed from Dolby Laboratories Licensing Corporation.

CAUTION

Use the MD/CD component system only in accordance with the instructions given in this manual and do not attempt to interfere with the interlock switch or make any other adjustment as this may result in exposure to hazardous radiation.



CLASS 1 LASER PRODUCT
APPAREIL À LASER DE CLASSE 1
PRODUCTO LASER DE CLASE 1

PRECAUTIONS

General

- Please ensure that the equipment is positioned in a well ventilated area and ensure that there is at least 5 cm of free space along the sides, top and back of the equipment.
- Do not use oil, solvents, petrol, paint thinner or insecticides on the unit.
- Do not expose the unit to moisture, to temperatures higher than 60°C (140°F) or to extreme low temperatures.
- Keep the unit away from direct sunlight, strong magnetic fields, excessive dust, humidity and electronic/electrical equipment (home computers, facsimiles, etc.) which generates electrical noise.
- Hold the AC power plug by the head when removing it from the AC socket, since pulling the lead can damage internal wires.
- Remove the AC power plug from the AC wall socket before cleaning. This unit contains dangerous voltages. Do not remove the outer cover, as this may result in electric shock. Refer internal service to your local SHARP service facility.
- Use the unit on a firm, level surface free from vibration, and do not place anything on the top of the unit.
- If the unit malfunctions whilst in use, set the ON / STAND-BY button to STAND-BY, then disconnect the AC power lead from the AC socket. Plug the AC power lead back in, and then press the ON / STAND-BY button to ON.
- If a lightning storm is taking place near you, it is suggested that you disconnect the AC power lead from the AC socket for safety.
- Before moving the unit, be sure to remove all CDs and MDs from the unit. Then, set the ON/STAND-BY button to STAND-BY and unplug the AC power lead. If you move the unit with CDs or MDs left in it, they may jam inside the unit, leading to damage.

Warning:

The voltage used must be the same as that specified on this unit. Using this product with a higher voltage than that which is specified is dangerous and may result in a fire or other type of accident causing damage. SHARP will not be held responsible for any damage resulting from use of this unit with a voltage other than that which is specified.

Volume control

The sound level at a given volume setting depends on a combination of speaker efficiency, location and many other factors. It is advisable to avoid exposure to high volume levels, which occur whilst turning the unit on with the volume control setting up high, or whilst continually listening at high volumes.

Condensation

Sudden temperature changes and storage or operation in an extremely humid environment may cause condensation inside the cabinet. Condensation can cause the unit to malfunction. Follow the procedure below to eliminate condensation.

CD and MD pickups

Leave the power on with no disc in the unit until normal playback is possible (about 1 hour).

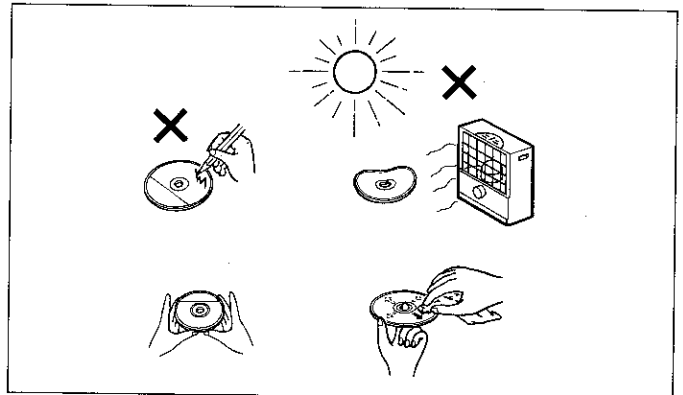
Remote control

Wipe off any condensation on the transmitter window with a soft cloth before operating the unit.

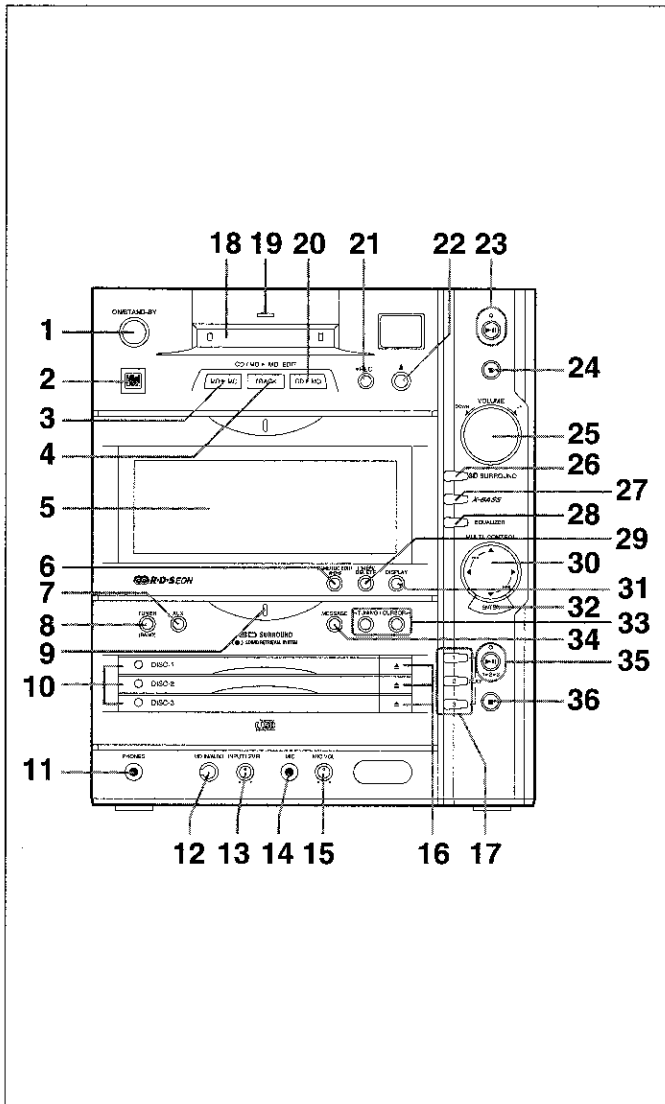
Care of compact discs

Compact discs are fairly resistant to damage, however mistracking can occur due to an accumulation of dirt on the disc surface. Follow the guidelines below for maximum enjoyment from your CD collection and player.

- Do not write on either side of the disc, particularly the non-label side. Signals are read from the non-label side. Do not mark on this surface.
- Keep your discs away from direct sunlight, heat, and excessive moisture.
- Always hold CDs by the edges. Fingerprints, dirt, or water on the CDs can cause noise or mistracking. If a CD is dirty or does not play properly, clean it with a soft, dry cloth, wiping straight out from the center, along the radius.

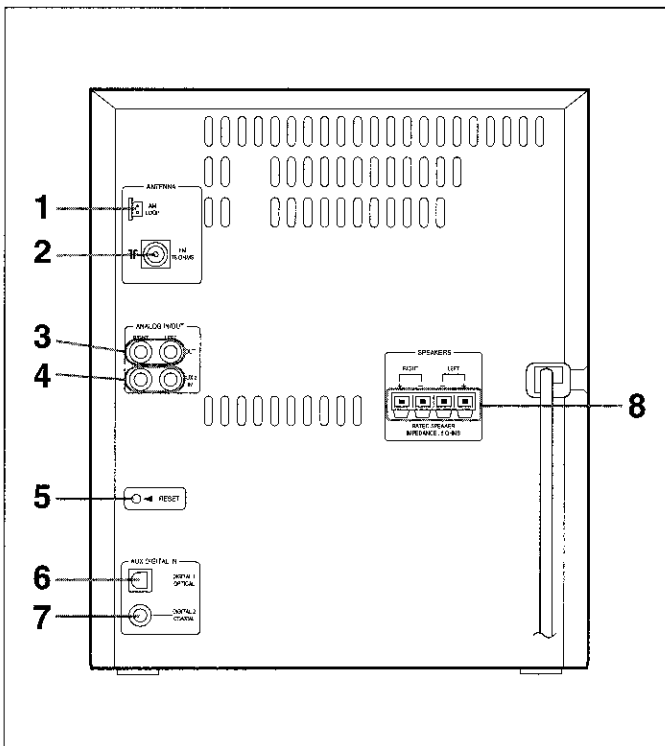


NAMES OF CONTROLS AND INDICATORS



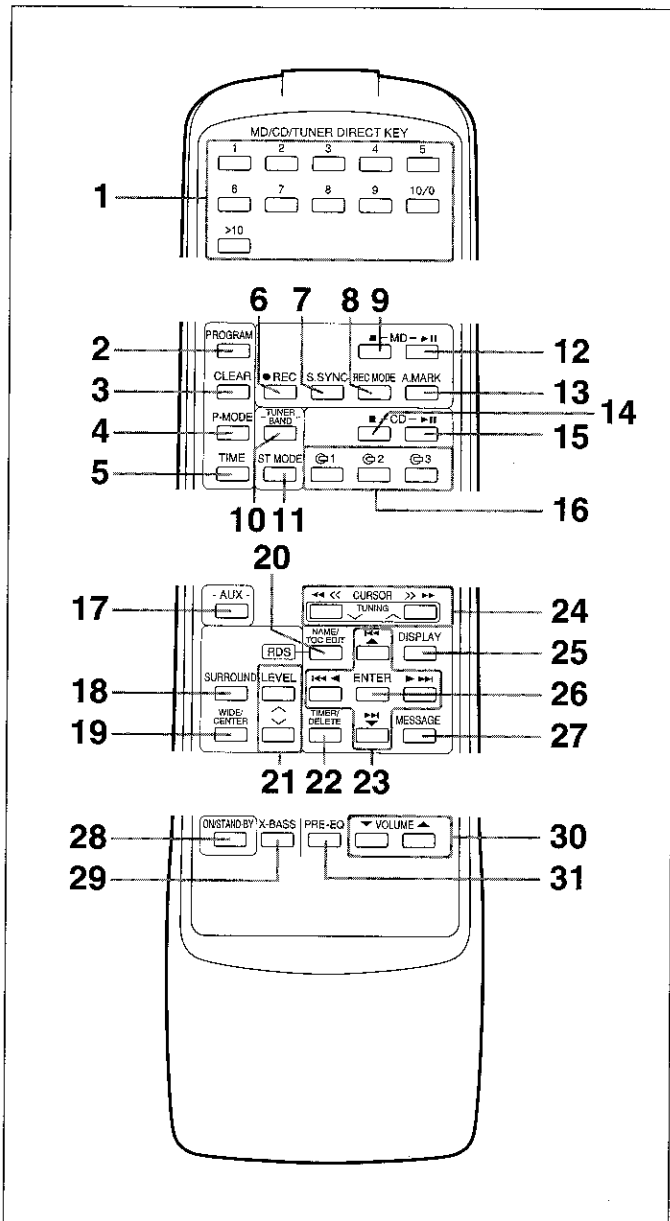
● FRONT PANEL

1. On/Stand-by Button: ON/STAND-BY
2. Remote Control Sensor
3. MD ▶ MD Edit Button: MD ▶ MD
4. CD Track Select Button: TRACK
5. LCD Display
6. Name/TOC-Edit/RDS Button: NAME/TOC EDIT/R-D-S
7. Auxiliary Input (Digital/Analogue/Phono) Button: AUX
8. Tuner Call (Band Select) Button: TUNER (BAND)
9. 3D Surround Indicator
10. CD Disc Trays
11. Headphones Socket: PHONES
12. MD Edit/Auxiliary 1 (Analogue) Input Socket: MD IN / AUX1
13. Auxiliary Input Level (Analogue) Control: INPUT LEVEL
14. Microphone (Stereo) Socket
15. Microphone Input Level control: MIC VOL
16. CD Open/Close Buttons: ▲
17. CD Play Buttons: PLAY 1-3
18. MD Compartment
19. MD Indicator
20. CD Edit Button: CD ▶ MD
21. Record Button and Indicator : REC
22. MD Eject Button: ▲
23. MD Play/Pause Button and Indicator: ▶||
24. MD Stop Button: ■
25. Volume Control: VOLUME
26. 3D Surround Button: 3D SURROUND
27. Extra Bass Button: X-BASS
28. Equalizer Button: EQUALIZER
29. Timer/Delete Button: TIMER/DELETE
30. Multi Control Button: MULTI CONTROL
31. Display Button: DISPLAY
32. Enter Button: ENTER
33. Tuning Up-Down/Cursor Buttons: ◀◀ / ▶▶
34. Message Button: MESSAGE
35. CD Play/Pause Button and Indicator: ▶||
36. CD Stop Button: ■



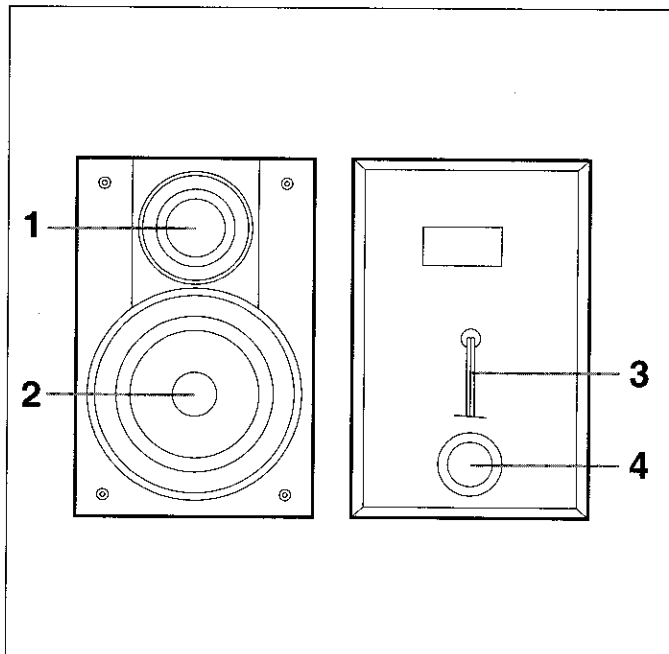
● REAR PANEL

1. AM Loop Aerial Input Socket
2. FM 75 Ohms Aerial Socket
3. Analogue Output Sockets
4. AUX 2 (Analogue) Input Sockets
5. Reset Button
6. Auxiliary Digital 1 Input Socket (Optical)
7. Auxiliary Digital 2 Input Socket (Coaxial)
8. Speaker Terminals



● REMOTE CONTROL

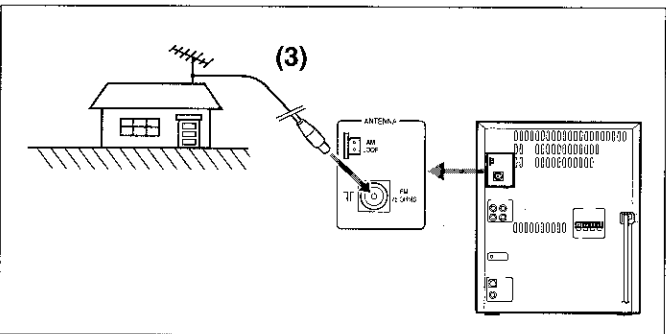
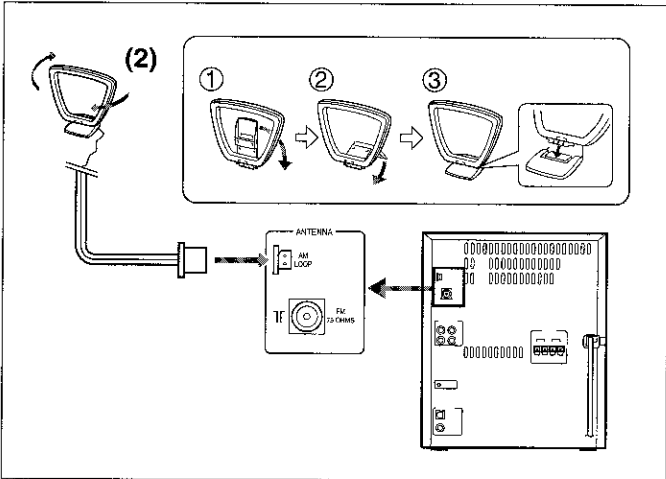
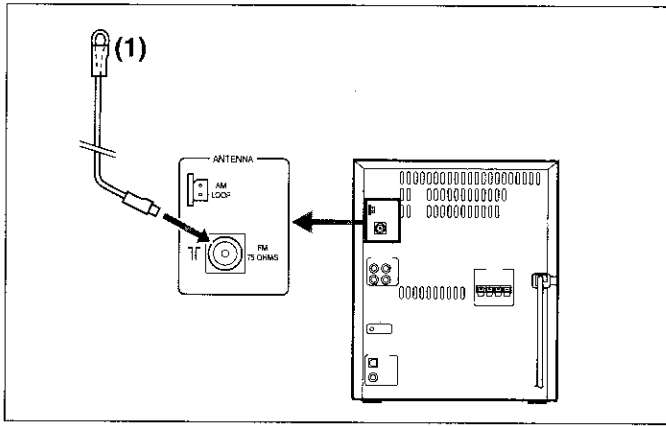
1. Tuner Preset/CD/MD Track Number Input Buttons
2. Programme Button: PROGRAM
3. Clear Button: CLEAR
4. Play Mode Button: P-MODE
5. Time Display Select Button: TIME
6. MD Record Button: ● REC
7. Sound Synchro Button: S. SYNC
8. Recording Mode Button: REC MODE
9. MD Stop Button: ■
10. Tuner Call (Band Select) Button: TUNER/BAND
11. FM Stereo Mode Button: ST MODE
12. MD Play/Pause Button: ►||
13. Auto Mark Button: A.MARK
14. CD Stop Button: ■
15. CD Play/Pause Button: ►||
16. CD Play Buttons: ①-③
17. Auxiliary Select Button: AUX
18. 3D Surround On/Off Button: SURROUND
19. Wide/Centre Button: WIDE/CENTER
20. Name/TOC Edit/RDS Button: NAME/TOC EDIT RDS
21. Surround Level Buttons: ^ / v
22. Timer/Delete Button: TIMER/DELETE
23. Multi Control Buttons: ◀◀ / ▶▶ / ▼ / ▲
24. Tuning Up/Down, Cursor Buttons: v◀◀ / ▲▶▶
25. Display Button: DISPLAY
26. Enter Button: ENTER
27. Message Button: MESSAGE
28. On/Stand-by Button: ON/STAND-BY
29. Extra Bass Button: X-BASS
30. Volume Up/Down Buttons: ▼ / ▲
31. Pre-programme Equalizer Button: PRE-EQ



● SPEAKER

1. Tweeter
2. Woofer
3. Speaker Wire
4. Speaker Duct

PREPARATION FOR USE



- Unplug the AC lead from the AC socket before connecting or disconnecting any component.

■ Aerial connection

(1) Supplied FM aerial

Connect the FM aerial wire to the FM 75 OHMS socket and position it in the direction where the strongest signal can be received.

(2) Supplied AM loop aerial

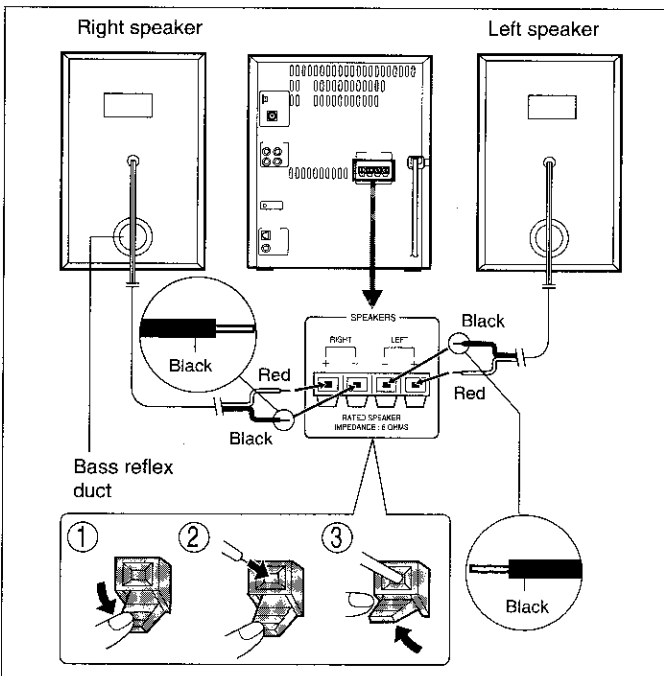
Connect the AM loop aerial wire to the AM LOOP socket. Position the AM loop aerial for optimum reception. Place the AM loop aerial on a shelf, etc., or attach it to a stand or a wall with screws (not supplied).

Notes:

- Do not place the AM loop aerial and the FM aerial wire on the unit. It may result in noise pickup from the internal digital electronics. Place the AM loop aerial and the FM aerial wire away from the unit for best reception.
- If the AM loop aerial and the FM aerial wire are placed near the AC power lead, it may cause interference.

(3) External FM aerial

Use an external FM aerial if you need better reception. Consult your dealer.



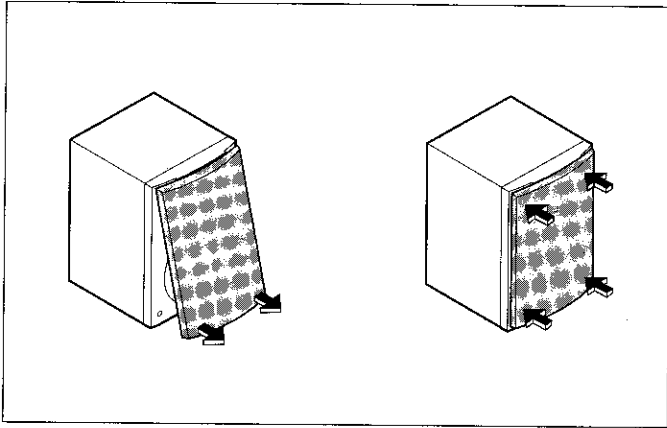
■ Speaker connection

Connect each speaker wire to the SPEAKER terminals as shown.

- Connect the black wire to the minus (-) terminal and the red wire to the plus (+) terminal.

Cautions:

- Do not let the bare speaker wires touch each other as this may damage the amplifier and/or speakers.
- Do not mistake the right channel for the left channel and the plus (+) terminal for the minus (-) terminal.
- Use these speaker terminals for CP-X7H only, do not connect it to speakers other than CP-X7H.
- Do not allow any objects to fall into or to be placed in the bass reflex ducts.



■ Removing the speaker grilles

- 1 Remove the lower part of the speaker grille first.
- 2 Remove the upper part of the speaker grille.

Caution:

When the speaker grilles are removed, the speaker diaphragms are exposed. Make sure nothing comes into contact with the speaker diaphragms.

■ Mounting the speaker grilles

Fit the four posts on the speaker grille into the mounting holes and push them lightly with the palm of your hand to secure.

■ Placing the system

- Be sure to keep space between the units for ventilation.
- Keep the top, back and sides of this unit at least 5 cm(2") away from the wall.
- Do not place the system or speakers near the television set as the magnetic fields produced may cause irregular colours to be displayed.

TV set location

- Depending on the particular location of a TV set, colour variations may be seen on the TV screen. If this happens, move the system and its speakers away from the TV and turn off the TV set. After 15 - 30 minutes, turn on the TV again.

The TV's own demagnetising function should eliminate the variations. However, if the colour still does not look right, move the system further away from the TV set.

Note:

- A cooling fan is built into this product to avoid heat buildup. When the power is turned on, the cooling fan will run. When the volume is increased, the cooling fan will run at high speed.

■ Connecting the AC power lead

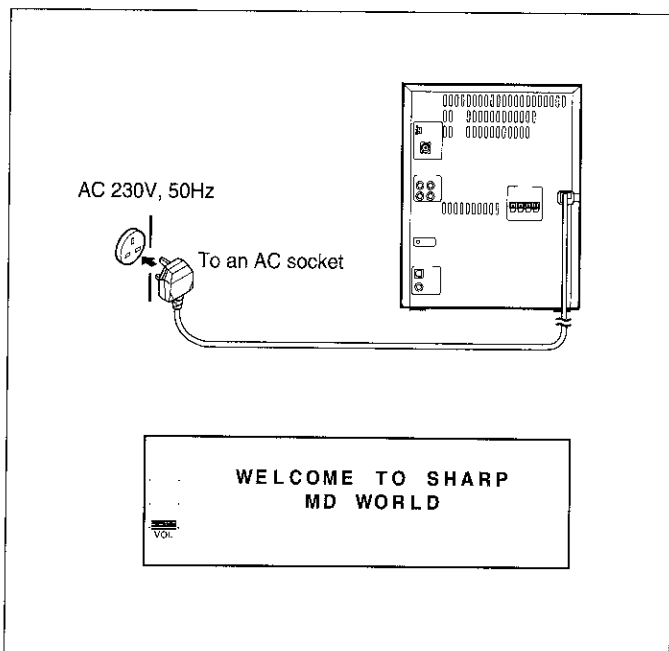
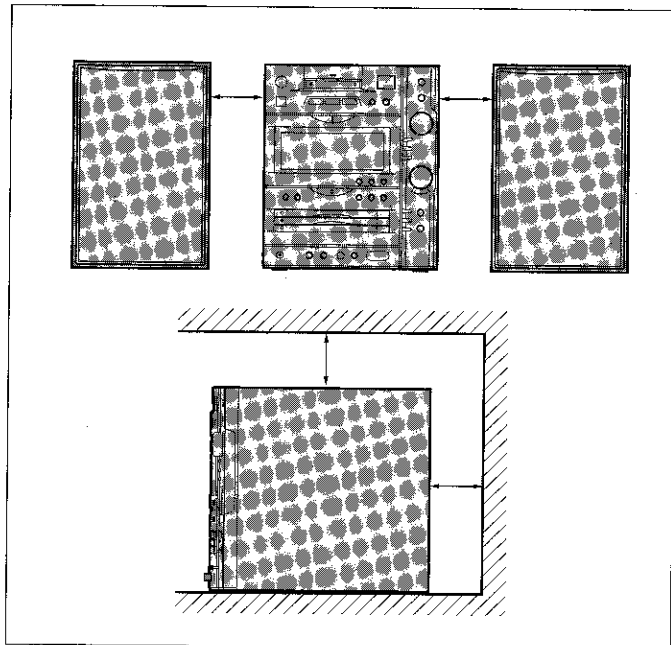
- After connecting the speakers, plug the AC power lead into a convenient AC socket. The LCD will present a demonstration display.
- Unplug the AC power lead from the AC socket if the unit is not to be used for a prolonged period of time.

Note:

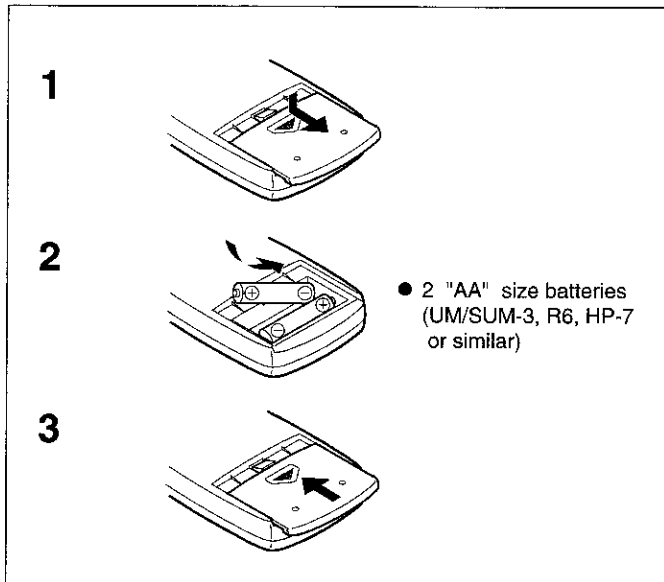
- If the lead wires of a speaker wire are short-circuited when connecting a speaker with the power on, the protection circuit will be activated, resulting in no sound. Disconnect the AC power lead from the AC socket, and connect it again.

■ Demonstration display

- After the power lead is unplugged or a power failure occurs, when the power is turned back on, the LCD will present a demonstration display. If this happens, set the clock (see page 10) to cancel the demonstration display on the LCD.



(Continued)



■ Remote Control

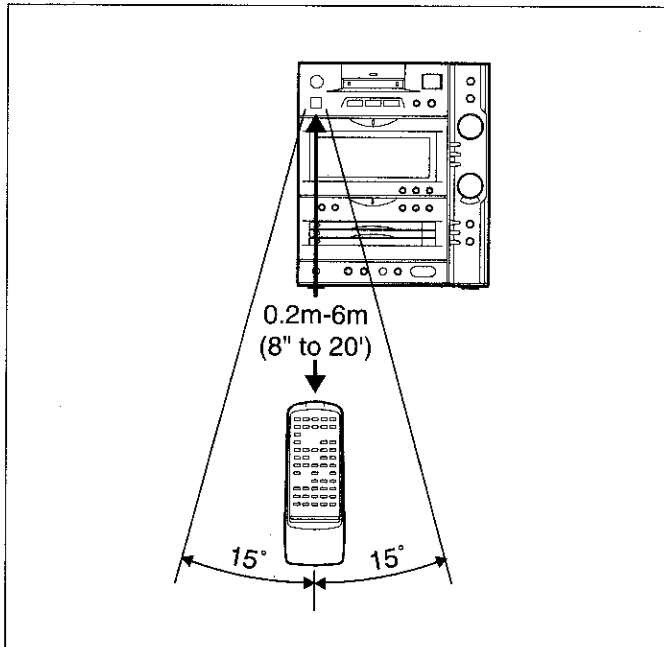
- When inserting the batteries, push them towards the \ominus battery terminals.
- Installing the batteries incorrectly may cause the unit to malfunction.

Precautions for battery use:

- Insert the batteries according to the direction indicated in the battery compartment.
- Replace all old batteries with new ones at the same time.
- Do not mix old and new batteries.
- Remove the batteries if they are weak or if the unit is not in use for long periods to prevent potential damage due to battery leakage.

Caution:

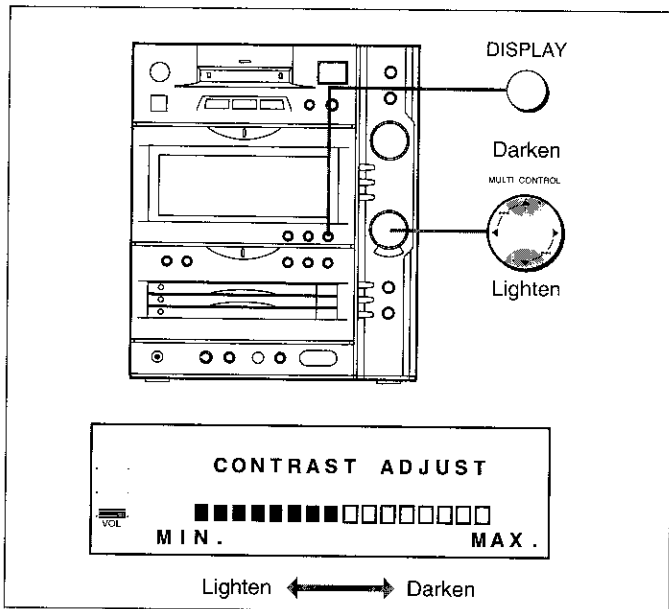
Do not use rechargeable batteries (nickel-cadmium battery, etc.)



Notes concerning use:

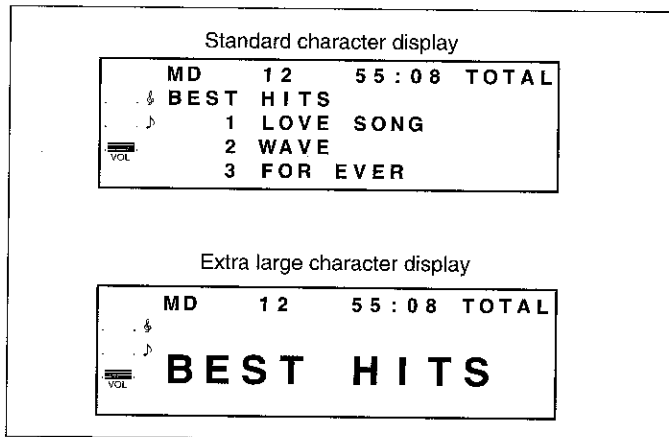
- Replace the battery if control distance decreases or operation becomes erratic.
- Periodically clean the transmitter window on the remote control and the sensor on the main unit with a soft cloth.
- Exposing the sensor on the main unit to strong light may interfere with operation. Change the lighting or the direction of the unit.
- Keep the remote control away from moisture, excessive heat, shock, and vibrations.

DISPLAY SECTION



■ To change the contrast of the display

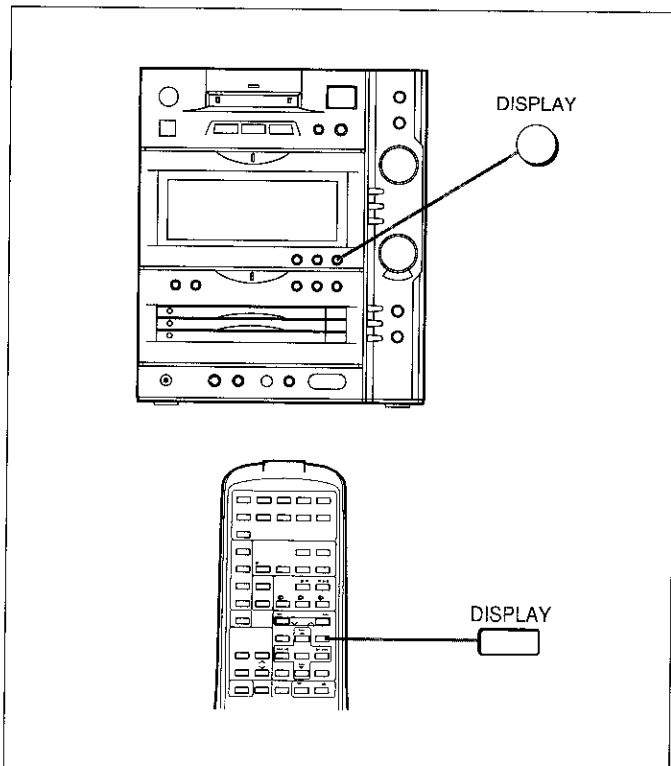
- 1 Turn the power on, and hold down the DISPLAY button for more than 0.5 seconds.
- 2 Press the MULTI CONTROL button to change the contrast.
 - The contrast is adjustable in 16 steps.
 - If no operation is performed for 10 seconds or more, the unit will return to the original screen.



■ Character display

You can select a standard character size or an extra large character size for the display on this product.

- Standard character display
The default display mode set at the factory.
Track names are displayed on 4 lines so that you can check several track names at the same time.
- Extra large character display
When track names are displayed using extra large characters, you can read the names at a distance.

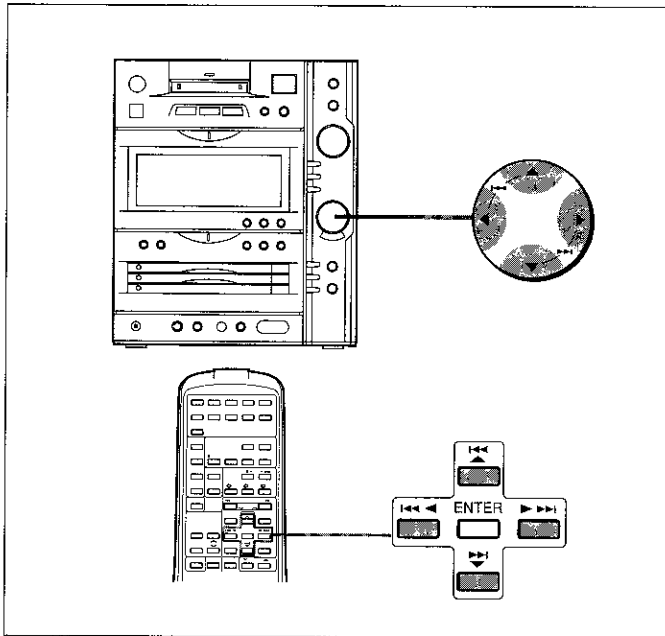


■ To change the size of the characters (extra large character display)

Turn the power on whilst the MD is in the stop mode, and press the DISPLAY button.

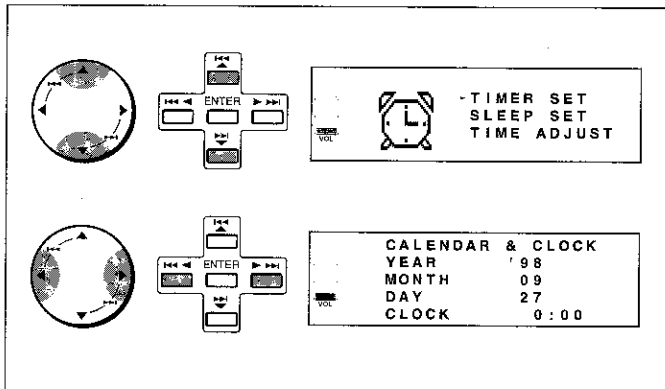
- If the DISPLAY button is pressed again, the characters will return to their original size.

MULTI CONTROL BUTTON



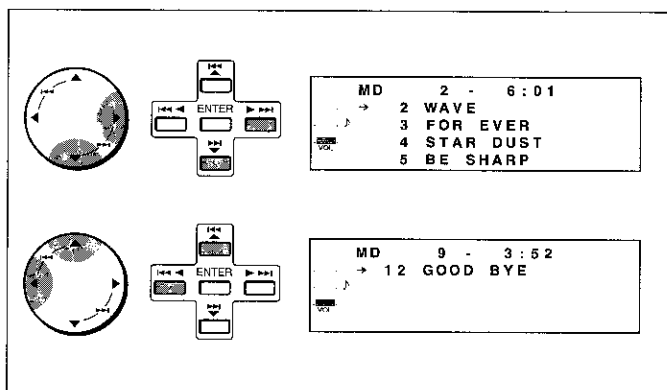
The **MULTI CONTROL** button is used to select CD or MD track numbers (page 27), select programmed radio stations (page 19) and to enter characters (page 13).

- The **MULTI CONTROL** button has different functions depending on the mode or the position you select.



■ Menus for the timer and MD editing

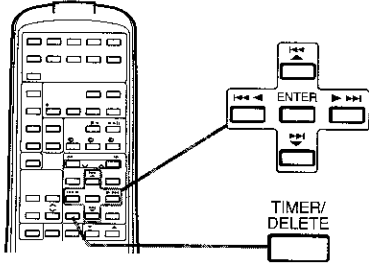
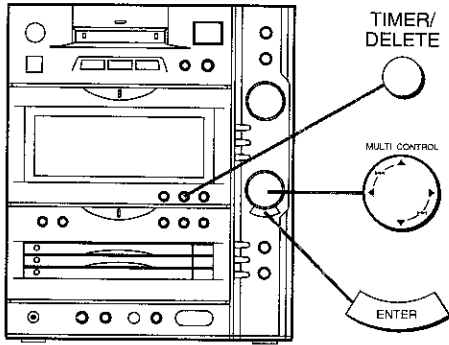
- When you press the upper or lower position on the **MULTI CONTROL** button, you can scroll through the menus to select the one you want.
- When you press the left or right position on the **MULTI CONTROL** button whilst looking at the timer menu, you can select the value for each item.



■ To select CD or MD track numbers

- When you press the right or lower position on the **MULTI CONTROL** button, the track number will be increased by one.
- When you press the left or upper position on the **MULTI CONTROL** button, the track number will be decreased by one.

SETTING THE CLOCK



When you have set the date and time, this unit can be used as a clock. It can be used for timer recording or for timer playback. It is also used to provide the MD recording date.

- 1 Turn the power on.
- 2 Press the TIMER/DELETE button.
- 3 Within 10 seconds, press the ▲ or ▼ on the MULTI CONTROL button to select TIME ADJUST.
- 4 Within 10 seconds, press the ENTER button.
 - The unit will enter the date setting mode.
- 5 Press the ◀ or ▶ on the MULTI CONTROL button to adjust the year.
 - Press the button once to increase or decrease the year by one. Keep pressing it to advance continuously.
 - For any year after 2000, use "00" for 2000, "01" for 2001, and so on.
- 6 Press the ▼ on the MULTI CONTROL button to select the month.
- 7 Press the ◀ or ▶ on the MULTI CONTROL button to adjust the month.
- 8 Press the ▼ on the MULTI CONTROL button to select the day.
- 9 Press the ◀ or ▶ on the MULTI CONTROL button to adjust the day.
- 10 Press the ▼ on the MULTI CONTROL button to select the hour.

- 11 Press the ◀ or ▶ on the MULTI CONTROL button to adjust the hour.
- 12 Press the ▼ on the MULTI CONTROL button to select the minute.
- 13 Press the ◀ or ▶ on the MULTI CONTROL button to adjust the minute.
- 14 Press the ENTER button to start the clock at the top of the minute.
 - The clock starts operating.

Notes:

- In the event of a power failure or when the AC power lead is disconnected, the clock setting will be lost. Reset the time.
- Whilst recording an MD, you cannot set the date and clock. Be sure to set the date and clock before recording.
- The range of dates that can be entered is from July 1, 1997 to December 31, 2049.

To change the setting

- After performing steps 1 - 4 above,
 - ① Press the ▲ or ▼ on the MULTI CONTROL button to select the item (YEAR, MONTH, DAY or CLOCK) you want to change.
 - ② Press the ◀ or ▶ on the MULTI CONTROL button to change the setting.
 - ③ Press the ENTER button.

To check the time

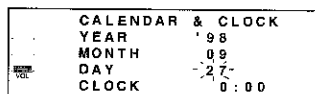
When the power is off, the time appears on the display. When the power is on and you press the TIMER/DELETE button, the time will appear for about 10 seconds on the display.

- The year, month and day will not be displayed.

2



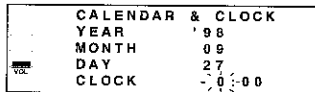
9



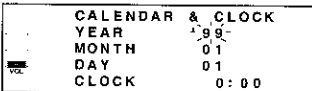
3



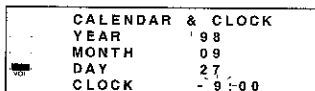
10



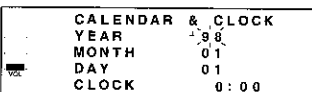
4



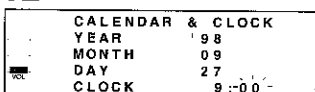
11



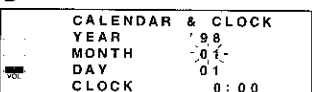
5



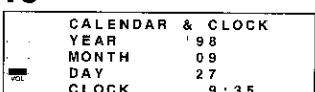
12



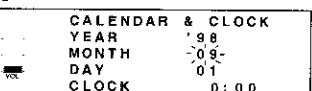
6



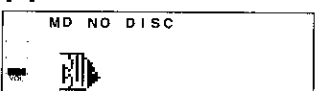
13



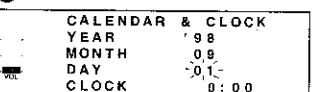
7



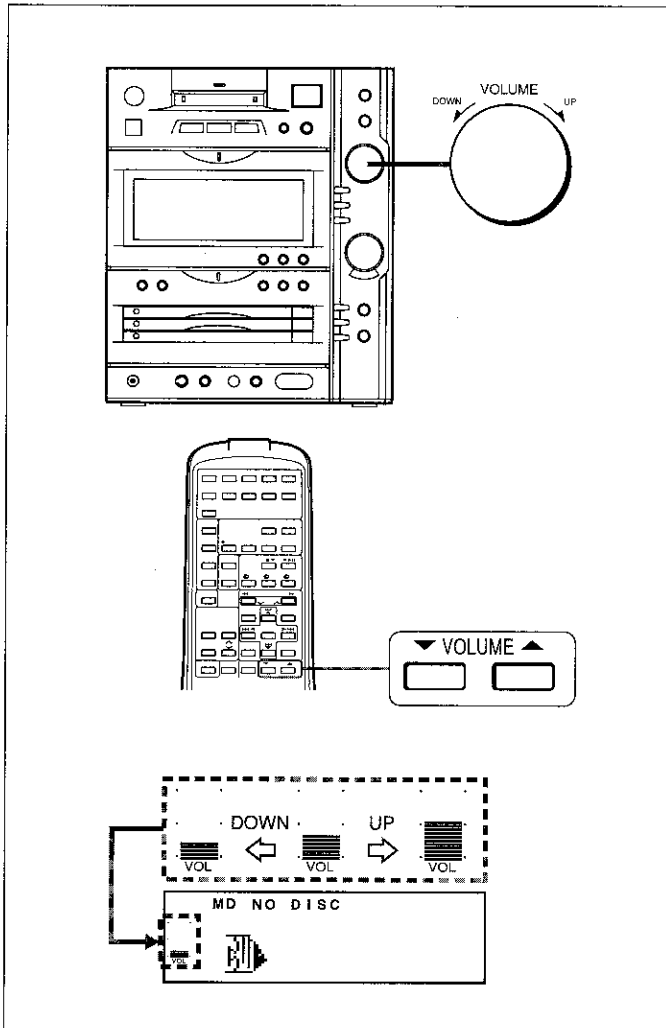
14



8



SOUND CONTROL



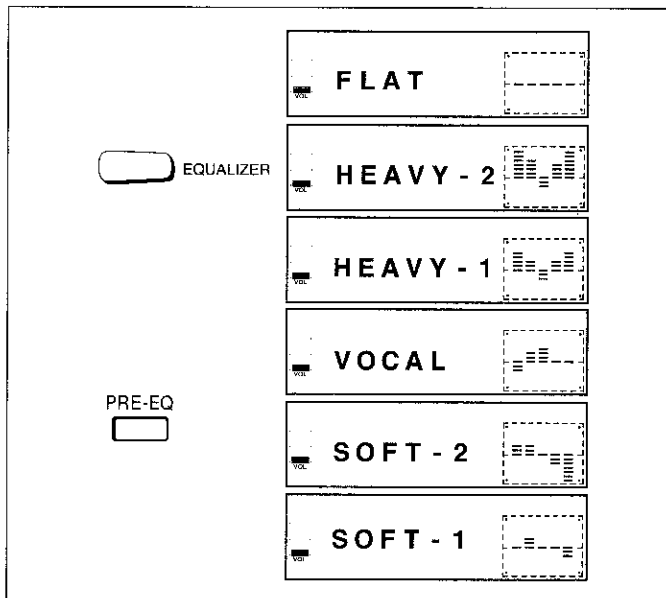
■ Volume

Main unit operation

When you turn the VOLUME control towards the UP position, the volume will increase. When you turn it towards the DOWN position, the volume will decrease.

Remote control operation

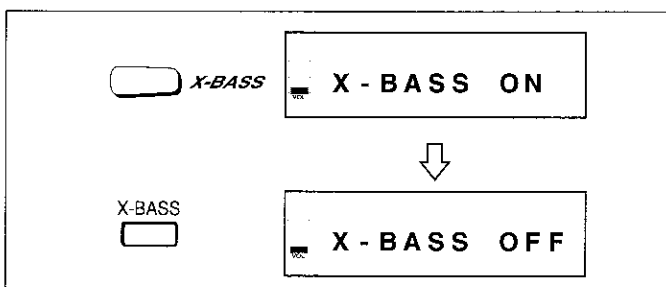
When you press the ▲ button, the volume will increase. When you press the ▼ button, it will decrease.



■ Pre-programmed equalizer

When the EQUALIZER (PRE-EQ) button is pressed, the current mode setting will be displayed. To change to a different mode, press the EQUALIZER (PRE-EQ) button repeatedly.

- FLAT : The sound is not modified.
- HEAVY-2 : Bass and treble are emphasised a lot.
- HEAVY-1 : Bass and treble are slightly emphasised.
- VOCAL : Vocals (midrange tones) are emphasised.
- SOFT-2 : Treble is reduced a lot.
- SOFT-1 : Treble is cut a little.



■ Extra bass (X-BASS)

Press the X-BASS button to emphasise the bass region of the frequency spectrum.

"X-BASS ON" will appear.

Press the X-BASS button again to cancel the extra bass mode. "X-BASS OFF" will appear.

(Continued)

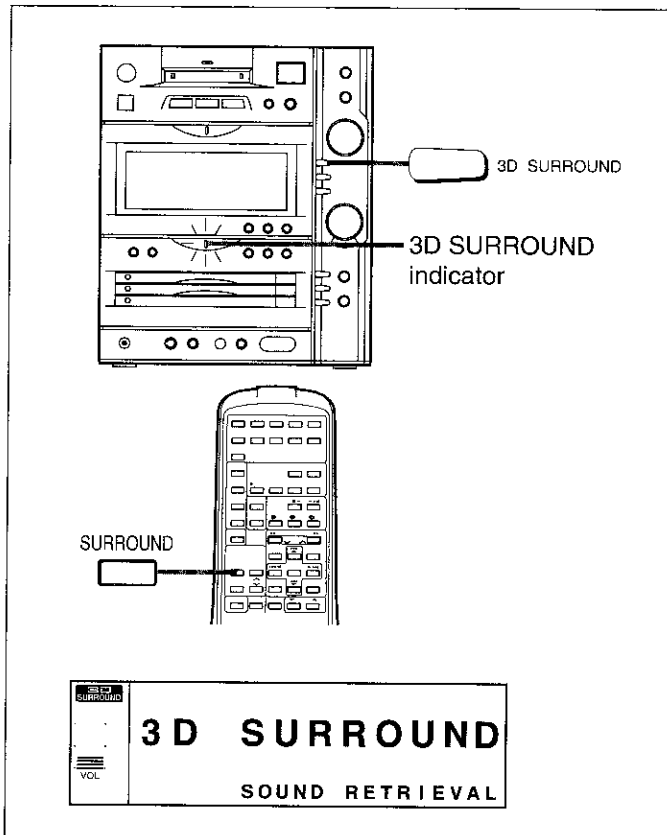
■ SRS (●) 3D SURROUND

About SRS (●) 3D surround:

SRS is a breakthrough technology that creates 3-dimensional sound by processing sound signals based on the human auditory system. It produces real depth and localization of the sound image which cannot be accomplished by ordinary stereo. SRS only requires two speakers.

- You can also adjust the sense of width or the sense of depth.

When the 3D SURROUND button on the main unit, or the SURROUND button on the remote control is pressed, the 3D SURROUND indicator will light and "3D SURROUND" will be displayed on the LCD. When the button is pressed again, the 3D surround mode will be cancelled.



■ Adjusting the sense of width or depth

Remote control operation

1 Press the WIDE/CENTER button in the 3D surround mode to select "WIDE" or "CENTER".

2 When WIDE is selected:

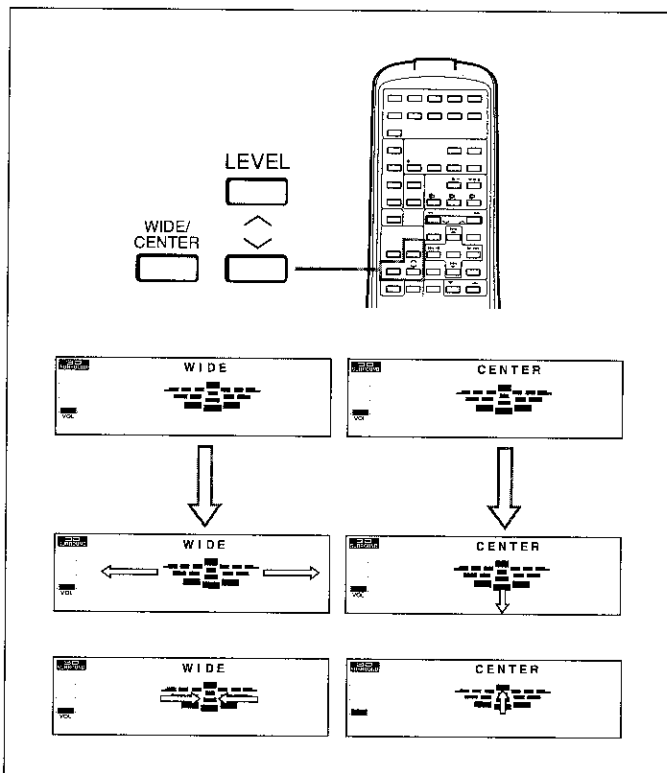
When the \wedge button is pressed, the sound will grow wider. When the \vee button is pressed, the sound width will be reduced.

- By adjusting the WIDE level, the apparent distance between the left and the right speakers will seem to change. (The wider the setting, the more distance there will seem to be between the speakers.)

When CENTER is selected:

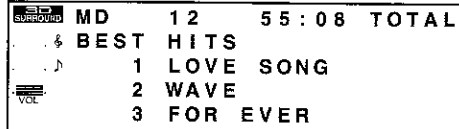
When the \wedge button is pressed, the sense of depth will increase. When the \vee button is pressed, the sense of depth will decrease.

- By adjusting the CENTER level, the sense of depth will change. (The higher the centre level, the greater the sense of depth.)



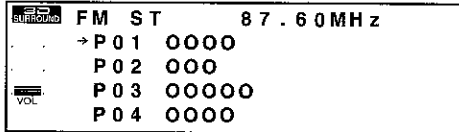
HOW TO ENTER CHARACTERS

MD disc names or track names (pages 41 and 42)



MD 12 55:08 TOTAL
BEST HITS
1 LOVE SONG
2 WAVE
3 FOR EVER

Radio station names (page 20)



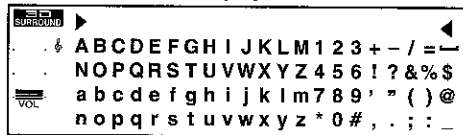
FM ST 87.60MHz
→ P01 0000
P02 000
P03 00000
P04 0000

Message displayed when the power is on or off (pages 54-56)



HAPPY BIRT

Standard character display



ABCDEFGHIJKLMNOPQRSTUVWXYZ 1234567890#.,:;-
abcdefghijklmnopqrstuvwxyz *0#.,:;-

Extra large character display



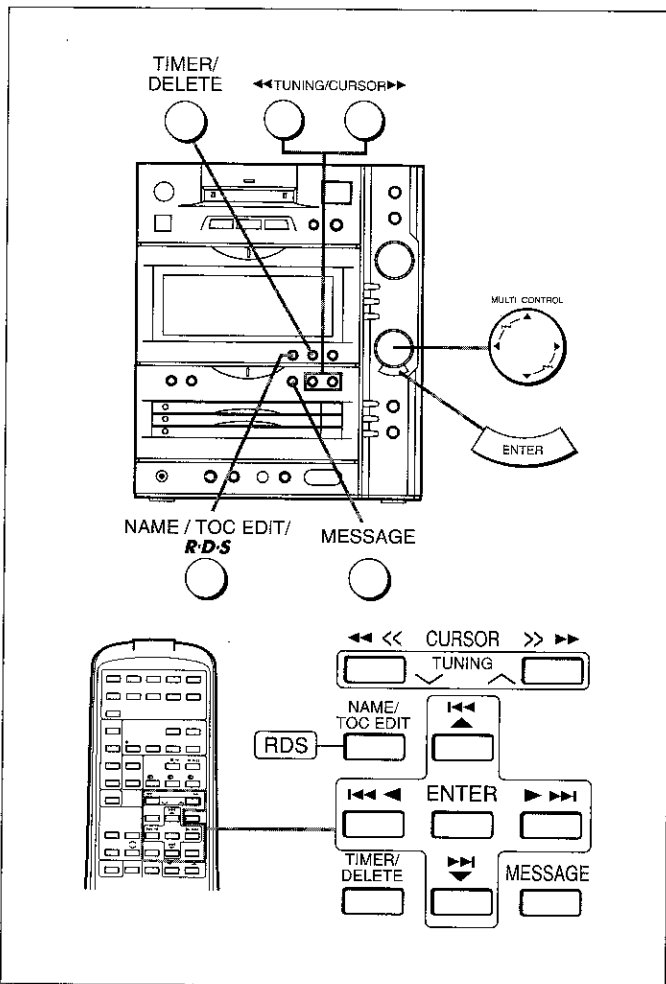
ABCDEFGHIJ

■ Entering characters

Characters are used for the MD disc names and track names, radio station names, and messages displayed when the power is on or off.

Characters can be entered using the standard character size or the extra large character size. (The method for selecting characters depends on the size.)

- Radio station names cannot be entered as extra large characters.



■ Entering using standard size characters

Preparation

Put the unit in the mode in which characters can be entered.

- To store radio station names in memory, perform steps 1 - 3 on page 20.
- To create a disc name on an MD, perform steps 1 - 3 on page 41.
- To change the messages displayed when the power is turned on or off, perform steps 1 - 3 on page 54 or on page 56.

1 Press the ▲, ▼, ◀ or ▶ on the MULTI CONTROL button to make the character you want to enter start flashing.

- Each time the button is pressed, the character which is flashing will be changed by one in the direction printed on the button. When the button is held down, the selection will move continuously in that direction.

- To enter a space, make the ◻ symbol flash.

2 Press the ENTER button.

- The selected character will appear in the character entry column. Then, perform steps 1 - 2 repeatedly to enter the other characters you need.

3 After entering all the characters

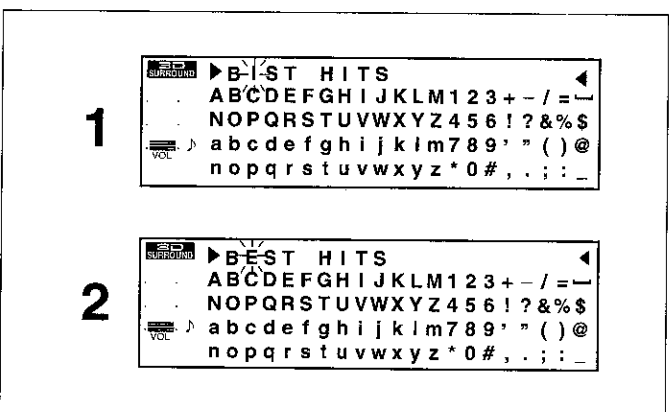
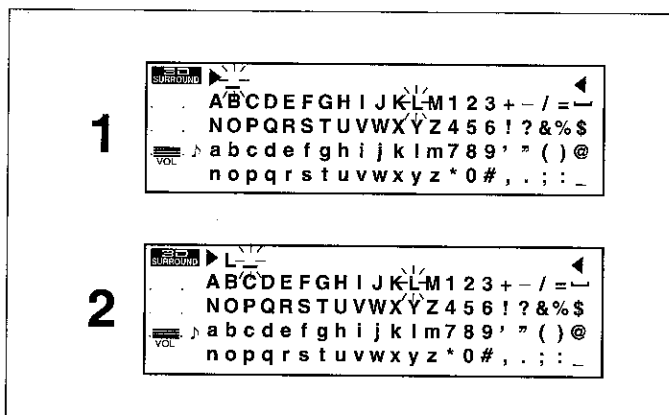
For a radio station name, MD disc name, or MD track name:

Press the NAME/TOC EDIT/R·D·S button.

For the messages displayed when the power is turned on or off:

Press the MESSAGE button.

- The characters will be stored in memory.



■ To correct, add, or delete a character

1 Press the ◀◀ TUNING/CURSOR ▶▶ button to move to the position of the character you want to delete, correct, or add. It will flash when selected.

2 When you want to delete or correct a character:

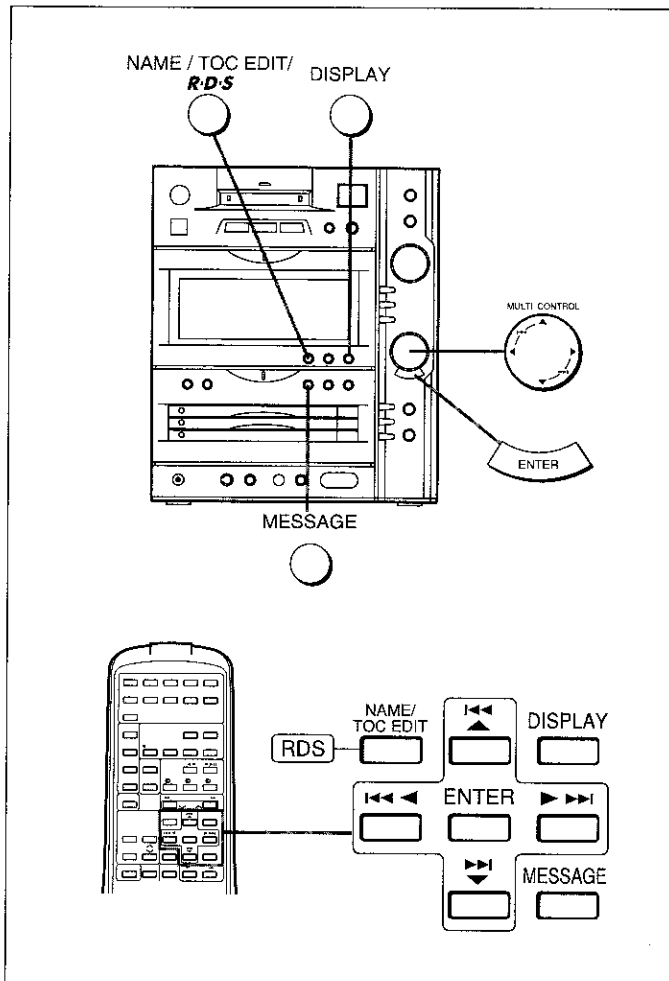
Press the TIMER/DELETE button.

- The character will be erased.
- If you want to correct a character, then, enter the correct character.

When you want to add a character:

Press the MULTI CONTROL button to select the new character and then press the ENTER button.

3 Finally, perform step 3 above.



■ Entering using extra large characters

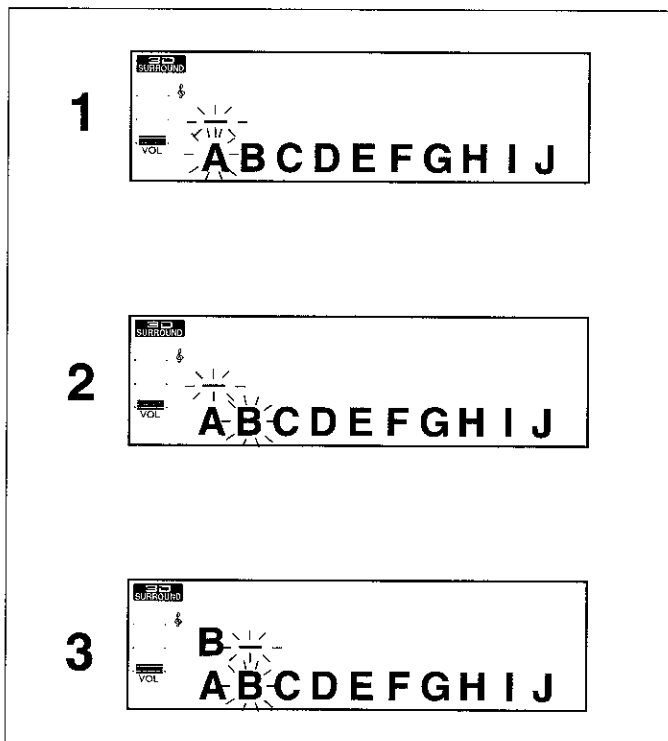
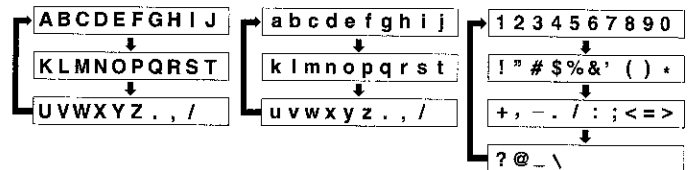
In the case of the extra large characters, the characters you can choose from are as follows:



Each time the DISPLAY button is pressed, the character type will change.



Each time the ▲ or ▼ on the MULTI CONTROL button is pressed, a different series of characters will appear.



Preparation

Put the unit in the mode in which characters can be entered.

- To create an MD disc name, perform steps 1 - 3 of the "To create a disc name" section on page 41.
- To create an MD track name, perform steps 1 - 2 of the "To create a track name" section on page 41.
- To change the messages displayed when the power is turned on or off, perform steps 1 - 3 on page 54 or on page 56.

1 Press the DISPLAY button to select the type of character you want to enter.

- Each time the button is pressed, the type of character will change.

2 Press the ◀ or ▶ on the MULTI CONTROL button to move the cursor to the character you want to enter.

3 Press the ENTER button.

4 Perform steps 1 - 3 repeatedly to enter the characters you need.

5 After entering all the characters

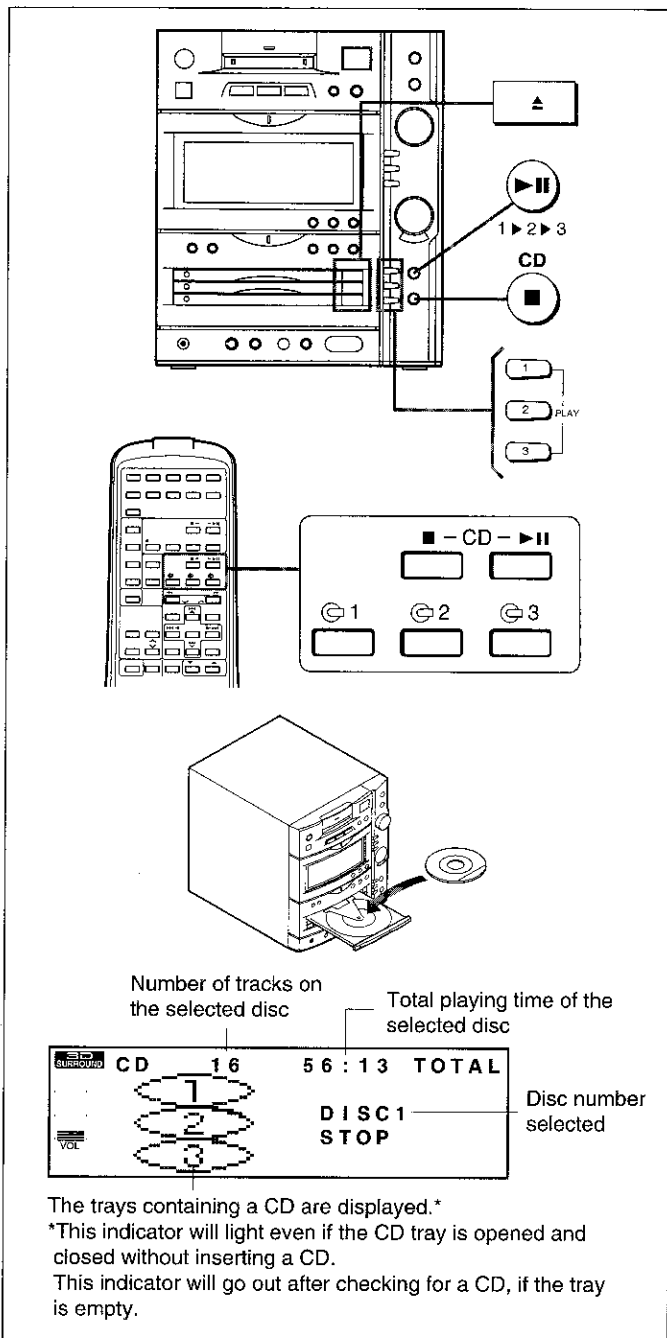
For a radio station name, MD disc name, or MD track name:

Press the NAME/TOC EDIT/R·D·S button.

For the messages displayed when the power is turned on or off:

Press the MESSAGE button.

- The characters will be stored in memory.



■ Loading and playing CD

- 1 Press the CD ■ button.
 - The power will be turned on automatically, and the unit will enter the CD playback mode.
- 2 Press the ▲ button to open the disc tray.
 - Disc trays can only be opened one at a time.
- 3 Place the CD on the disc tray, with the labelled side facing up.
 - Be sure to place 8 cm (3") CDs in the middle of the disc holders.

Caution:

Do not place more than one CD in any tray position.

- 4 Press the ▲ button to close the disc tray.
 - The total number of tracks and the total disc playing time will be displayed.
- 5 Press the CD ►|| button.
 - Playback will begin from track 1 on DISC -1.
 - DISC-1, DISC-2 and DISC-3 will be played continuously in that order.
 - If you press the CD PLAY 2 button after pressing the CD ►|| button, DISC-2 and DISC-3 will be played continuously.
 - If you press the CD PLAY 3 button after pressing the CD ►|| button, only DISC-3 will be played.
 - When all of the tracks on the CDs have been played, the unit will stop automatically.
 - After the disc finishes playing, the next disc will be automatically played.
 - When there is no CD in one of the disc trays, that tray will be skipped, and the next CD will be played.

Direct playback:

When a CD is loaded in the disc tray, simply pressing any of the CD ►|| button or one of the CD PLAY buttons (1-3) on the main unit or on the remote control will turn the power on and start playback.

Note:

- If the disc tray is open when you press one of these buttons, it will close automatically.

To interrupt playback:

Press the CD ►|| button.
 Press the CD ►|| button to resume playback from the same point.

To stop playback:

Press the CD ■ button.

To remove the CDs:

Whilst in the stop mode, press the ▲ button.

After use:

Press the ON/STAND-BY button to enter the stand-by mode.

To play a specific CD:

Press the button number for the CD you want from the CD PLAY buttons (1-3) on the main unit or on the remote control.

- Only the selected CD will be played.

Note:

- If you press the CD ►|| button on the main unit or remote control even though you have selected DISC-2 or DISC-3 previously, continuous playback will start from the track 1 on DISC-1.

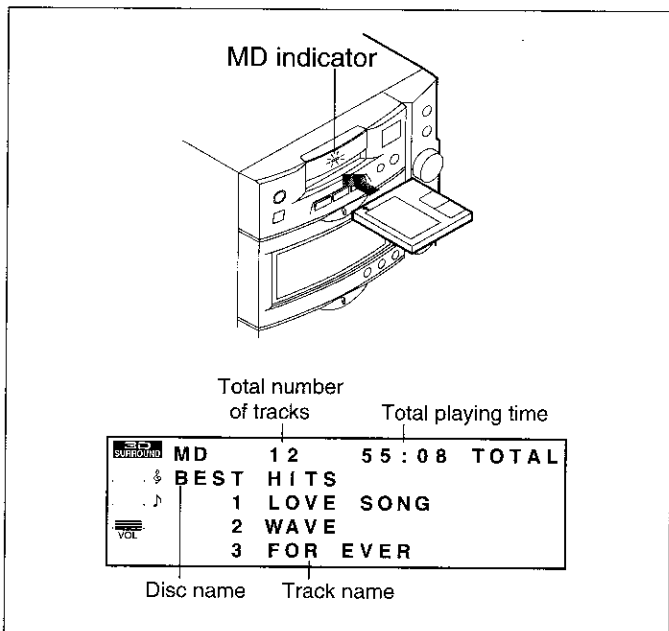
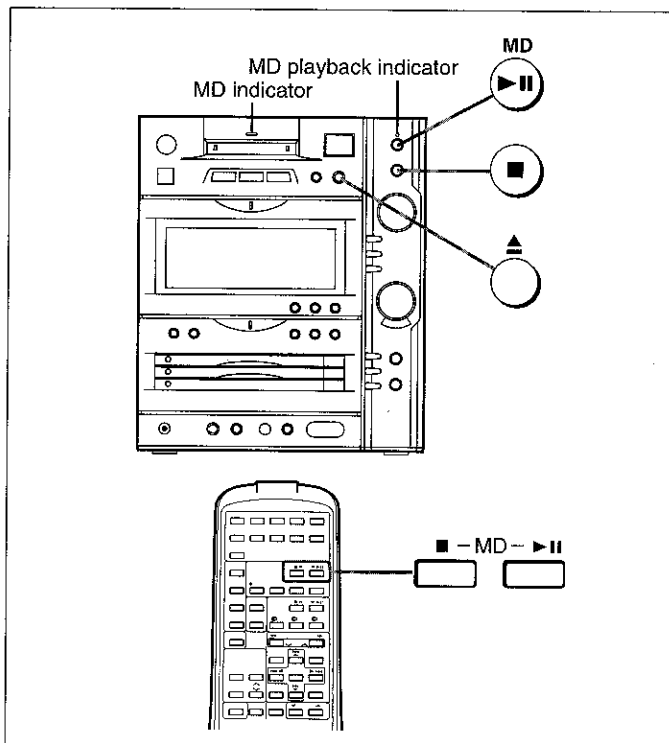
(Continued)

Cautions:

- Do not carry the unit with a disc left in a disc tray. The disc may come loose inside the unit and be damaged or cause damage to the unit. This may also cause malfunctions.
- If you press the CD ►► button, one of the CD PLAY buttons (1-3) on the main unit or remote control, or any of the CD ▲ buttons whilst the disc tray is open, the disc tray will close automatically. Therefore, be careful not to get your fingers caught in the disc tray.
- Do not place two CDs in one disc position.
- Do not push the disc tray whilst it is moving.
- If the power fails whilst the tray is open, wait until the power is restored before trying to close it.
- If the disc tray is stopped forcibly, "ERROR" will appear on the display and the unit will not function.
If this occurs, set the ON/STAND-BY button to STAND-BY and set it to ON again.

- If TV or radio interference occurs during CD operation, move the unit away from the TV or radio.
- If the disc is damaged, dirty, or loaded upside down, the disc will be skipped and the next disc will be automatically played.
- If the main unit is subjected to a sharp jolt or it is used where vibrations are present, sound dropouts may occur. Use the unit in a stable environment.
- If the volume is set to too high, a dropout may occur due to vibrations from the speakers. If this happens, move the main unit away from the speakers or turn down the volume.
- Do not use CDs with loose cellophane tape or stickers or CDs which have glue left on the surface from tape or stickers. If such a CD is inserted, you may not be able to remove the CD or the unit may cause malfunction.

MINIDISC OPERATION



■ Loading and playing MiniDiscs

- 1 Press the MD ■ button.
 - The power will be turned on automatically, and the unit will enter the MD playback mode.
- 2 Load a recorded MiniDisc in the direction indicated by the arrow on the MiniDisc, with the labelled side facing up.
 - The total number of tracks and the total disc playing time will be displayed. At this time, the MD indicator will light.
- 3 Press the MD ►|| button.
 - The MD playback indicator will light and playback will begin from track 1 on the disc you have specified.
 - When the last track has been played back, this unit will stop automatically.

To interrupt playback:

Press the MD ►|| button.

- The MD playback indicator will flash.
- Press the MD ►|| button to resume playback from the same point.

To stop playback

Press the MD ■ button.

To remove a MiniDisc:

Press the ▲ button.

- The MiniDisc will be ejected.

Notes:

- Although vibration will not normally cause a MiniDisc to skip, you may hear a skip in the sound if there is continuous vibration.
- When you listen to MiniDiscs near a radio or a TV set, the radio or the TV set may pick up noise.
Keep the unit as far away as possible from tuners.

Direct playback

If a MiniDisc is loaded in the unit, pressing the MD ►|| button turns the power on, and begins playback.

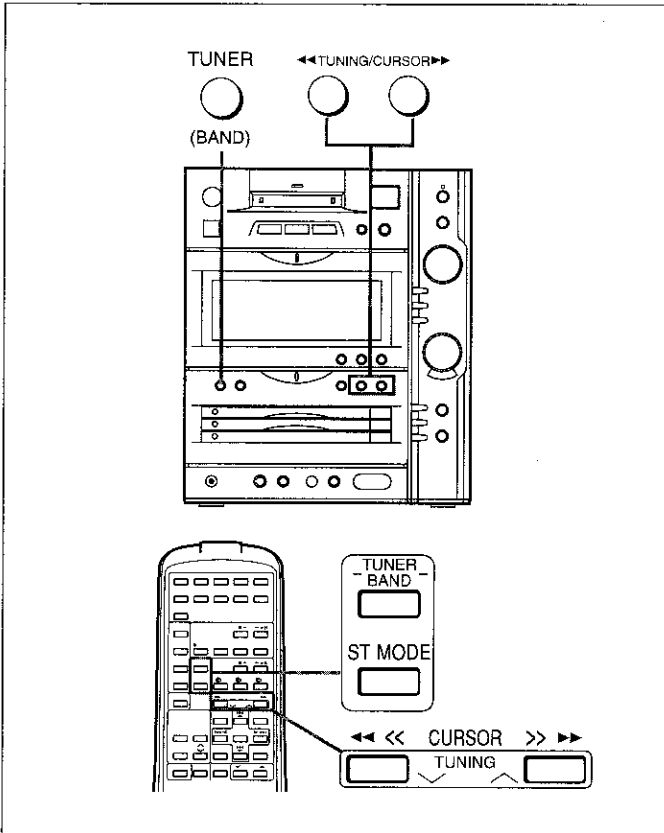
After use:

Press the ON/STAND-BY button to enter the stand-by mode.

Notes:

- The power cannot be turned off whilst reading the information on a MiniDisc.
- If no disc and track names have been recorded on an MiniDisc, they will not appear on the display.

RADIO OPERATION



Tuning

- 1 Press the TUNER (BAND) button.
 - The power is turned on, and the tuner is selected.
- 2 Press the TUNER (BAND) button to select the desired frequency band (FM or AM) .
- 3 Tune in the desired station using the ◀◀ TUNING/CURSORS ▶▶ button.

Auto tuning:

When the ◀◀ TUNING/CURSORS ▶▶ button is pressed for more than 0.5 seconds and then released, the tuning stops at the first receivable broadcast station.

Notes:

- When radio interference occurs during auto tuning, auto tuning may stop automatically at that point.
- If a weak station signal is found during auto tuning, the station will be skipped.
- To stop auto tuning, press the ◀◀ TUNING/CURSORS ▶▶ button again.
- When an RDS (Radio Data System) station is tuned in, the RDS information for that station will be displayed.

Manual tuning:

Press the ◀◀ TUNING/CURSORS ▶▶ button as many times as necessary to adjust the frequency display to the frequency of the desired station.

- 4 To receive FM stereo, press the ST MODE button on the remote control so that the "FM ST" indicator appears.
 - "∞" will appear when an FM broadcast is in stereo.
- 5 If the FM stereo reception is weak, press the ST button so that the "FM ST" indicator goes out.
 - Although the reception changes to monaural, the sound becomes clearer.

After use:

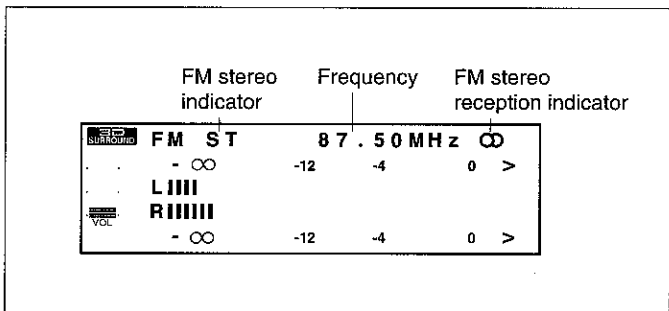
Press the ON/STAND-BY button to enter the stand-by mode.

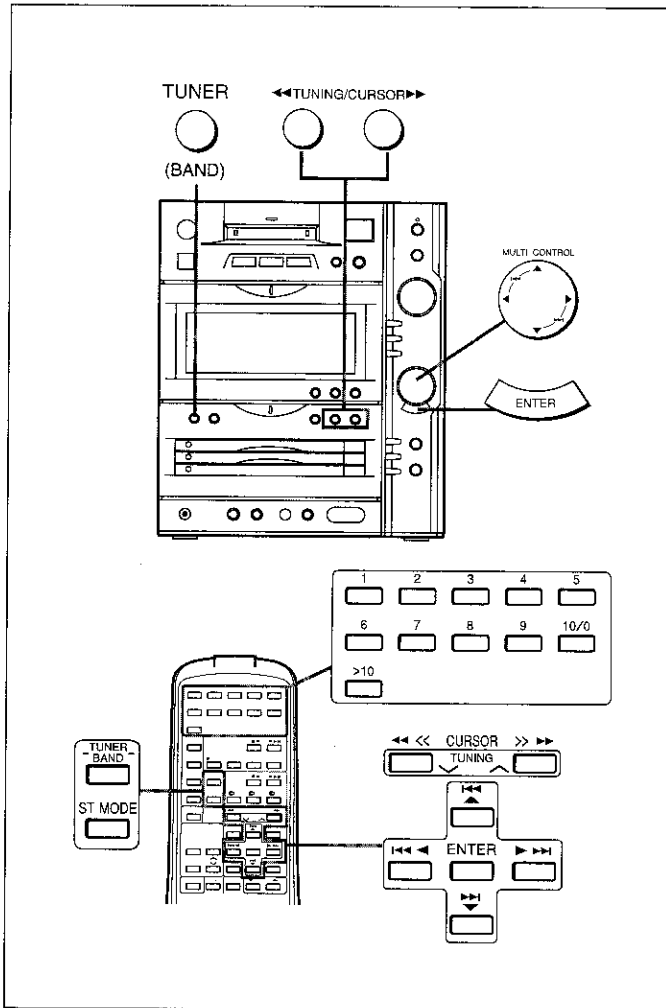
Direct playback:

Just pressing the TUNER (BAND) button will turn on the power automatically. The radio station you were listening to last will be tuned in.

Notes:

- The memory recalls the last station received even after changing the TUNER (BAND) button or function selector buttons, or pressing the ON/STAND-BY button to enter the stand-by mode.
- If you are listening to the radio near personal computers, radios, or TV sets, various noise or interference may be heard. Keep this unit as far away as possible from these products.





■ Preset tuning

You can store up to 40 stations in memory (40 stations consisting of any combination of the FM and AM stations you like) and recall them at the push of the button.

- 1 Perform steps 1-5 of the "Tuning" section.
 - 2 Press the ENTER button.
 - 3 Within 10 seconds, select the desired preset number with the MULTI CONTROL button.
 - 4 Within 10 seconds, press the ENTER button.
 - 5 Repeat steps 1 - 4 to preset the other stations, or to change a preset station.
- When a new station is stored in a preset number location, the previous contents of that location will be erased.

Note:

- After a prolonged power failure, the contents of the memory will be lost. When power is restored, enter your selections in memory again. (For power failures of just a few hours or less, the contents of memory will not be lost.)

■ To recall a preset station

Press the desired preset number directly on the remote control or use the MULTI CONTROL button to select the preset channel number.

- The contents (preset channel number, frequency and frequency band) which have been stored in memory will appear in the display, irrespective of the frequency bands.
- If there are no stations memorised, this operation can not be performed.

To select preset numbers 11 to 40 using the remote control

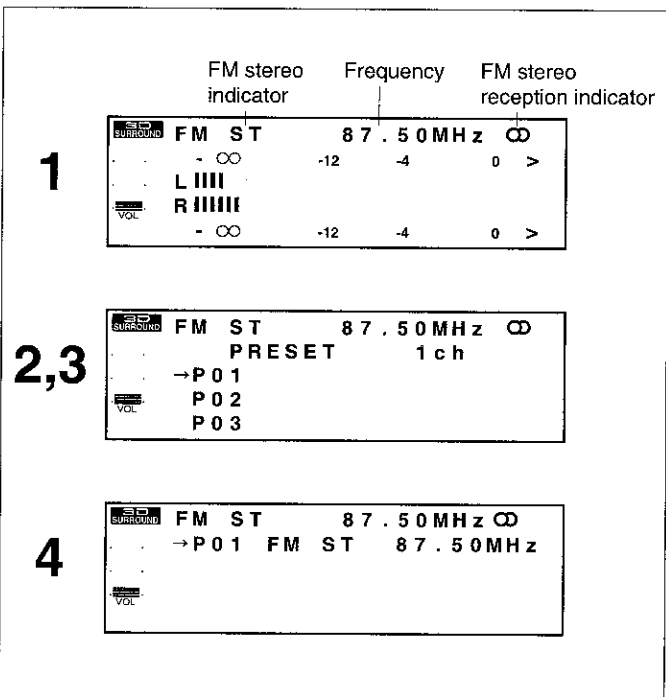
Press the >10 button first, then press the number.

For example to select 35:

- ① Press the >10 button.
- ② Within 5 seconds, press the "3" button.
- ③ Within 5 seconds, press the "5" button.

Note:

- You can create names for radio stations that have been stored in memory. (Page 20)



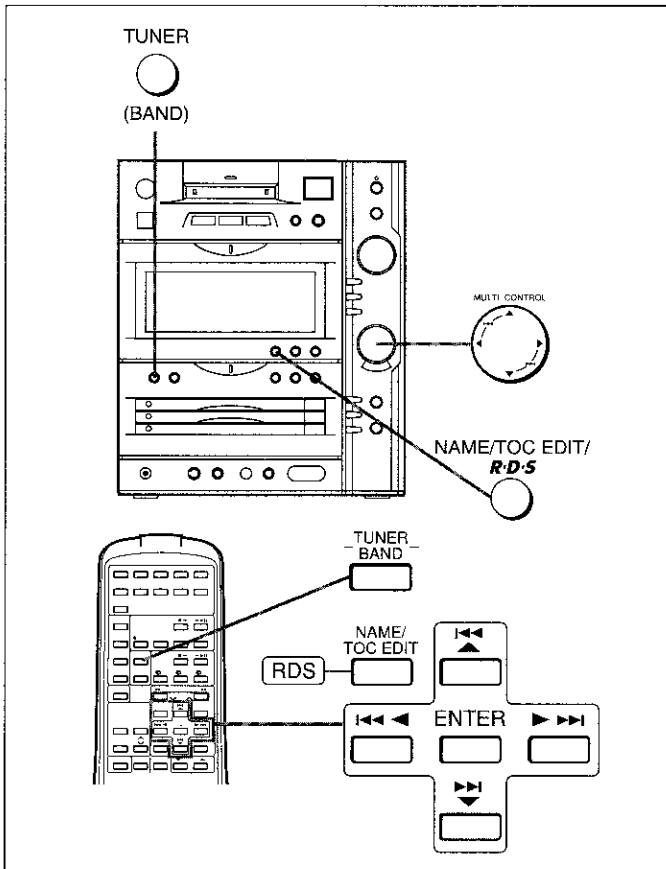
PROGRAMMING RADIO STATION NAMES

You can create names for radio stations that have been stored in memory (up to 16 characters).

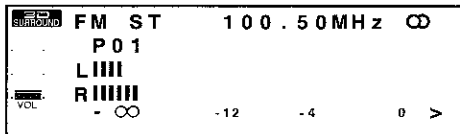
- 1 Press the TUNER (BAND) button.
- 2 Press the ▲ or ▼ on the MULTI CONTROL button to select the preset number you want to create a name for.
 - Names cannot be created for locations that do not have a radio station stored in them.
- 3 Press the NAME/TOC EDIT/R-D-S button.
- 4 Enter a radio station name.
 - For details about entering characters, see pages 13-15.
- 5 Then, press the NAME/TOC EDIT/R-D-S button.

If you make a mistake whilst entering a radio station name:

- Perform steps 1 - 4 above, and then correct the character (s) you entered by mistake. For details about how to make corrections, see pages 13-15.



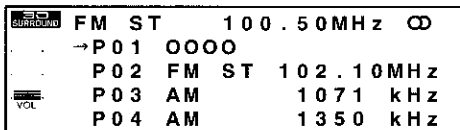
2



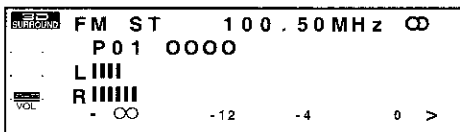
4



5



After 5 seconds ↓



RDS (Radio Data System) OPERATION

■ Receiving FM Stations with RDS (Radio Data System)

RDS is a broadcasting service which a growing number of FM stations are now providing. It allows these FM stations to send additional signals along with their regular programme signals. For example, the stations send their station names, and information about what type of programme they broadcast, such as sports or music, etc.

When tuned to an FM station which provide the RDS service, the RDS will appear, the station frequency (and then the station name if sent) is displayed.

The TP (Traffic Programme) will appear on the display when the received broadcast carries traffic announcements, and the TA (Traffic Announcement) will appear whilst a traffic announcement is being received.

Or the EON will appear whilst the EON (Enhanced Other Networks information) data is being broadcast.

Note:

When the TP and TA appear at the same time, an announcement is being made.

When only the TA will appear, an announcement is not being made. (See page 25.)

■ Information Provided by RDS

With the MD-X7H, you can watch two types of RDS service.

PS : Station names commonly known will be displayed. "PS" will disappear if no signal is being sent.

PTY : Programme type will be displayed.

"PTY" will disappear if no signal is being sent.

Descriptions of the PTY (Programme Type) codes, TP (Traffic Programme) and TA (Traffic Announcement)

With the MD-X7H, you can search for and receive the following PTY, TP and TA signals.

NEWS:	News	POP M:	Pop music
AFFAIRS:	Topical programme expanding on the current news or affairs	ROCK M:	Rock music
INFO:	Programmes on medical service, weather forecast, etc.	M.O.R. M:	Middle-of-the-road music (usually called "easy listening")
SPORT:	Sports events	LIGHT M:	Light music
EDUCATE:	Educational programmes	CLASSICS:	Classics
DRAMA:	Radio plays	OTHER M:	Other music
CULTURE:	Programmes on national or regional culture.	ALARM:	Emergency broadcasts
SCIENCE:	Programmes on national sciences and technology	NONE:	No programme type (receive only)
VARIED:	Other programmes like comedies or ceremonies	TP:	Broadcasts which carry traffic announcements
		TA:	Traffic announcements are being broadcast at present.

Note:

When the unit is in the EON stand-by mode and a programme is selected, the unit will display "TI" instead of "TP" or "TA".

■ ASPM (Auto Station Program Memory)

In the beginning, it is recommended that you store stations in memory using ASPM.

(This memory can be used for PTY searches and EON switching.)

When the NAME/TOC EDIT/R-D-S button is pressed, whilst tuned to the FM band, the RDS (Radio Data System) function will automatically search for new R-D-S stations. Up to 40 stations can be stored in memory. (If you have already stored some stations in memory, the number of new stations you can store will be less.)

- 1 Set the ON/STAND-BY button to ON.
 - 2 Press the TUNER (BAND) button.
 - 3 Press the TUNER (BAND) button to select the FM band.
 - 4 Press the NAME/TOC EDIT/R-D-S button.
 - 5 Press the ▲ or ▼ on the MULTI CONTROL button to select "3.ASPM".
- ① Scanning of the FM band will start (87.50 - 108.00 MHz) and "ASPM" will flash.
 - ② When an RDS station is found, the station will be stored in memory.
 - ③ When scanning is complete, the number of stations that have been automatically stored in memory will be displayed, and then "ASPM END" will appear for 5 seconds.

Notes:

- Only RDS stations will be stored in memory.
- If the same station is broadcasting on different frequencies, the transmission with the strongest broadcast frequency will be stored in memory.
- Any station which has the same frequency as one which has been already stored in memory will not be stored again.
- If a 40th station is stored in memory during a scan, the scanning will stop at that station. The number of stations and "ASPM END" will be displayed for 5 seconds.
- If no stations have been stored in memory, "ASPM END" and "0 MEMORY" will flash for about 5 seconds.
- If 40 stations have already been stored in memory and the ASPM mode is selected, "ASPM END" will appear immediately and the scan will be aborted.

If you want to redo the ASPM operation from the beginning, erase the preset memory, and then perform steps 1 - 5.

To stop the ASPM operation before it is complete:

Press the NAME/TOC EDIT/R-D-S button whilst it is scanning for stations.

- The stations that have already been stored in memory will be kept there.

To erase all of the contents of preset memory:

When the ON/STAND-BY button is in the STAND-BY position. Hold down the NAME/TOC EDIT/R-D-S button and the ENTER button, and then press the ON/STAND-BY button.

- "TUNER PRESET CLEAR" will appear.
- After performing this operation, all of the preset memory information will be erased.

4,5

TUNER MENU SELECT

1. RDS SEARCH

2. EON SEARCH

→ 3. ASPM

①, ②

FM ST 87.50MHz

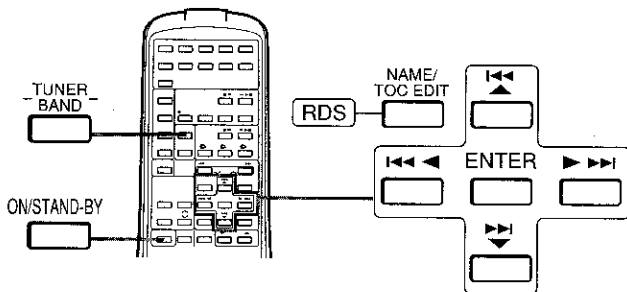
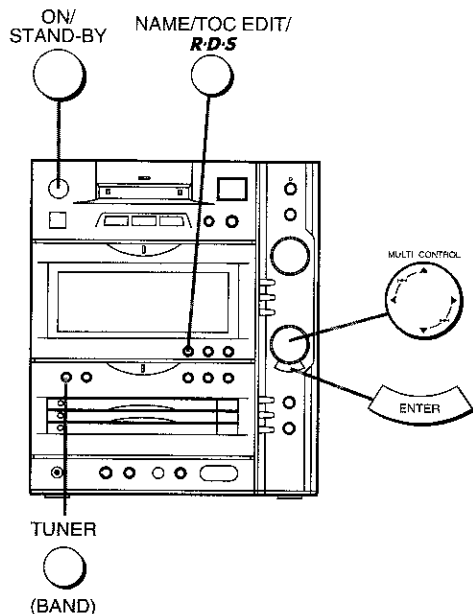
ASPM

③

FM ST 87.50MHz

ASPM END

16 MEMORY



4,5

TUNER MENU SELECT
 → 1. RDS SEARCH
 2. EON SEARCH
 3. ASPM

6,7

RDS PTY/TP/TA SEARCH
 → 1. News
 2. Affairs
 3. Info
 4. Sport

8

FM ST 103.60MHz ∞
 PRESET 14ch
 RDS SEARCH
 Pop M

FM ST 103.60MHz ∞
 RDS TP
 PS : Radio-HH
 PTY: Pop M
 EON

NEXT

FM ST 87.50MHz
 NOT FOUND

■ To recall stations that have been stored in memory (PTY search)

You can select a group of stations by specifying the programme type (news, sports, traffic programme, etc. ... see page 22) from among the stations that have been stored in memory.

ASPM is convenient for storing stations in memory.

- 1 Set the ON/STAND-BY button to ON.
- 2 Press the TUNER (BAND) button
- 3 Press the TUNER (BAND) button to select the FM band.
- 4 Press the NAME/TOC EDIT/R-D-S button.
- 5 Within 5 seconds, press the ▲ or ▼ on the MULTI CONTROL button to select "RDS SEARCH".
- 6 Within 5 seconds, press the ENTER button.
- 7 Within 5 seconds, press the ▲ or ▼ on the MULTI CONTROL button to select the programme type you want.

Programme type:

NEWS	AFFAIRS	INFO	SPORT	EDUCATE
DRAMA	CULTURE	SCIENCE	VARIED	POP M
ROCK M	M.O.R.M	LIGHT M	CLASSICS	OTHER M
ALARM	TP*	TA		

- 8 Within 5 seconds, press the ENTER button.

● Search will start.

Note:

Each time a station of the programme type you want is encountered, searching stops and you will be able to listen to the broadcast.

- If you want to listen to another station of that programme type, press the ENTER button whilst "NEXT" is flashing. The unit will search for the next station of that type.

Note:

If no station of the programme type you want can be found, "NOT FOUND" will appear for 5 seconds.

If you have selected the traffic programme:

If you select traffic programme (TP) as the programme type in step 7, to receive only radio stations which broadcast traffic programmes, the TP will appear. (However, this does not necessarily mean that you will hear any traffic announcements at that time.)

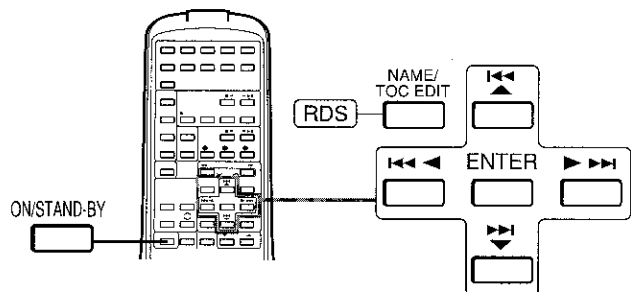
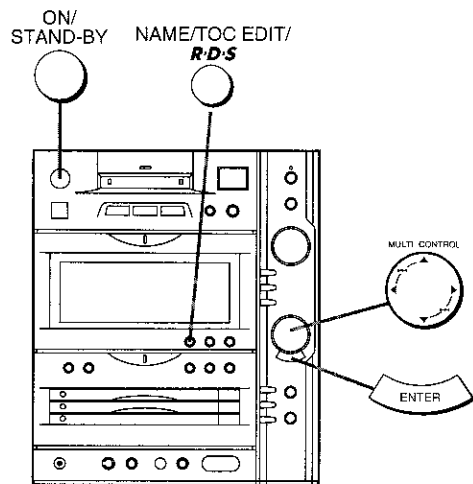
When a traffic announcement is actually being made, the TA will appear.

(When both the TP and TA will appear, an announcement is being made.)

■ Notes for RDS operation

If any of the following events occur, it does not mean that the unit is faulty.

- The station name (PS) or programme type (PTY) disappears, and the unit does not operate properly.
- If a particular station is not broadcasting properly or a station is conducting tests, the RDS reception function may not work properly.



1

```

FM ST 87.60MHz
RDS TP
PS : NDR2
PTY: News
EON
  
```

2,3

```

TUNER MENU SELECT
1. RDS SEARCH
→2. EON SEARCH
3. ASPM
  
```

4,5

```

EON PTY & TI SEARCH
→ 1. News
2. Affairs
3. Info
4. Sport
  
```

6

```

FM ST 87.60MHz
RDS TP
PS : NDR2
PTY: News
EON STANDBY: Sport
  
```

```

FM ST 92.30MHz
- EON SEARCH -
Sport
  
```

7

```

FM ST 92.30MHz
RDS TP
PS : NDR4
PTY: Sport
- EON RECEIVING -
  
```

EON-PTY

- 1 Tune in the desired station (when RDS information is being displayed and "EON" is displayed).
- 2 Press the NAME/TOC EDIT/R·D·S button.
- 3 Within 5 seconds, press the ▲ or ▼ on the MULTI CONTROL button to select "EON SEARCH".
- 4 Within 5 seconds, press the ENTER button.
- 5 Within 5 seconds, press the ▲ or ▼ on the MULTI CONTROL button to select the programme type you want.
- 6 Within 5 seconds, press the ENTER button.
- 7 When the programme specified for the ON station is over, the unit will automatically return to the original station you were tuned to.

Note:

- If EON SEARCH is selected when "EON" is not lit, "NO EON" will appear for 5 seconds to indicate that the unit cannot enter the EON stand-by mode.

To cancel the EON stand-by mode:

When in the EON stand-by mode, press the NAME/TOC EDIT/R·D·S button. The EON stand-by mode will be cancelled. "STANDBY:***(PTY)" will disappear.

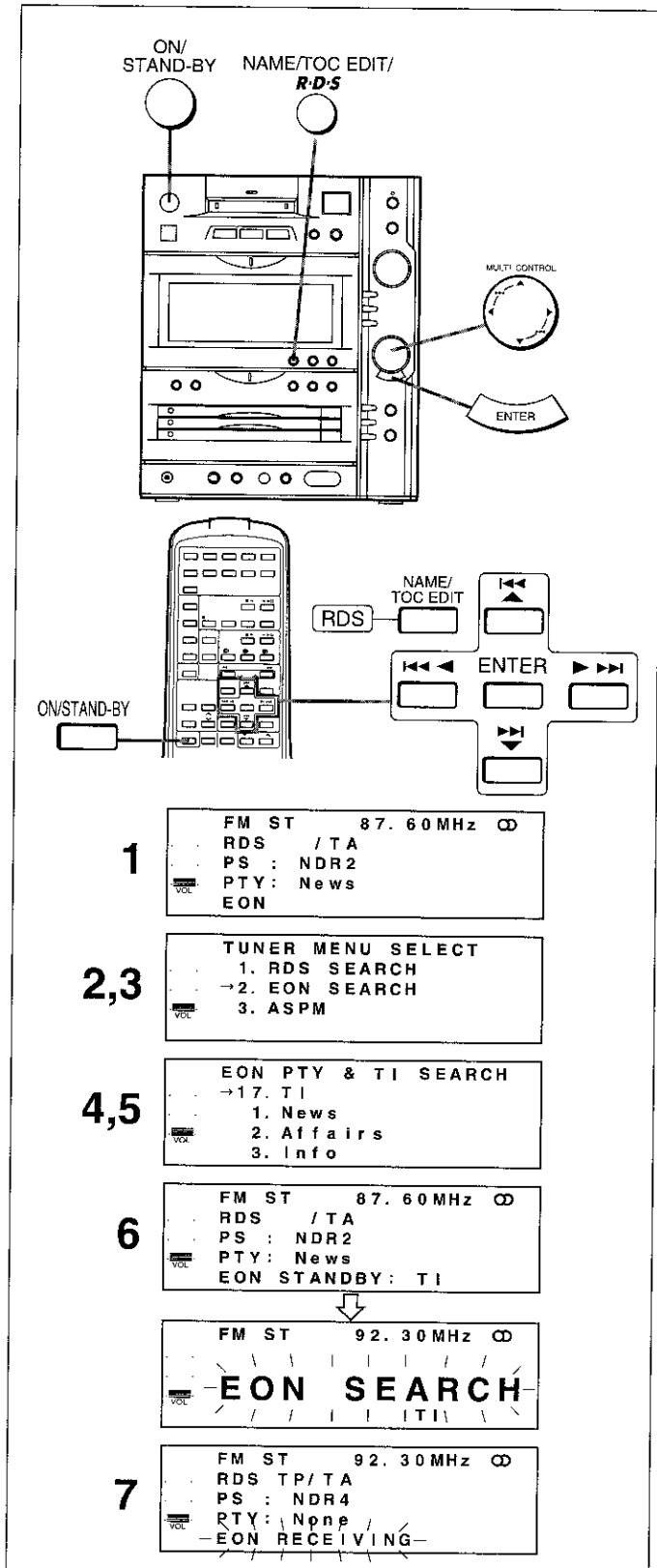
Notes:

- In the following cases, the EON stand-by mode will be cancelled.
- When the ON/STAND-BY button is set to STAND-BY.
- When the unit is switched to another band in the EON stand-by mode
- When you change the FM station whilst in the EON stand-by mode
- When a preset call is made

(Continued)

About the TP and TA indicators

TP indicator	TA indicator	Meaning
Not lit	Not lit	This programme does not carry traffic announcements nor does it refer, via EON, to a programme that does.
Not lit	lit	This programme carries EON information about another programme which gives traffic information.
Lit	Not lit	This programme carries traffic announcements but none are being broadcast at present and may also carry EON information about other traffic announcements.



EON-TI

- 1 Tune in the desired station (when RDS information is being displayed and "EON" is displayed).
- 2 Press the NAME/TOC EDIT/R-D-S button.
- 3 Press the ▲ or ▼ on the MULTI CONTROL button to select "EON SEARCH".
- 4 Within 5 seconds, press the ENTER button.
- 5 Press the ▲ or ▼ on the MULTI CONTROL button to select "17.TI".
- 6 Within 5 seconds, press the ENTER button.
- 7 When the traffic announcement is over, the unit will automatically return to the original station you were tuned to.

Note:

- If EON SEARCH is selected when "EON" is not lit, "NO EON" will appear for 5 seconds to indicate that the unit cannot enter the EON stand-by mode.

To cancel the EON stand-by mode:

When in the EON stand-by mode, press the NAME/TOC EDIT/R-D-S button. The EON stand-by mode will be cancelled.

- "STANDBY:TI" will disappear.

Note:

- If neither "TP" nor "TA" appear, then even if "EON" appears the unit cannot enter the EON-TI stand-by mode. In this condition, even if the EON button is pressed, "NO TI" will flash for 5 seconds.

Notes:

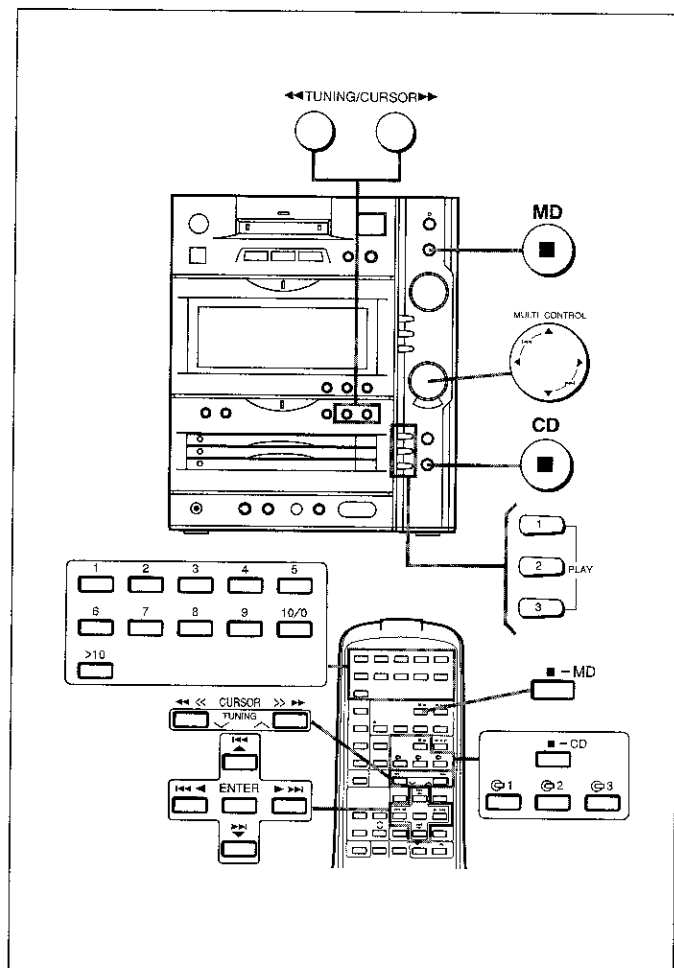
- During the same programme as the specified PTY (or TA) is being broadcast on the station you are receiving, the unit will not switch to other network station.
- If there are more than two other network stations you want to listen to, compare the strength of each station's signal and tune in the station with the strongest signal. (EON-AF)

However, if the frequency of other network station has been stored in the preset channel memory, the unit will switch to that preset channel.

- If you want to cancel the reception of an ON (other network) station which was tuned in by the EON system and return to the original station you were receiving, press the EON button.

- After the unit returns to the original station, the stand-by mode will still be active. (The "TI" or "PTY" will remain lit.)
- The unit will not switch from the ON station to another network station. The unit returns to the original station.
- When the unit switches automatically to other network station, if other network station has any problem, or when the unit can no longer receive that station with something wrong, "NO READY" will appear, and then the unit will return to the original station.

VARIOUS CD AND MD OPERATIONS



Direct-selection play

By using the track number input buttons on the remote control, you can play any track directly, by entering its number.

- 1 Select the disc to be played by pressing one of the CD PLAY buttons (1-3). (Only for CD playback)
- 2 Select the desired programme source, CD or MD, by pressing the CD ■ or MD ■ button.
- 3 Use the track number input buttons to select the desired track number.

A. To select track numbers 11 to 99

Press the >10 button first, then press the track number.
For example to select 28:

- 1 Press the >10 button.
- 2 Within 5 seconds, press the "2" button.
- 3 Within 5 seconds, press the "8" button.

B. To select track number 100 or higher (only for MDs)

Press the >10 button twice, then press the track number.
For example to select 105:

- 1 Press the >10 button.
- 2 Within 5 seconds, press the >10 button.
- 3 Within 5 seconds, press the "1" button.
- 4 Within 5 seconds, press the "10/0" button.
- 5 Within 5 seconds, press the "5" button.

The beginning of the selected track will be found, and play will begin automatically.

Notes:

- A track number higher than the number of tracks on the disc cannot be selected.
- During APMS play or random play, track number selection play is not possible.

Cue and review

- 1 Load a disc and begin playback.
- 2 Hold down the ►► button for audible fast forward, and hold down the ◀◀ button for audible fast reverse.
- 3 Normal playback will resume when the ►► or ◀◀ button is released.

Notes:

- If the end of the disc is reached whilst cueing, "DISC END" will appear, and operation will pause. Press the CD ■ or MD ■ button to stop operation.
When you want to listen to the disc again, press the ◀◀ button to locate the desired track. Normal playback will start from that point.
- When the beginning of the first track is reached, normal playback will start.

To search very quickly

When fast forward or fast reverse is used whilst in the pause mode, the playback point will move more quickly than when using audible fast forward or audible fast reverse in the playback mode.

- In this mode, no sound is heard. Therefore, you must refer to the time display.
- When you lift your finger, the unit will re-enter the pause mode.

APSS (Auto Program Search System)

APSS automatically locates the beginning of each track.

To move to the beginning of the next track:

During playback ... Press ► on the MULTI CONTROL button.

To restart the track being played:

During playback ... Press ◀ on the MULTI CONTROL button.

When using the MULTI CONTROL button whilst in the stop mode:

Each time the ◀ or ► on the MULTI CONTROL button is pressed, the track number will go up or down by one. If you press the ►|| button, playback will begin from the track being displayed.

■ APMS

(Automatic Programmable Music Selector)

Remote control operation

- 1 Select the desired programme source, CD or MD, by pressing the CD ■ or MD ■ button.
- 2 Press the PROGRAM button.
 - "PRGM" will flash.
- 3 If you have selected CD, press one of the CD PLAY buttons (1-3) to select the disc to be played.
- 4 Use the track number input buttons to designate the desired track number.
- 5 Repeat steps 3 - 4 for any other tracks. Up to 20 tracks for MD or 32 tracks for CD can be programmed.
 - To select the track on an MD or on the same CD, skip step 3.
 - The last track number programmed and the total playing time of the programmed tracks will be displayed automatically.
 - If the total playing time of the programmed tracks on a CD exceeds 999 minutes 59 seconds or that on an MD exceeds 255 minutes 59 seconds, "----" will be displayed. In such a case, the programmed tracks are stored.
- 6 Press the CD ■ or MD ■ button.
- 7 Press the CD ►|| or MD ►|| button to start playback of the programmed selections.
 - After all of the programmed tracks have finished playback, the unit will automatically stop.

To add tracks to the APMS:

When a programme has been entered ("PRGM" is lit), perform step 2. Additional tracks can be selected, and they will be stored after the last track you entered.

To clear the programmed selections:

Press the CLEAR button whilst "PRGM" is flashing.

- Each time the button is pressed, one track will be cleared, beginning with the last track programmed.

To cancel the APMS:

Whilst the unit is stopped in the APMS mode, press the CLEAR button.

- The programme contents will be erased.
- When you open the disc tray or a MiniDisc is removed, the APMS mode will be cancelled.

To check which tracks are programmed:

Whilst the unit is stopped in the APMS mode, press the ▼ or ▲ on the MULTI CONTROL button.

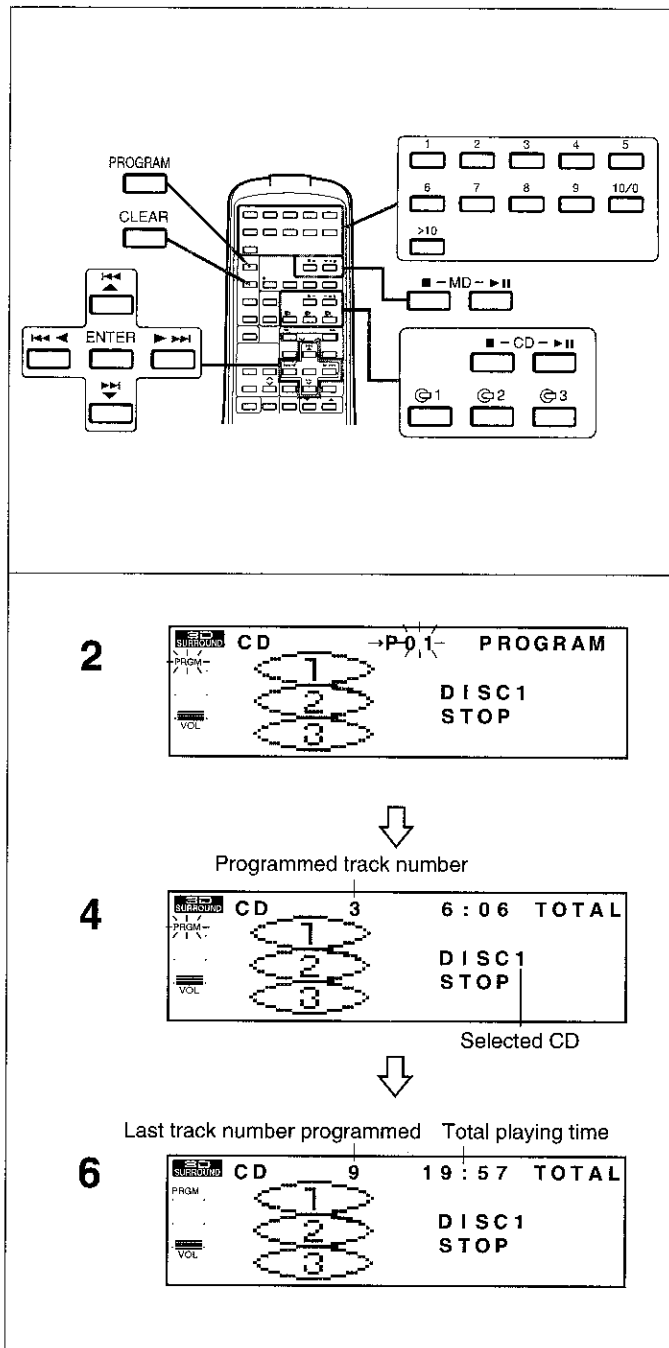
- When the ▼ on the MULTI CONTROL button is pressed, the next track number will appear. When ▲ is pressed, the previous track number will appear.

Notes:

- It is not possible to insert an additional track between programmed tracks that have already been entered.
- Programming and cancelling are not possible during playback or in the pause mode.

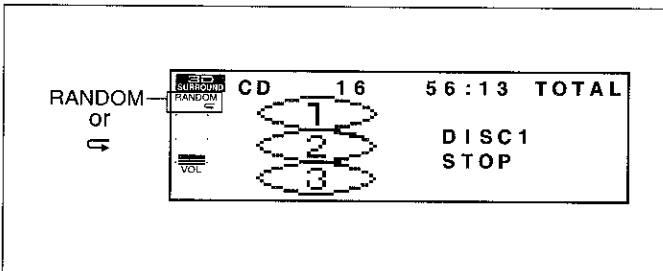
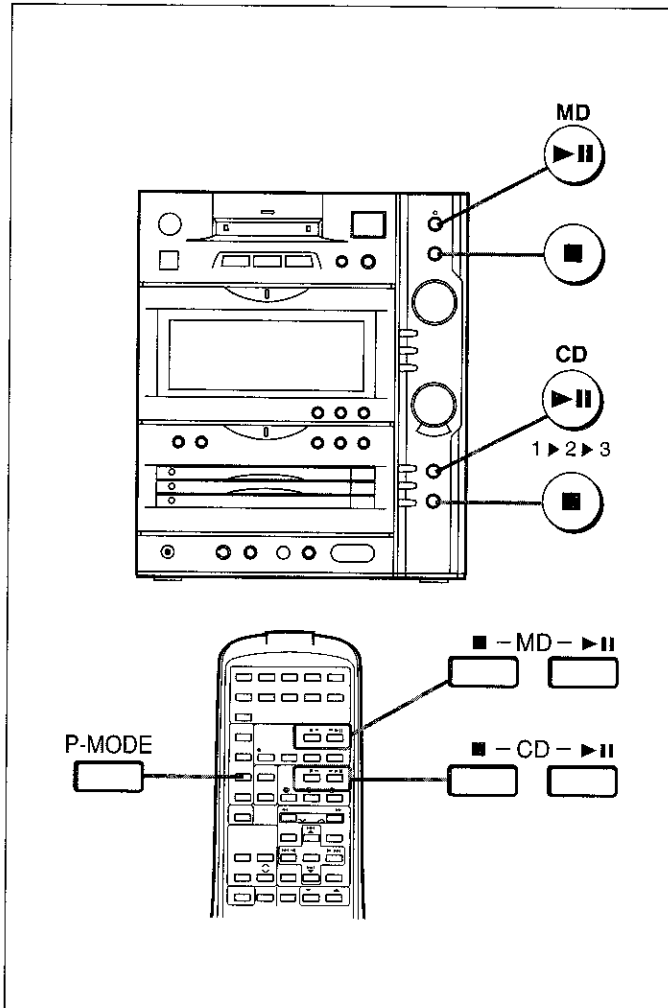
[To record a set of programmed tracks:]

- 1 Press the CD ■ button.
- 2 Load a recordable MiniDisc.
- 3 Press the ● REC button.
- 4 Press the CD ►|| button.
 - The programmed tracks will be recorded in order. When the last track is recorded, the unit will stop automatically.



[To program selections with the main unit (for CDs only)]

- 1 Press the CD ■ button.
- 2 Press the TRACK button for at least 2 seconds.
- 3 Press the CD PLAY buttons (1-3) to select the disc to be played.
- 4 Select the track number you want using the MULTI CONTROL button.
- 5 Press the TRACK button.
- 6 Repeat steps 3 - 5 for any other tracks.
- 7 Press the CD ■ button.
- 8 Press the CD ►|| button to start playback of the programmed selections.



Repeat and random play

An entire disc, a single track, or a programmed sequence can be continuously repeated.

- 1 Select the desired programme source, CD or MD, by pressing the CD ■ or MD ■ button.
- 2 Press the P-MODE button.
 - Each time this button is pressed, the mode will change in the following order:
Repeat play → Random play → Normal play
- 3 Press the ►|| button to start playback.
 - When all of the tracks have been played in random order, the unit will stop automatically.

To stop playback:

Press the CD ■ or MD ■ button.

To cancel repeat playback or random play:

Press the P-MODE button until the ◀ or "RANDOM" display disappears.

- When you open the disc tray or a MiniDisc is removed, the repeat play or random play mode will be cancelled.

To repeat playback of selected tracks:

Enter the programme for the tracks you want and start repeat play.

You can programme a single track and play it repeatedly.

Note:

- During APMS play, random play is not possible.

When more than one CD is inserted:

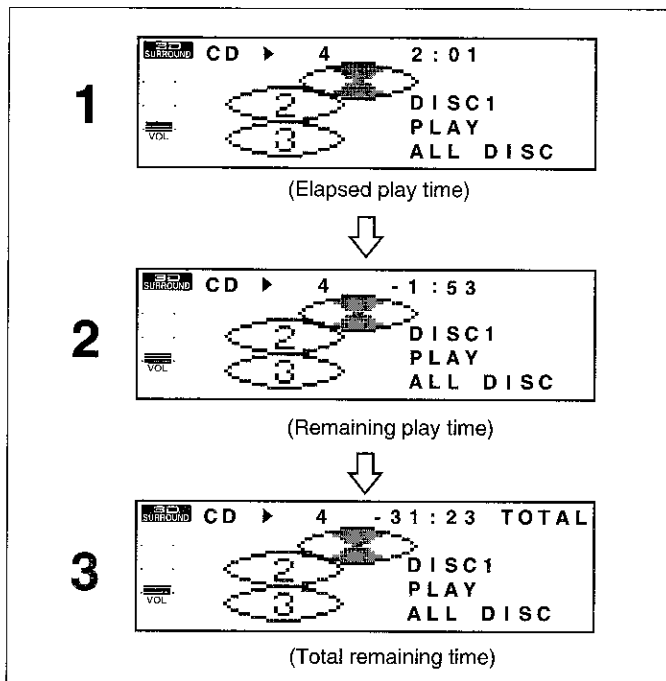
When you press the CD PLAY ►|| button ...

- All of the CDs in the unit will be played repeatedly or randomly. (Playback will continue until the unit is stopped.)

When you press the CD PLAY buttons (1 - 3) :

Only tracks from the selected CD will be played repeatedly or randomly.

- When all of the tracks have been played in random order, the unit will stop. (None of the tracks are played twice.)



Switching the time display

To check the elapsed play time and the remaining play time: Each time the TIME button is pressed on the remote control during playback or pause, the display will change as described below.

See the diagram to the left.

- 1 The elapsed play time for each track will be displayed.
- 2 The remaining play time for the current track will be displayed.
- 3 The total remaining play time for the disc from the point being played at that time will be displayed.

Notes:

- During random play, only the elapsed play time for each track will be displayed. The display cannot be switched.
- Depending on a CD or MD to be played, the play time display may not match the play time which is indicated on the CD or MD jacket, because the time between the tracks is not included.

To check the remaining amount of MD recording time and the recording date:

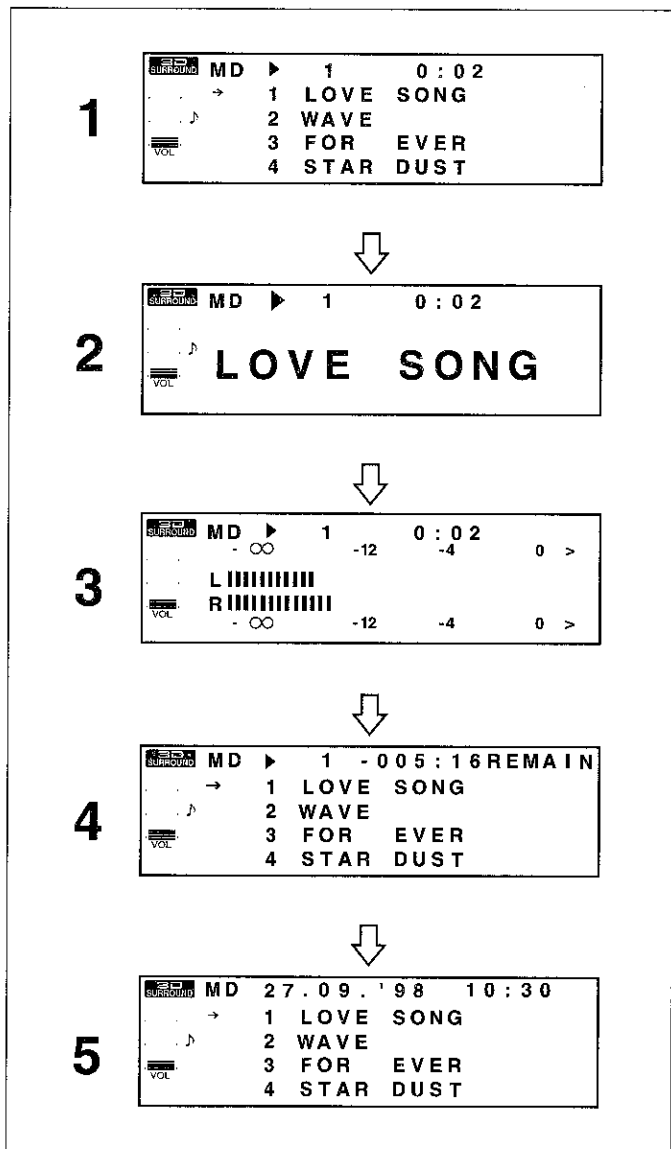
Each time the DISPLAY button is pressed during playback, the display will change as described below.

See the diagram to the left.

- 1 Track names are displayed using standard size characters.
- 2 One track name is displayed using extra large characters.
- 3 The level meter is displayed.
- 4 The remaining amount of recording time is displayed.
- 5 The recording date is displayed.

Notes:

- If an MD does not contain disc name or any track names, no names will be displayed.
- For playback-only MDs or MDs recorded with a unit which cannot record the recording date, the number of recorded tracks, the remaining recording time and the recording date will not be displayed.



BASIC INFORMATION ON MINIDISCS

■ Differences from tape recordings

You cannot record music on the reverse side of a MiniDisc.

MiniDiscs cannot be inserted when they are turned over. (Page 17)

You don't need to search for the starting point at which to record.

The unit automatically finds the point at which recording can start. Recording will start from that point.

You can check the total or remaining recordable time (possible recording) before recording.

This lets you plan a recording session so that the last song will not come to an abrupt end before it has finished. (Page 30)

The date and time of a recording are automatically saved with the recording.

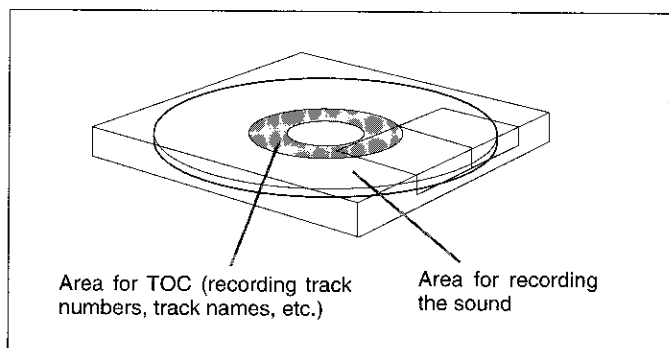
If you have set the date and time, they will be automatically recorded when a recording is made. (Page 10)

■ Information (TOC) to be recorded on an MD

The TOC (Table of Contents) is information on track numbers and recording areas to allow the unit to recognise musical selections or sounds.

The entire MD is controlled depending on this TOC, which enables the unit to find the beginning of a track quickly or to automatically record in a vacant area.

- The TOC is recorded in a specific area on a MiniDisc, which is not used for sound recording.



When you start recording or editing, "TOC" will appear in the display window.

This indicates that information in the TOC is now being changed according to recording or editing being performed. (The changed TOC is not yet recorded on the MiniDisc at this time.)

The TOC is recorded when

- you stop recording.
- you switch to another input source.
- you eject the MiniDisc.
- you turn the power off.

Do NOT unplug the power lead whilst the TOC is being recorded ("TOC" is flashing). Also, do not subject the unit to any shocks or sharp jolts. Otherwise, the TOC will not be correctly recorded, and consequently proper playback may not be possible.

■ Note about making digital copies

MiniDiscs are designed so that further copies cannot be made from digitally recorded MiniDisc tracks. This is a specification of the SCMS (Serial Copy Management System).

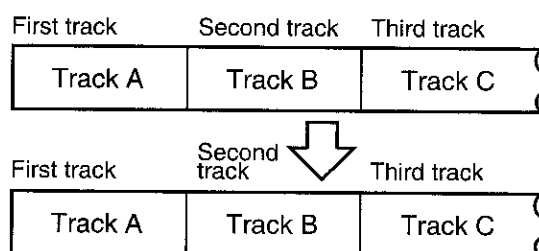
■ About track numbers

When you make a recording on a MiniDisc, track numbers are created automatically.

When recording from CDs inserted in this unit or making a digital recording from an external unit (CD or MD)

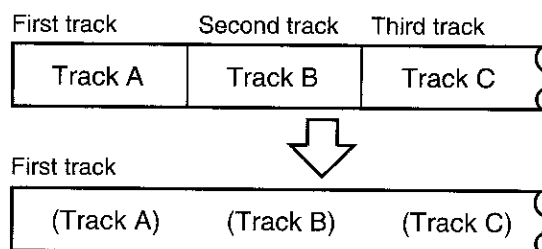
New track numbers will be created automatically according to the original tracks (Synchro mark function).

- When you record from a CD to a MiniDisc, the track numbers recorded on the MiniDisc may not match the track numbers on the CD.



When recording from this unit's radio

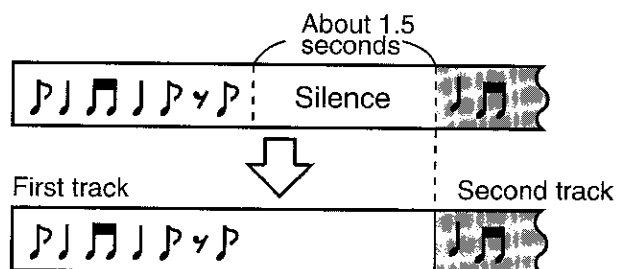
One continuous recording is regarded as a single track.



When recording from external analogue equipment

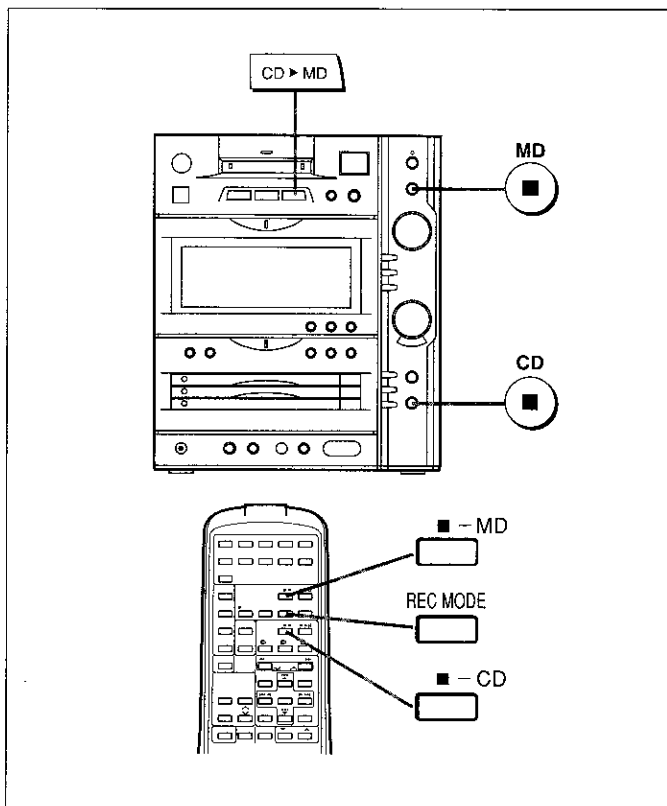
If there is 1.5 seconds or more of silence, the blank space is assumed to be the space between tracks, and a new track number is created automatically (Auto mark function).

- If the signal to be recorded contains some noise, the track numbers may not be properly created.
- You can also record musical selections as a single track without using the Auto mark function.



Note:

- When an external unit, such as a DAT, is connected and a recording is made, the Auto mark function will work properly.



■ Recording from a CD onto a MiniDisc (One-Touch Editing)

You can make a recording that starts from the first track on a CD with a simple, one-touch operation. If several CDs have been inserted in this unit, you can record all of them in succession.

- 1 Press the CD ■ button, and load compact discs.
- 2 Load a recordable MiniDisc.
- 3 Select the recording mode by pressing the REC MODE button.
- 4 Press the CD ► MD button.
 - Playback of the first track of the selected disc and recording begin.
 - When all of the discs have been recorded, recording will stop automatically.

Note:

- You can program a series of tracks and record them. (Page 28)

To cancel operation:

Before pressing the CD ► MD button, press the CD ■ or MD ■ button.

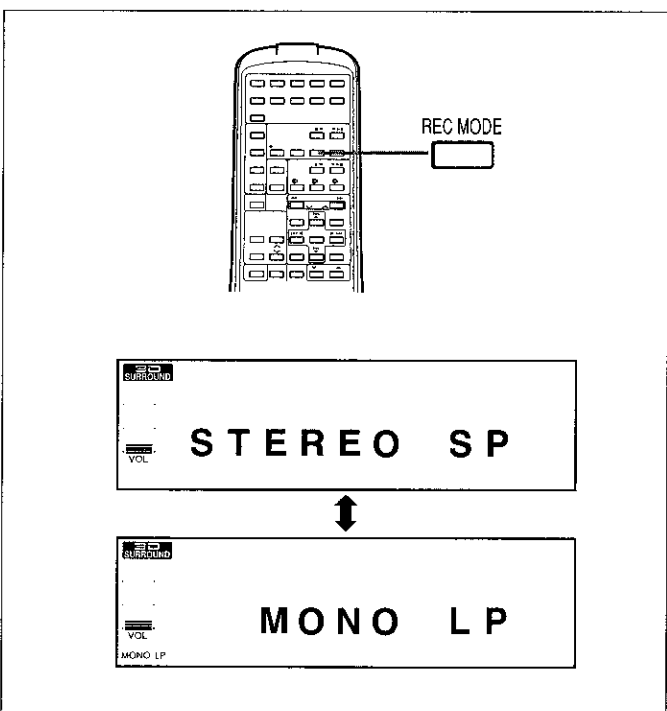
To stop recording:

Press the CD ■ button. After recording the track number, playback and recording will stop. It is not possible to pause recording.

If recording does not begin:

If an MD does not have enough space to record all of the tracks from a CD, "EDIT OVER" will appear and the unit will enter the recording stand-by mode. When the CD ► MD button is pressed, a recording will be made. However, some tracks may not be recorded.

Number of recordable tracks	Total time of recordable tracks
CD → MD EDIT EDIT TIME 16 73:13	TOTAL
EDIT OVER 18 58:11	TOTAL
Number of non-recordable tracks	Total time of non-recordable tracks

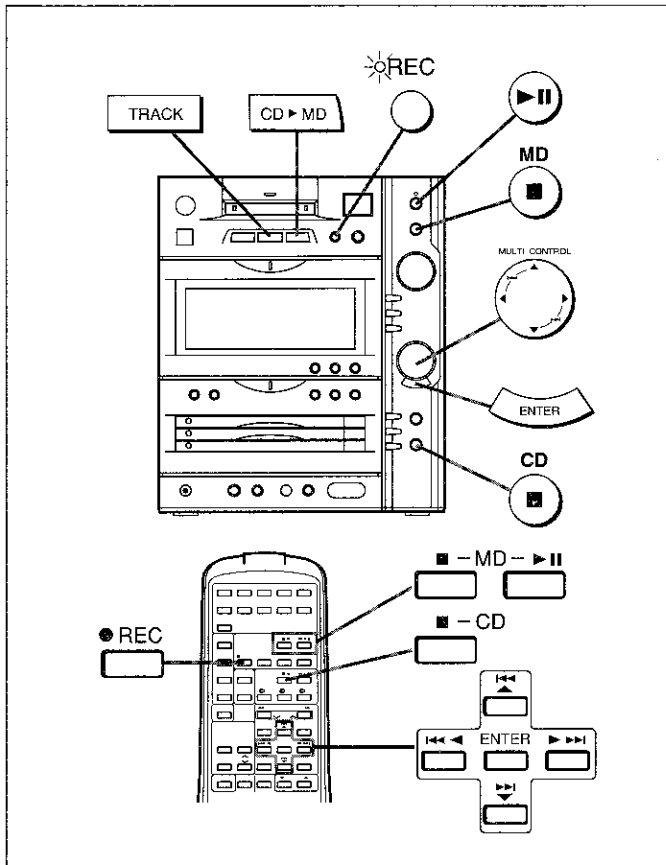


■ About monaural long-play mode

When a recording is made in the monaural long-play mode, the length of the recording can be double that of a stereo recording for the same amount of space on the MD. The monaural long-play mode is very useful for recording songs that were originally recorded in monaural, or for recording talk programmes.

Press the REC MODE button on the remote control.

- Each time the button is pressed, the display will switch between the stereo mode and the monaural long-play mode.
- This mode cannot be changed whilst recording.
- The level meter shows stereo indication even when the mode is the monaural long-play mode.
- The recording mode will not change back until you change it manually. After you have made a recording in the monaural long-play mode, it is recommended that you return the unit to the stereo mode so that you won't forget to do so later.



Recording desired tracks from a CD onto a MiniDisc (Track Editing)

You can record one track or a series of several tracks from a CD onto an MD.

You can select one track and record it. (If the track numbers are not in succession, you cannot select a series of tracks.)

- 1 Press the CD button, and load compact discs.
- 2 Load a recordable MiniDisc.
- 3 Press the or on the MULTI CONTROL button to select the track number you want to start recording from.
 - The selected track number will appear.
- 4 Press the TRACK button.
 - To record a single track, skip to step 6.
- 5 Select the last track to be recorded by pressing the TRACK button.
- 6 Press the CD ► MD button.
 - When all of the tracks have been recorded, recording will stop automatically.

If recording does not begin:

If an MD does not have enough space to record all of the tracks from a CD, "EDIT OVER" will appear and the unit will enter the recording stand-by mode. When the CD ► MD button is pressed, a recording will be made. However, some tracks may not be recorded.

To cancel operation:

Before pressing the CD ► MD button, press the CD or MD button.

To stop recording:

Press the CD button. After recording the track number, playback and recording will stop. It is not possible to pause recording.

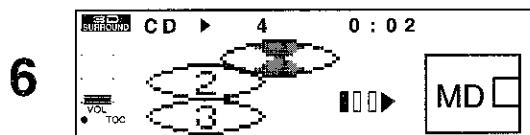
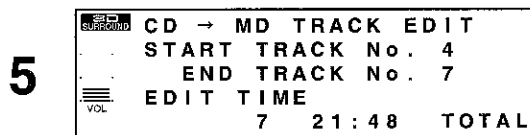
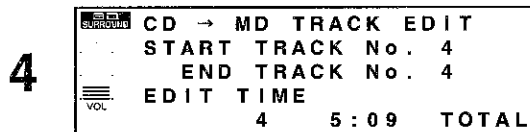
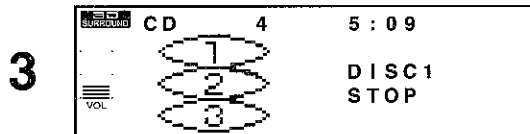
To rerecord:

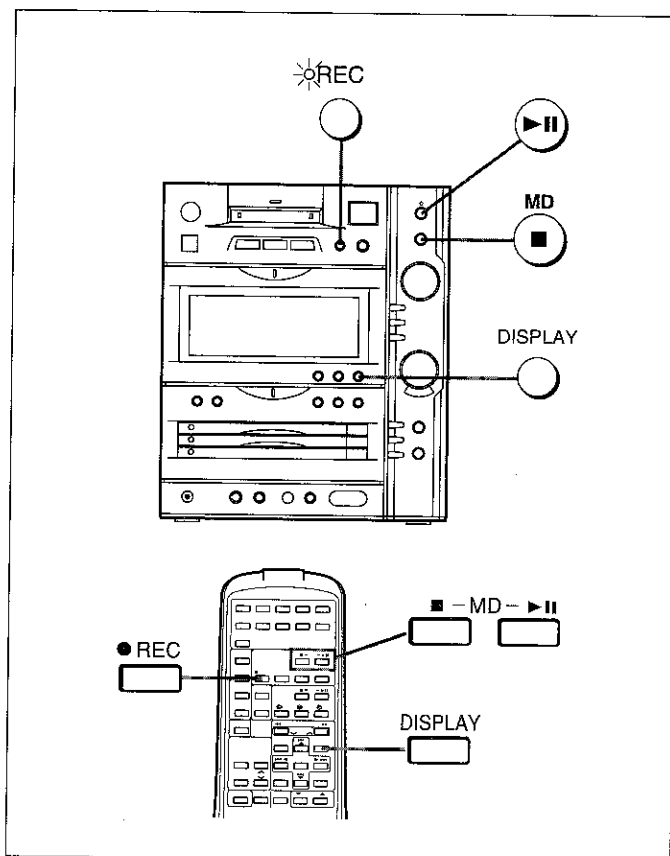
If you wish to rerecord, you can erase a track that is already recorded, starting from any point in the old track, to begin a new recording.

Be aware that when you do this, all of the tracks and track names that had been previously recorded, after the newly recorded track, will be erased.

- 1 During playback, press the MD button at the point where you wish to begin rerecording.
 - The unit will pause.
- 2 Press the button.
 - "RECORD & ERASE OK?" will appear.
- 3 Press the ENTER button.
 - The unit will enter the recording stand-by mode.
- 4 Select the recording source and start recording.

Track editing





■ Recording from the built-in radio onto a MiniDisc

- 1 Tune in the radio station to be recorded.
- 2 Load a recordable MiniDisc.
- 3 Press the REC ● button.
 - The unit will enter the recording stand-by mode.
 - Automatic tuning is impossible whilst in the recording stand-by mode.
- 4 Check the recordable time by pressing the DISPLAY button on the remote control.
- 5 Press the MD ► button.
 - During recording, you cannot change the station.

Note:

- When recording from the AM band, put the unit in the recording stand-by mode. Then, before recording, separate the AM loop aerial from the main unit, and adjust the radio reception so that the AM station is tuned in clearly.

To interrupt recording:

Press the MD ► button during recording.
Press the MD ► button again to resume recording.
The track number will increase.

To add a the track number during recording:

Press the ● REC button.

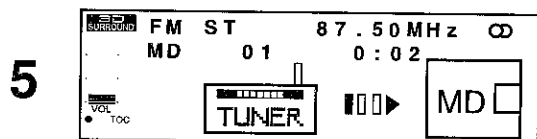
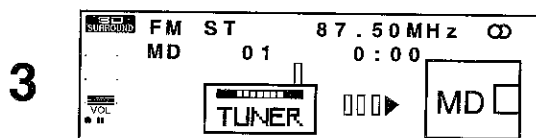
To stop recording:

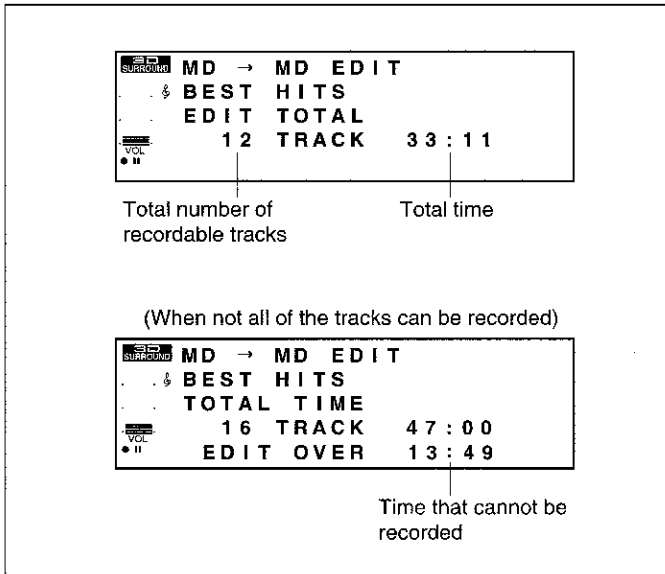
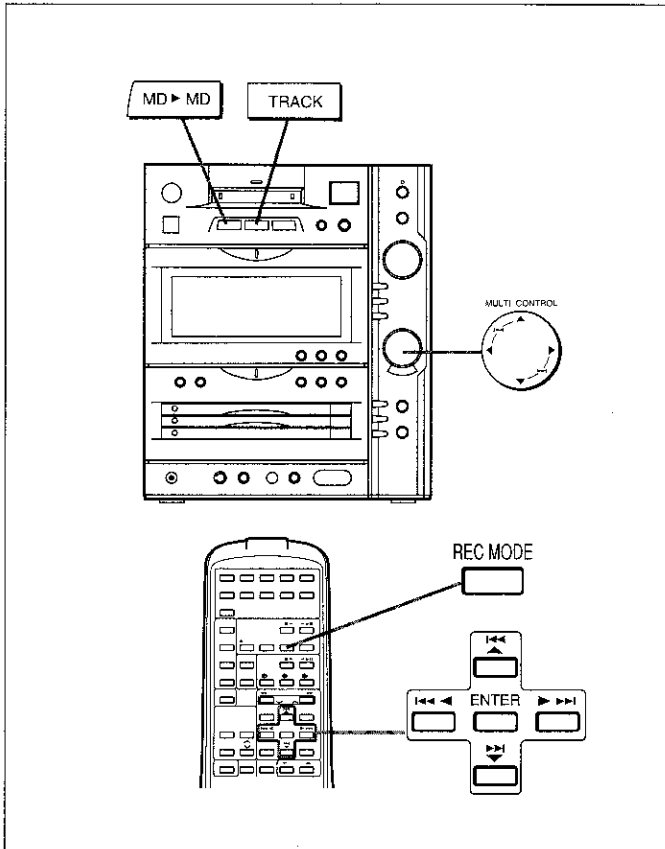
Press the MD ■ button.
After recording the track number, recording will stop.

Notes:

- A series of music tracks recorded in a single session will be recorded under 1 track number.
- If you use the monaural extended recording mode, you can make recordings that are about twice as long as stereo recordings. This is convenient for recording monaural broadcasts or talk programmes. (Page 32)

Recording from the built-in radio onto a MiniDisc





Recording from a portable MD player onto a MiniDisc (MD ► MD EDIT)

By connecting a portable MD player which has an MD ► MD EDIT function, you can easily record the sound and the character information all at the same time.

- 1 Connect the unit to a portable MD player. (Page 50).
- 2 Load a recordable MiniDisc in the main unit, and load the MiniDisc you want to record from into the portable MD player.
- 3 Check the record mode by pressing the REC MODE button on the remote control.
- 4 Check the number of recordable tracks and the amount of time by pressing the MD ► MD button on the main unit.
 - The disc name will be displayed along with the recordable number of tracks and time. Any extra time on the disc will also be displayed.
- 5 Press the MD ► MD button on the main unit.
 - If the MiniDisc to be recorded from has track names, "NAME READING" will flash and then the track names will be displayed and recorded.
 - If the playback MiniDisc has a disc name, "disc name" will be displayed and record. After all of the tracks are recorded, the unit will stop automatically.

To record from a track in the middle of an MD to the last track on the disc:

Select the track number to start recording from, after performing step 4. Then press the MD ► MD button on the main unit.

To record a particular track:

- 1 Select the track number to record from after performing step 4.
- 2 Press the TRACK button on the main unit.
- 3 Press the MD ► MD button on the main unit.

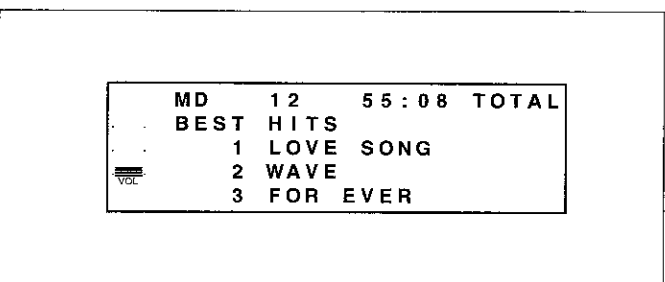
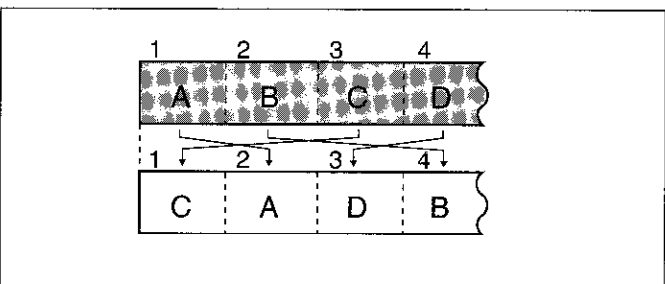
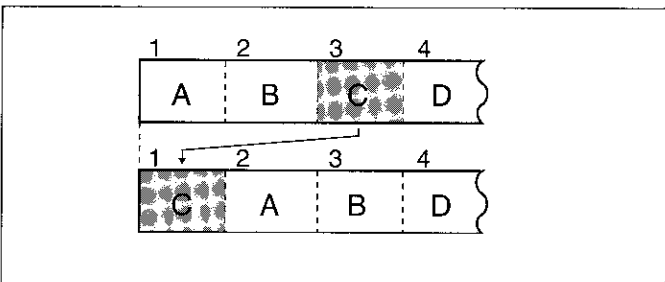
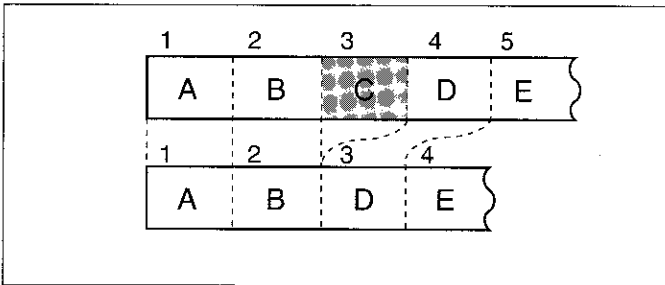
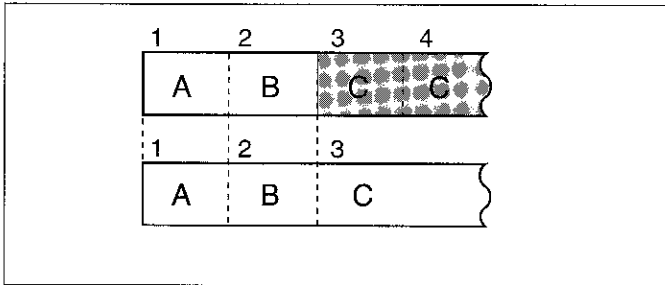
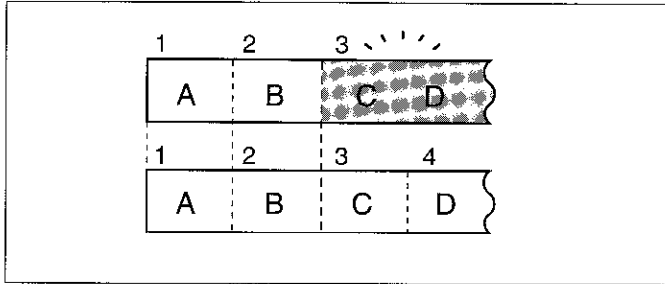
Notes:

Before using the MD ► MD button, the following precautions should be noted.

- By using the MD ► MD EDIT function, the analogue recording mode will be used.
- If the MiniDisc to be recorded on already has a disc name, the disc name cannot be recorded over. If you want to record a new the disc name, you must erase the existing disc name before entering a new disc name (page 42).
- When the playback-only MiniDisc is played, "Can't COPY NAME" will be displayed, and the sound will be recorded but the disc name and the track names will not be recorded.
- If a track is very short, it may be impossible to record all of the track names.
- Both the disc name and each of the track names, contain up to 100 characters each (including spaces).
- The volume, equalizer, and signal level will be adjusted automatically.
- It is better to use the AC adaptor for the portable MD player. The recording may be stopped if the batteries run down whilst recording.
- If you only want to record a particular track, or if you start recording from a track in the middle of the disc, the recordable time will not be displayed. If the recordable time on the target MiniDisc is insufficient, the recording will stop in the middle of a track.
- The shorter the track names are, the shorter the period of time that "NAME READING" will flash.
- If the MiniDisc has a scratch or is dirty, the disc name and the track names may not be recorded. In such a case, restart the recording again or add the disc and track names using the DISC NAME function and the TRACK NAME function, after you are through recording. (page 41)

EDITING

We will explain the 5 editing functions you can use to create your own recorded MiniDiscs.



Divide

A track can be divided into two tracks. If two selections were recorded as a single track because there was not enough silent space between the pieces, you can use the DIVIDE function to separate the selections.

This feature is also convenient for identifying specific points with one selection so that you can locate those points easily whenever you like.

(Page 38)

Combine

Two adjacent tracks (for example, the third and fourth tracks) can be combined.

If there is a prolonged silence in the middle of a selection that is recorded, a single piece of music may be recorded as two tracks. If this happens, these two tracks can be combined into a single track.

(Page 38)

Erase

Tracks you want to erase can be erased one at a time or all at once.

Once a track has been erased, it cannot be recovered.

Double-check the track number before erasing it.

(Page 40)

Move

The order of the recorded tracks can be changed. This feature is different from programme play. A new track order can be recorded directly on the disc. When the power is turned off, the revised order will not be changed.

(Page 39)

Programme move function

This function allows the track numbers to be automatically rearranged in the order specified for programmed playback. The track numbers will be adjusted as needed, automatically.

(The tracks that are not included in the programmed selections will be put at the end of the new track number sequence.)

(Page 39)

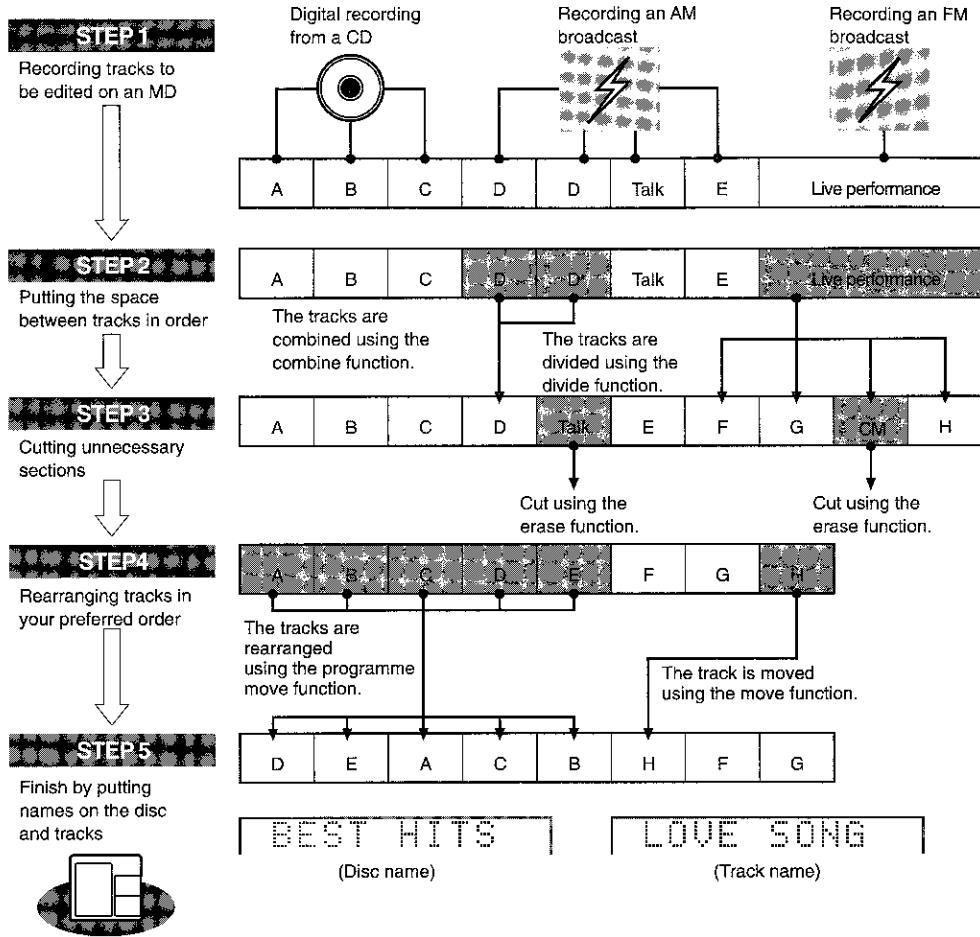
Track/Disc name

You can assign titles to recorded tracks and to discs. The characters can be capital, lowercase letters, or symbols. Track and disc names can use up to 100 characters per name.

(Page 41)

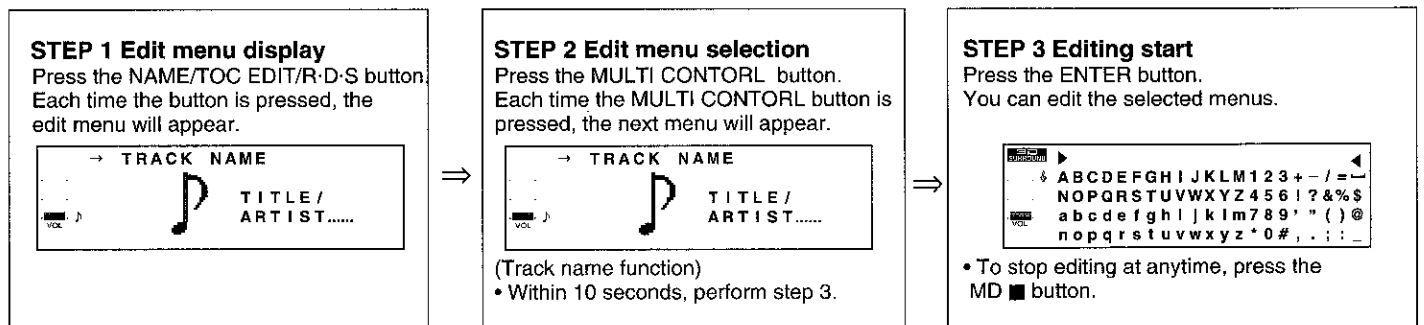
Using the editing function

We will show you some examples of how to use the editing functions. You can create a disc of your favourite selections by recording tracks from a variety of input sources such as CDs and radio broadcasts.

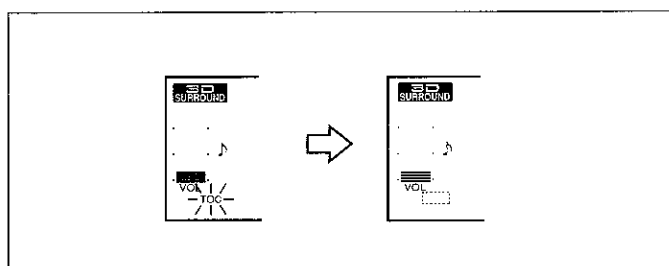


Edit Menu

The editing functions are selected from the edit menu. The functions which can be selected from the edit menu will vary, depending on the state which an editing operation is started.



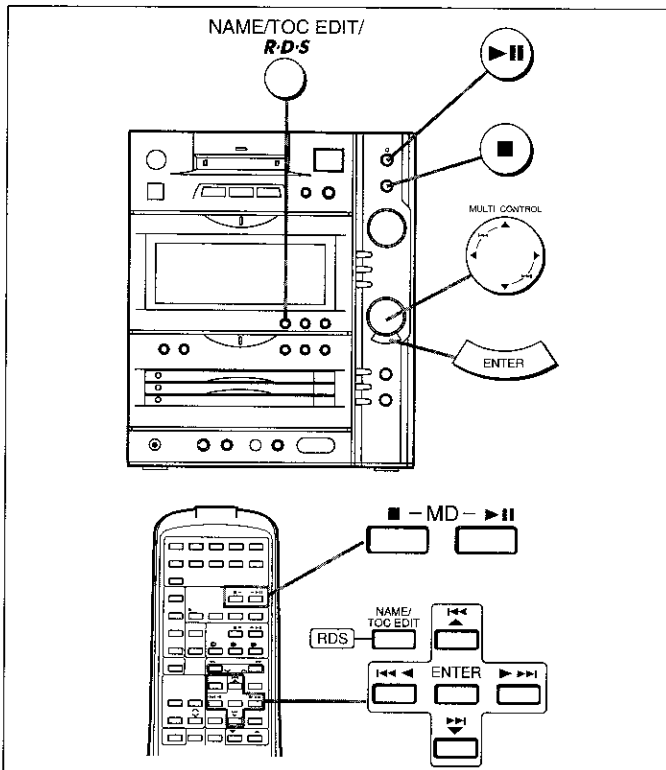
Recording the editing results



Whilst editing, the "TOC" indicator is displayed. This means the edit results have not been recorded on the MiniDisc. To record the results, select another input or turn the power off. During writing, the "TOC" display will flash. Once "TOC" goes out, all editing has been recorded on the disc.

Note:

- Storing the edited contents on the disc can be done after several pieces of editing have been finished.



■ Divide

- 1 Play the track which you wish to divide into two and press the **▶||** button at the point where you wish to divide the track.
 - The unit will enter the pause mode.
- 2 Press the **NAME/TOC EDIT/R-D-S** button, and then select "DIVIDE" using the **MULTI CONTROL** button.
- 3 Within 10 seconds, press the **ENTER** button.
 - To cancel the operation, press the **MD ■** button.
- 4 Press the **ENTER** button again.
 - The tracks are divided, and the unit is stopped at the beginning of the second of the two tracks.
 - The numbers of the tracks which come after the divided track are automatically increased by one.
 - When a track which has been given a name is divided, the two new tracks will have the same name and date. If the "TOC FULL" message is displayed, the second track may not be given a name.

Notes:

- This unit can hold up to 255 tracks. However, even if the number of tracks assigned has not reached 255, it might not be possible to make any further divisions of tracks. (Page 58)
- This function cannot be used whilst in the programme ("PRGM" is lit: Page 28) or the random play modes ("RANDOM" is lit: Page 29). First, cancel the programme or random play modes before trying to use this function.

■ Combine

- 1 Whilst in the stop mode, select the second of the two tracks you wish to combine using the **MULTI CONTROL** button.

Or start playing the second of the two tracks you wish to combine, and then press the **MD ▶||** button.

 - The unit will enter the pause mode.
- 2 Press the **NAME/TOC EDIT/R-D-S** button, and then select "COMBINE" using the **MULTI CONTROL** button.
- 3 Within 10 seconds, press the **ENTER** button.
 - To cancel the operation, press the **MD ■** button.
- 4 Press the **ENTER** button again.
 - The two tracks are combined, and the unit is stopped at the beginning of the combined track.
 - The numbers assigned to the tracks following the combined track are automatically decreased by one.

When both tracks have a name:

- When only the first track has a name → That name will be used.
- When only the second of the two tracks has a name → That name will be used.
- When both tracks have a name → The name of the first track will be used.

To combine two noncontiguous tracks:

(Example: the first and third tracks)
 Move the third track to the second track using the **MOVE** function. (Page 39)
 Then, combine the first and second tracks using the **COMBINE** function.

Notes:

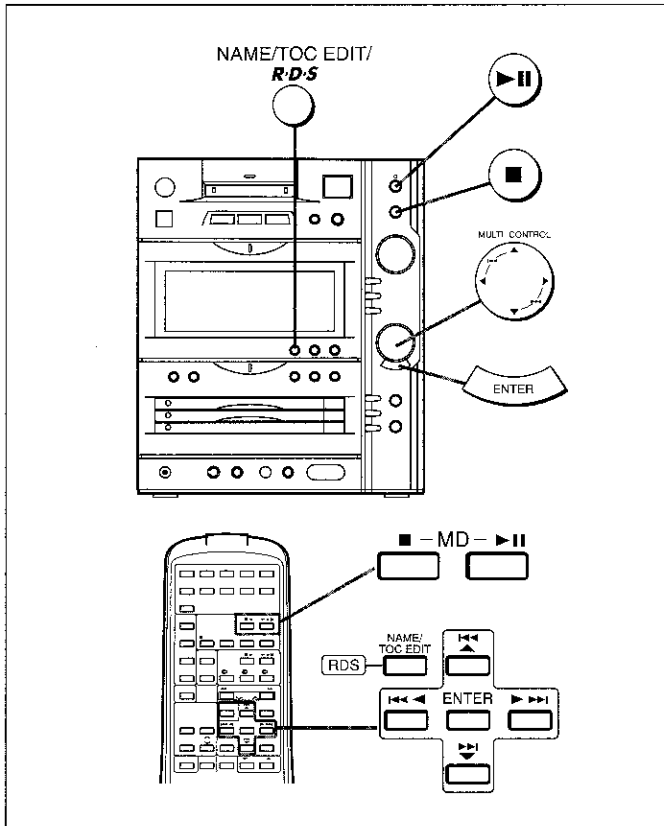
- Tracks recorded from analogue inputs cannot be combined with tracks recorded from CDs or MDs using the digital inputs.
- Tracks recorded in the stereo mode cannot be combined with tracks recorded in the monaural long-play mode.
- Tracks where either track's recording time is less than 15 seconds may not be combined.

Divide

- 1 (To divide the fourth track into two)
- 2
- 3 **ENTER**
- 4

Combine

- 1 (To combine the fourth and fifth tracks)
- 2
- 3 **ENTER**
- 4



Move

- 1 Whilst in the stop mode, select the track you wish to move using the MULTI CONTROL button.
Or start playing the track to be moved, and then press the MD button.
- 2 The unit will enter the pause mode.
- 3 Press the NAME/TOC EDIT/R-D-S button, and then select "MOVE" using the MULTI CONTROL button.
- 4 Within 10 seconds, press the ENTER button.
Select the direction to move the track using the MULTI CONTROL button.
 - To increase the track number ... ▲
 - To decrease the track number ... ▼
 - To cancel the operation, press the MD button.
- 5 Press the ENTER button again.
 - The track is moved, and the unit is stopped at the beginning of the track.

Note:

- When a track has been moved, the other tracks which are affected will be assigned new track numbers automatically.

Example: When moving the fifth track to the third track, the old track will become the new fourth track, and the old fourth track will become the new fifth track.

- This function cannot be used whilst in the programme ("PRGM" is lit) or the random play modes ("RANDOM" is lit). First, cancel the programme or random play modes before trying to use this function.

Move

- 1 (To move the eighth track)
- 2
- 3 **ENTER**
- 4 **ENTER**
(To move it to the fifth track position)
- 5

Programmed move

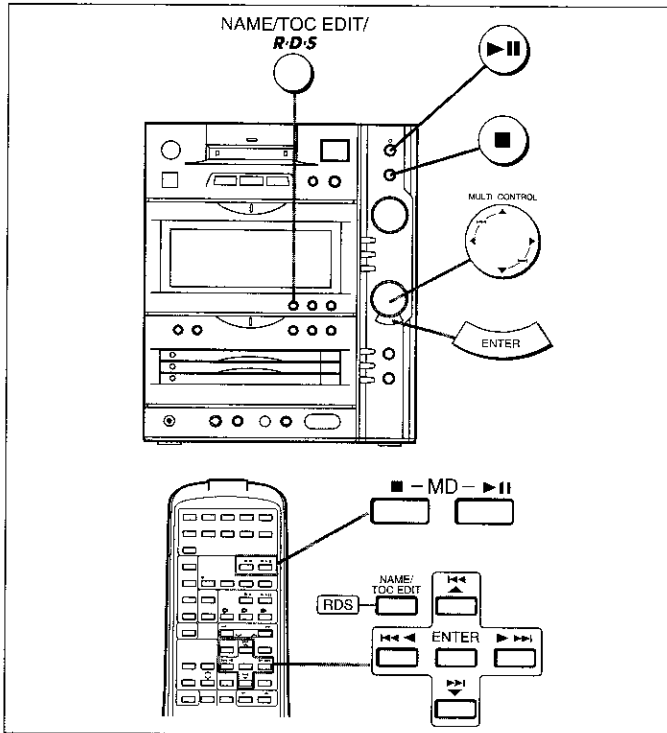
- 2
- 3 **ENTER**
- 4

Programmed move

- 1 Select the tracks you want to move and enter them into a programme. (Page 28)
- 2 Make sure that the "PRGM" indicator is lit, and then press the NAME/TOC EDIT/R-D-S button.
- 3 Within 10 seconds, press the ENTER button.
 - To cancel the operation, press the MD button.
- 4 Press the ENTER button again.
 - The tracks will be moved, and the programmed move mode will end.

Notes:

- The track numbers that are not included in the programmed selections will be put at the end of the new track number sequence.
- When the same track has been entered into the programme twice or more, the last programmed position will have priority.



■ Erase

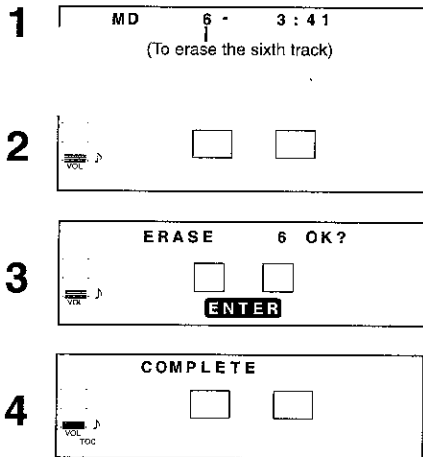
To erase tracks one at a time:

- 1 Whilst in the stop mode, select the track to be erased using the MULTI CONTROL button.
Or start playing the track you wish to erase, and press the MD ►|| button.
- The unit will enter the pause mode.
- 2 Press the NAME/TOC EDIT/R·D·S button, and then select "ERASE" using the MULTI CONTROL button.
- 3 Within 10 seconds, press the ENTER button.
- To cancel the operation, press the MD ■ button.
- 4 Press the ENTER button again.
- The track is erased, and the unit is stopped at the beginning of the previous track.

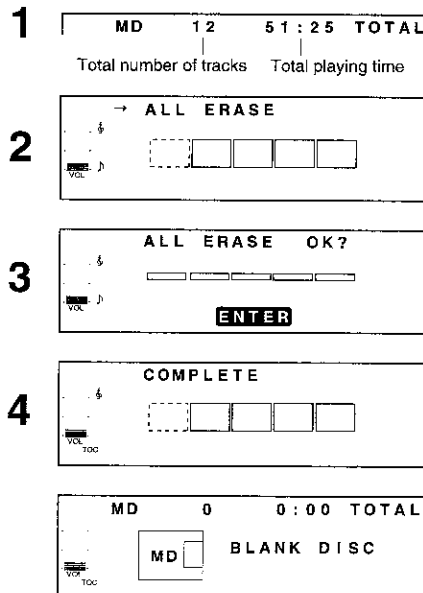
Notes:

- Once a track has been erased, it cannot be recovered. Double-check the track number before erasing it.
- When a track is erased, the numbers assigned to the tracks following the erased track will be automatically decreased by one.
- When a track is erased, the track name will be erased at the same time.

To erase tracks one at a time



To erase all of the tracks at once

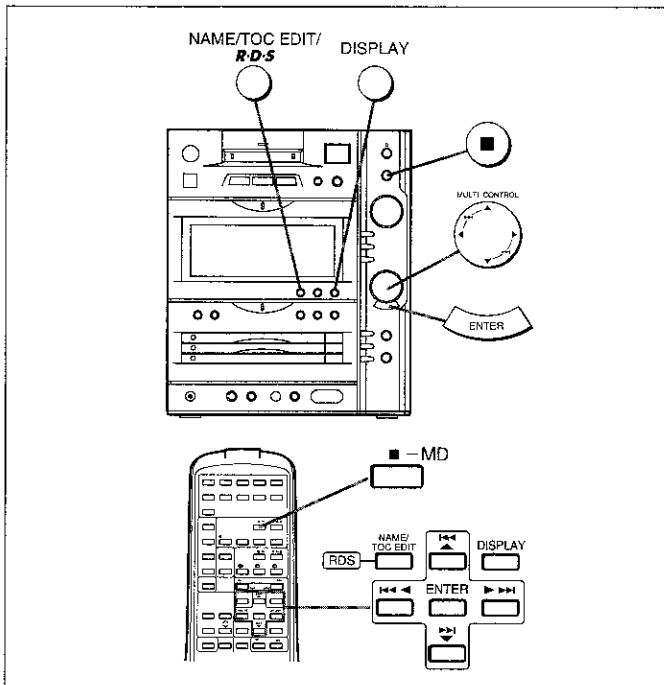


To erase all of the tracks at once:

- 1 Press the MD ■ button.
- The total number of tracks and the total playing time for the MD will be displayed.
- 2 Press the NAME/TOC EDIT/R·D·S button, and then select "ALL ERASE" using the MULTI CONTROL button.
- 3 Within 10 seconds, press the ENTER button.
- To cancel the operation, press the MD ■ button.
- 4 Press the ENTER button again.
- All of the track numbers and track names will be erased.

Note:

- This function cannot be used whilst in the programme ("PRGM" is lit) or the random play modes ("RANDOM" is lit). First, cancel the programme or random play modes before trying to use this function.



Track/disc name

Up to 255 tracks can be named on each disc, and each disc can be given a disc name.

- Up to 100 characters (including spaces) can be entered for each name. If more than 100 characters are entered, "NAME FULL" will appear.
- A total of approximately 1700 characters can be used for all of the disc and track names. If more than 1700 characters are entered, "TOC FULL" will appear.

To create a disc name

Create a name for the whole disc. The disc name is displayed when an MD is inserted.

- 1 Press the MD button.
 - The total number of tracks and the total playing time for the MD will appear.
 - 2 Press the NAME/TOC EDIT/R-D-S button, and then select "DISC NAME" using the MULTI CONTROL button.
 - To enter a disc name using extra large characters
Within 10 seconds, press the DISPLAY button to make the extra large character display appear.
 - 3 Within 10 seconds, press the ENTER button.
 - The unit will enter the character input mode.
 - 4 Enter the characters in the name.
 - For details about entering characters and how to make corrections, see pages 13 - 15.
 - 5 After entering all of the characters in the name, press the NAME/TOC EDIT/R-D-S button.
 - The disc name will be recorded.
- Note:**
- This function cannot be used whilst in the programme ("PRGM" is lit) or the random play modes ("RANDOM" is lit). First, cancel the programme or random play modes before trying to use this function.

To create a disc name

1

MD	12	51:25	TOTAL
Total number of tracks		Total playing time	

2

→ DISC NAME

TITLE / ARTIST

3

ABCDEFGHIJKL123+/-/=
 NOPQRSTUVWXYZ456! ?&%\$
 abcdefghijklm789' " () @
 nopqrstuvwxyz*0# , . ; : -

4

ABCDEFGHIJKL123+/-/=
 NOPQRSTUVWXYZ456! ?&%\$
 abcdefghijklm789' " () @
 nopqrstuvwxyz*0# , . ; : -

MD	12	51:25	TOTAL
→ BEST HITS			
1	NO NAME		
2	NO NAME		
3	NO NAME		

To create a track name

1

→ TRACK NAME

TITLE / ARTIST

2

ABCDEFGHIJKL123+/-/=
 NOPQRSTUVWXYZ456! ?&%\$
 abcdefghijklm789' " () @
 nopqrstuvwxyz*0# , . ; : -

3

ABCDEFGHIJKL123+/-/=
 NOPQRSTUVWXYZ456! ?&%\$
 abcdefghijklm789' " () @
 nopqrstuvwxyz*0# , . ; : -

4

MD	1	1:38	
→ 1 LOVE SONG			
2	NO NAME		
3	NO NAME		
4	NO NAME		

To create a track name

Name each track. The track's name will be displayed whenever you select it and during playback.

- 1 During playback, press the NAME/TOC EDIT/R-D-S button.
 - "TRACK NAME" will appear.
 - To enter a track name using extra large characters
Within 10 seconds, press the DISPLAY button to make the extra large character display appear.
- 2 Within 10 seconds, press the ENTER button.
 - The unit will enter the character input mode.
 - The track you are listening to will be played repeatedly.
- 3 Enter the characters in the name.
 - For details about entering characters and how to make corrections, see pages 13 - 15.
- 4 After entering all of the characters in the name, press the NAME/TOC EDIT/R-D-S button.
 - The track name will be recorded.
 - The unit will return to normal playback.

Notes:

- This function cannot be used whilst in the programme ("PRGM" is lit) or the random play modes ("RANDOM" is lit). First, cancel the programme or random play modes before trying to use this function.
- The track name function can be used whilst in the stop mode (when selecting a track) , in the pause mode, or in the recording mode. (Select "TRACK NAME" from the edit menu.)
- If you create a track name whilst recording the track, make sure you finish entering the name before you finish recording the track. If the end of the recording is reached before you have entered the complete name, only the characters entered before the recording ended will be recorded.

■ **To erase disc names or track names**

1 Disc name:

Perform steps 1-3 of "To create a disc name", on page 41.

Track name:

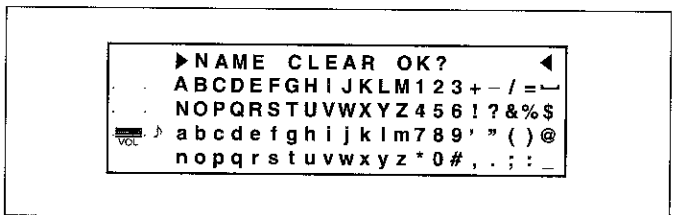
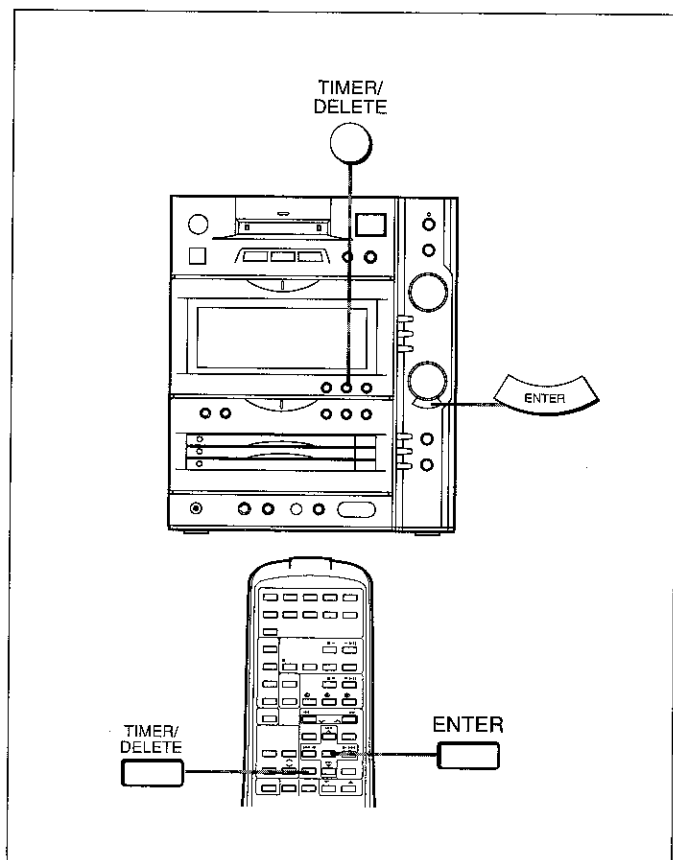
Perform steps 1-2 of "To create a track name", on page 41.

2 Press the TIMER/DELETE button for at least 2 seconds.

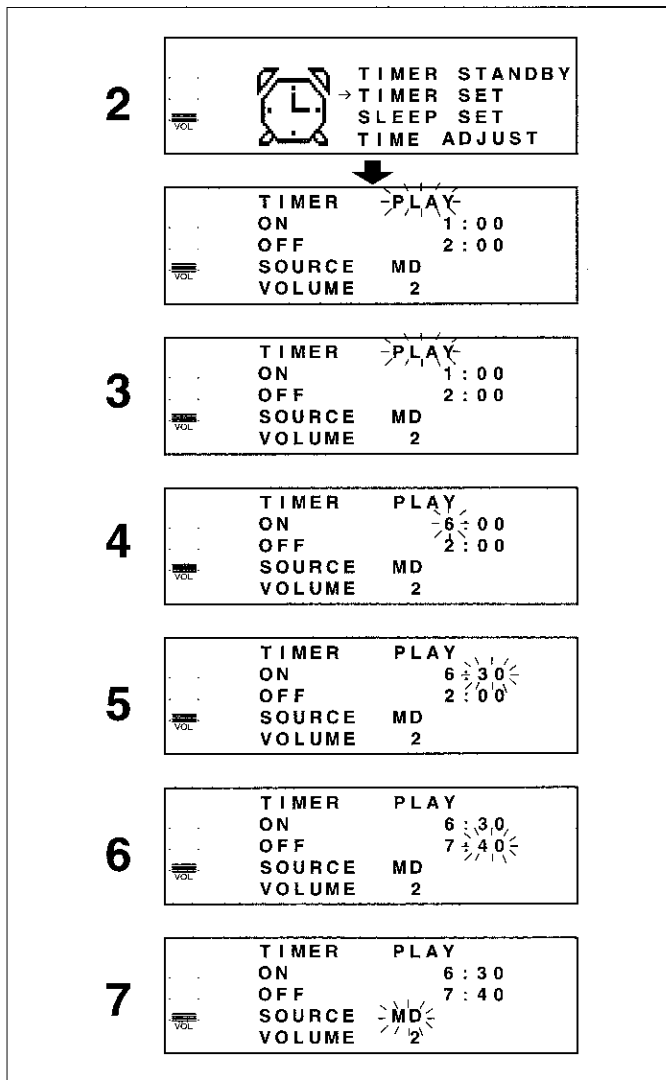
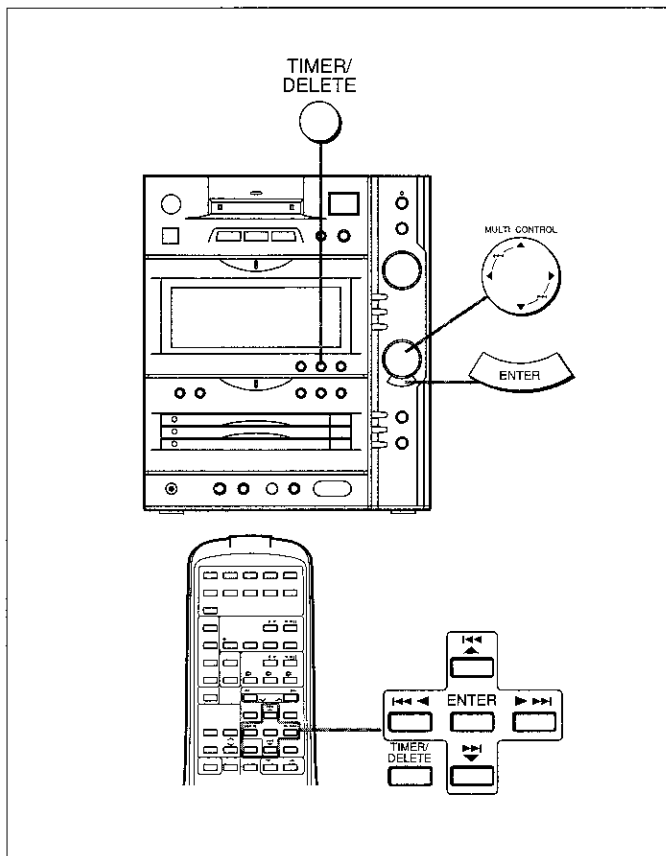
- The "NAME CLEAR OK?/DISC CLEAR OK?" display will appear.

3 Press the ENTER button.

- The disc or track name will be erased.



HOW TO USE THE BUILT-IN TIMER



What the timer can do

The timer in this product can do the following:

- To use the timer, be sure to adjust the clock. (page 10)

Timer playback:

Music (CDs, MDs, radio, sound from an external unit) can be played automatically at a preset time. The playback ending time can also be set.

Timer recording:

You can record the sound from a radio or an external unit on an MD whilst you are out or when you are asleep.

Sleep operation:

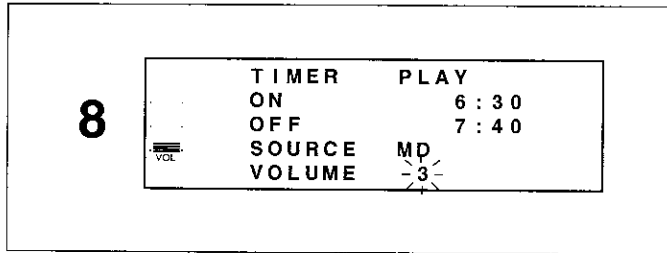
When the preset amount of time has elapsed, the music will stop automatically, and the power will be turned off. This is convenient for going to sleep.

To set up the timer for playback

Before starting timer playback, the following preparations are required.

- Load a CD or an MD.
- Select the CD to be played.
- Preset the radio station.

- Whilst in the stop mode, press the TIMER/DELETE button.
 - Within 10 seconds, press the ▲ or ▼ on the MULTI CONTROL button to select "TIMER SET". Then, press the ENTER button.
 - Within 10 seconds, press the ◀ or ▶ on the MULTI CONTROL button to select "PLAY".
 - Each time the button is pressed, the display will alternate between "PLAY" and "REC".
 - Within 10 seconds, press the ▼ on the MULTI CONTROL button to select the position where the start time hour ("ON") flashes. Then, press the ▲ or ▼ on the MULTI CONTROL button to adjust the hour.
 - When the button is held down, the time will change in increments of 5 minutes.
 - Press the ▼ on the MULTI CONTROL button to select the position where the start time minutes flash. Then, press the ◀ or ▶ on the MULTI CONTROL button to adjust the minutes.
 - Adjust the hour and minute for the stop time ("OFF") using the same procedure as described in steps 4 - 5 above.
 - Press the ▲ or ▼ on the MULTI CONTROL button to select the position where the sound source flashes. Then, press the ◀ or ▶ on the MULTI CONTROL button to select the sound source you want to listen to.
 - Each time the button is pressed, the source will change as follows: MD → CD → TUNER → AUX1 → AUX2 → AUX OPT → AUX COAX
 - When no radio stations have been stored in memory, "TUNER" will not appear.
- When "TUNER" has been selected**
- "P-01" will appear to the right of "TUNER". After pressing the ▼ on the MULTI CONTROL button (the flashing area moves), press the ◀ or ▶ on the MULTI CONTROL button to select the location number of the radio station you want to listen to.



8 Press the ▼ on the MULTI CONTROL button to select the VOLUME position on the LCD.

The current volume level (0 - 10) will flash. Then, press the ◀ or ▶ on the MULTI CONTROL button to adjust the volume level (0 - 10) as required.

● When the preset time is reached, the volume will increase gradually to the preset volume level.

9 After making all required settings, press the ENTER button.

● The timer playback settings are now complete. These settings will be stored in memory until changed.

To enter the "TIMER STAND-BY" mode, see "Performing timer playback" below.

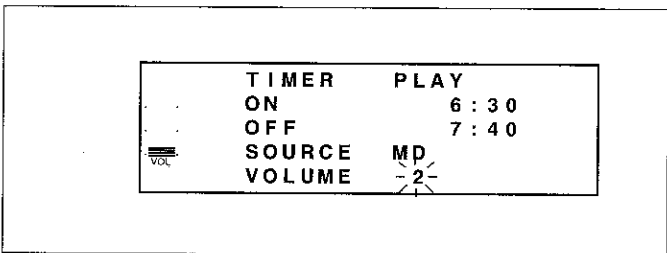
Stopping timer playback in the middle:

Press any button other than the MULTI CONTROL button or the ENTER button.

To change a setting:

1 Turn the power on, and perform steps 1 - 2 on page 43. Then, select the item you want to change, and set its value as required.

2 After completing the changes, press the ENTER button.



■ Performing timer playback

1 After all timer playback settings have been stored, press the TIMER/DELETE button.

2 Press the ▲ or ▼ on the MULTI CONTROL button to select "TIMER STANDBY".

● If a time has not been set, this will not appear on the display. Set the time.

3 Then, within 10 seconds, press the ENTER button.

● The unit will enter the timer playback stand-by mode.
(The power will be turned off.)

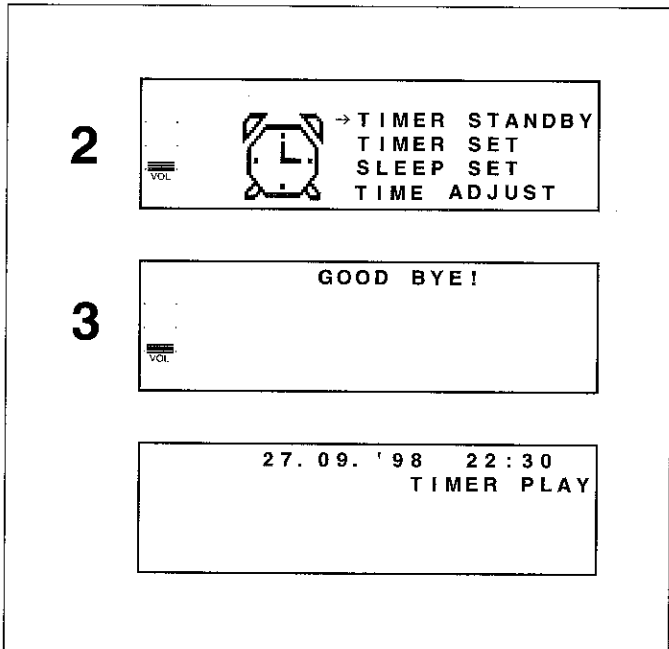
Notes

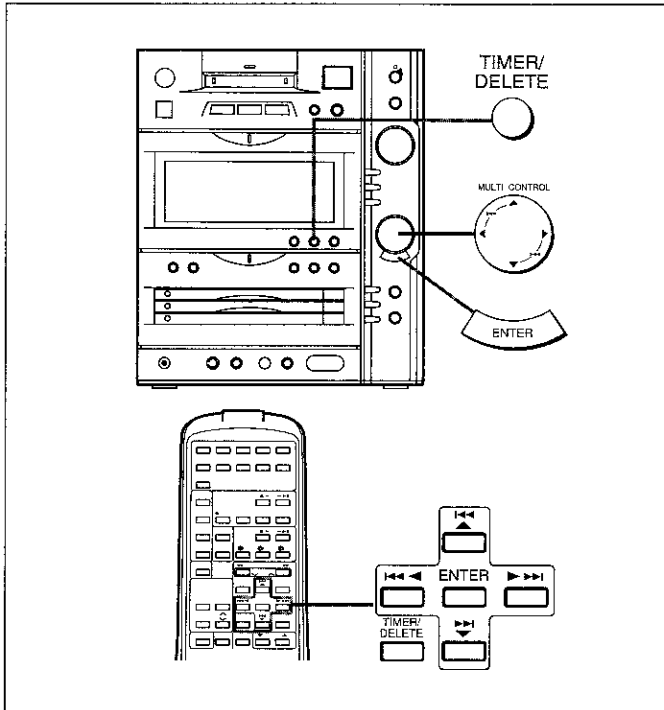
● When the CD or MD is played to the end, playback will stop before the stop time.

If you wish to play to the stop time, set repeat play for the CD or MD.

● The timer playback and timer recording with this unit cannot be used to control equipment connected to this unit. You must use the timer of the other equipment, if it has one.

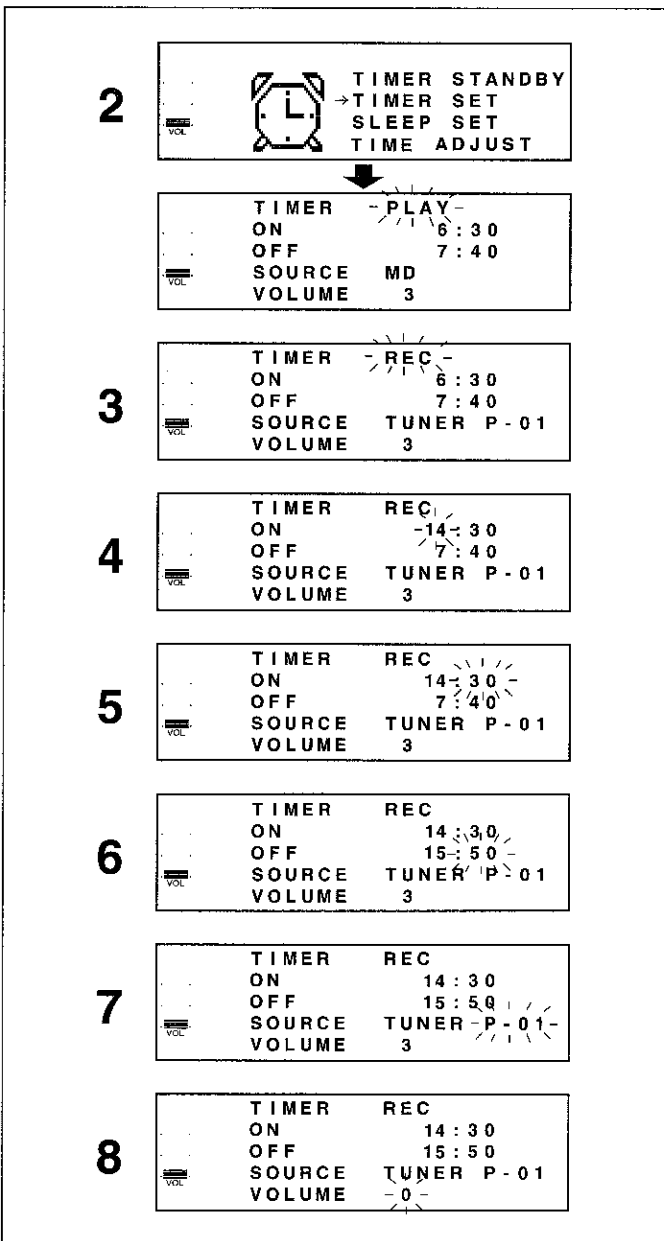
● The timer playback and timer recording functions cannot be used at the same time.





To set up the timer for recording

- 1 Whilst in the stop mode, press the **TIMER/DELETE** button.
 - 2 Within 10 seconds, press the **▲** or **▼** on the **MULTI CONTROL** button to select "TIMER SET". Then, press the **ENTER** button.
 - 3 Within 10 seconds, press the **◀** or **▶** on the **MULTI CONTROL** button to select "REC".
 - Each time the button is pressed, the display will alternate between "PLAY" and "REC".
 - If a radio station has been stored in memory when "REC" is selected, "TUNER P-01" will appear automatically as the SOURCE setting.
 - 4 Within 10 seconds, press the **▼** on the **MULTI CONTROL** button to select the position where the start time hour ("ON") flashes. Then, press the **▲** or **▼** on the **MULTI CONTROL** button to adjust the hour.
 - 5 Press the **▼** on the **MULTI CONTROL** button to select the position where the start time minutes flash. Then, press the **◀** or **▶** on the **MULTI CONTROL** button to adjust the minutes.
 - When the button is held down, the time will change in increments of 5 minutes.
 - 6 Adjust the hour and minute for the stop time ("OFF") using the same procedure as described in steps 4 - 5 above.
 - 7 Press the **▲** or **▼** on the **MULTI CONTROL** button to select the position where the sound source flashes. Then, press the **◀** or **▶** on the **MULTI CONTROL** button to select the sound source you want to record from.
 - If no radio stations have been stored in memory, "TUNER" will not appear.
- When "TUNER" has been selected:**
- "P-01" will appear to the right of "TUNER". After pressing the **▼** on the **MULTI CONTROL** button (the flashing area moves), press the **◀** or **▶** on the **MULTI CONTROL** button to select the location number of the radio station you want to record from.
- 8 Press the **▼** on the **MULTI CONTROL** button to select the **VOLUME** position on the LCD. The current volume level (0 - 10) will flash. Then, press the **◀** or **▶** on the **MULTI CONTROL** button to adjust the volume level (0 - 10) as required.
 - When the preset time is reached, the volume will increase gradually up to the preset volume level.
- 9 After making all required settings, press the **ENTER** button.
- The timer recording settings are now complete. These settings will be stored in memory until changed. To enter the "TIMER STAND-BY" mode, see "Performing timer recording" on page 46.




Stopping timer recording in the middle:

Press any button other than the **MULTI CONTROL** button or the **ENTER** button.

TIMER	REC
ON	14:30
OFF	15:30
SOURCE	TUNER P-01
VOLUME	0

Performing timer recording

2

	→TIMER STANDBY
	TIMER SET
	SLEEP SET
	TIME ADJUST


3

GOOD BYE!	
-----------	--

27.09.'98	22:30
TIMER REC	

To check the timer setting

2

	→TIMER CANCEL
	TIMER CALL
	SLEEP SET
	TIME ADJUST

3

TIMER	PLAY
ON	6:30
OFF	7:40
SOURCE	MD
VOLUME	0

To cancel the timer operation

2

	→TIMER CANCEL
	TIMER CALL
	SLEEP SET
	TIME ADJUST

3

27.09.'98	22:35
-----------	-------

To change a setting:

- 1 Turn the power on, and perform steps 1 - 2 on page 45. Then, select the item you want to change, and set its value as required.
- 2 After completing the changes, press the ENTER button.

■ Performing timer recording

- 1 After timer recording settings have been stored, press the TIMER/DELETE button.
- 2 Press the ▲ or ▼ on the MULTI CONTROL button to select "TIMER STANDBY".
 - If a time has not been set, this will not appear on the display. Set the time.
- 3 Then, within 10 seconds, press the ENTER button.
 - The unit will enter the timer recording stand-by mode. (The power will be turned off.)

Note:

In the following cases, the timer recording function will not work

- When a MiniDisc has not been inserted
- When a playback-only MiniDisc is inserted
- When the MiniDisc you inserted is protected against accidental erasure
- When there is no recording space left on the MiniDisc you have inserted (when the "TOC FULL" or "DISC FULL" messages appear)

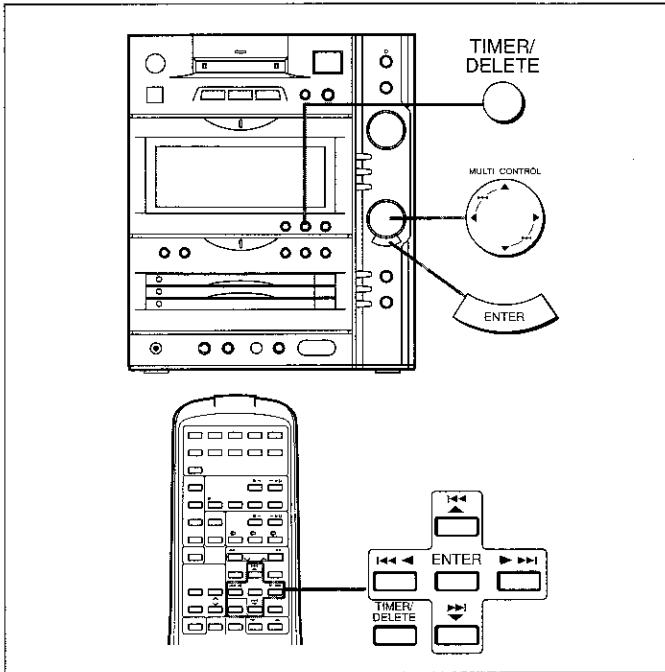
To check the timer setting:

- 1 Whilst in the timer standby mode, press the TIMER/DELETE button.
- 2 Press the ▲ or ▼ on the MULTI CONTROL button to select "TIMER CALL".
- 3 Within 10 seconds, press the ENTER button.
 - The timer settings will appear in order. Then, after 5 seconds, the original display will reappear.

To cancel the timer operation:

If the power is turned on, the timer will be cancelled. The timer operation can also be cancelled as follows.

- 1 Whilst in the timer standby mode, press the TIMER/DELETE button.
- 2 Press the ▲ or ▼ on the MULTI CONTROL button to select "TIMER CANCEL".
- 3 Within 10 seconds, press the ENTER button.
 - The timer operation will be cancelled. ("TIMER" or "TIMER PLAY" will disappear.) The start and stop times will be stored.



■ Sleep operation

The radio, compact disc and MiniDisc can all be turned off automatically.

- 1 Play the desired sound source.
- 2 Press the TIMER/DELETE button.
- 3 Press the ▲ or ▼ on the MULTI CONTROL button to select "SLEEP SET".
- 4 Within 10 seconds, press the ENTER button.
 - The time last stored in memory will appear.
 - If you wish to use the displayed time, press the ENTER button. The unit will be turned off automatically after the preset sleep time has elapsed.
- 5 Within 10 seconds, set the sleep time using the MULTI CONTROL button.
 - The setting time is changed in 5-minute increments between 2 hours and 5 minutes, or 1 minute increments between 5 minutes and 1 minute.
- 6 Press the ENTER button.

Notes:

- Once the sleep time is set, it will remain the same until the setting is changed.
- This sleep functions of this unit cannot be used to control equipment connected to this unit. You must use the sleep functions of the other equipment, if it has them.

To confirm or change the sleep timer setting:

- 1 Whilst in the sleep mode, press the TIMER/DELETE button.
- 2 Press the ▲ or ▼ on the MULTI CONTROL button to select "SLEEP REMAIN".
- 3 Within 10 seconds, press the ENTER button.
 - The current remaining time will appear, then after 5 seconds the display will return to its original appearance.

To change the remaining sleep time:

- 1 Perform steps 1 - 2 above.
- 2 Change the time using the MULTI CONTROL button.
- 3 Within 10 seconds, press the ENTER button.

To cancel the sleep operation:

If the power is turned on, the sleep will be cancelled. The timer operation can also be cancelled as follows if the power cannot be turned off during recording.

- 1 Whilst in the sleep mode, press the TIMER/DELETE button.
- 2 Press the ▲ or ▼ on the MULTI CONTROL button to select "SLEEP OFF".
- 3 Within 10 seconds, press the ENTER button.
 - The sleep operation will be cancelled. ("SLEEP" will disappear.)

Sleep operation

3

VOL		TIMER STANDBY
		TIMER SET
		SLEEP SET
		TIME ADJUST

4

VOL	SLEEP	SET
	TIME	120min

5

VOL	SLEEP	SET
	TIME	35min

6

VOL	FM ST	87.50MHz	CD
	SLEEP	35	
	LIII		
	RIII		
	-∞	-12	-4 0 >

To confirm or change the sleep timer setting

2

VOL		TIMER STANDBY
		TIMER SET
		SLEEP OFF
		SLEEP REMAIN
		TIME ADJUST

3

VOL	SLEEP	REMAIN
	TIME	25min

To cancel the sleep operation

2

VOL		TIMER STANDBY
		TIMER SET
		SLEEP OFF
		SLEEP REMAIN
		TIME ADJUST

1

TIMER	PLAY
ON	6:30
OFF	7:40
SOURCE	MD
VOLUME	2

2

SLEEP	SET
TIME	35min

3

FM ST	87.50MHz	∞	
SLEEP	35	/TIMER PLAY	
L			
R			
- ∞	-12	-4	0 >

■ Using timer playback and sleep operation in combination

When the sleep time has elapsed, the power will be turned off automatically. When the timer playback time is reached, the power will be turned on automatically to start playback.

- 1 Adjust timer playback settings. (See page 43.)
- 2 Perform sleep operation. (See page 47.)
- 3 Perform timer playback whilst in the sleep mode. (See page 44.)

1

TIMER	REC
ON	1:30
OFF	2:40
SOURCE	TUNER P-01
VOLUME	0

2

SLEEP	SET
TIME	35min

3

FM ST	87.50MHz	∞	
SLEEP	35	/TIMER REC	
L			
R			
- ∞	-12	-4	0 >

■ Using timer recording and sleep operation in combination

When the sleep time has elapsed, the power will be turned off automatically. When the timer record time is reached, the power will be turned on automatically to start recording.

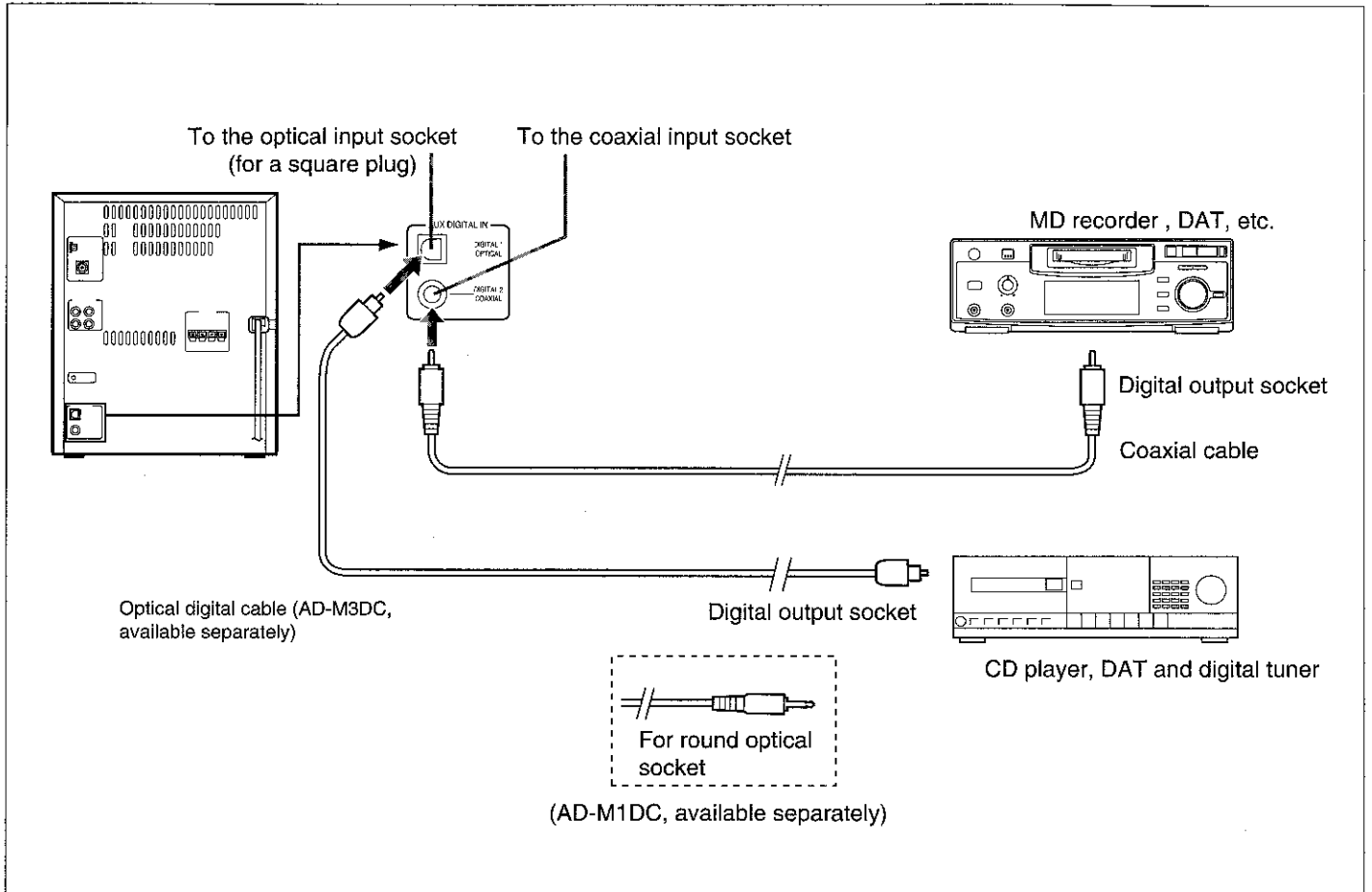
- 1 Adjust timer recording settings. (See page 45.)
- 2 Perform sleep operation. (See page 47.)
- 3 Perform timer recording. (See page 46.)

USING EXTERNAL UNITS

- Before connecting external units, turn the power to this unit and external units off.

■ Connecting to digital audio sources

If a digital audio source is connected to this unit, you can make digital recordings.

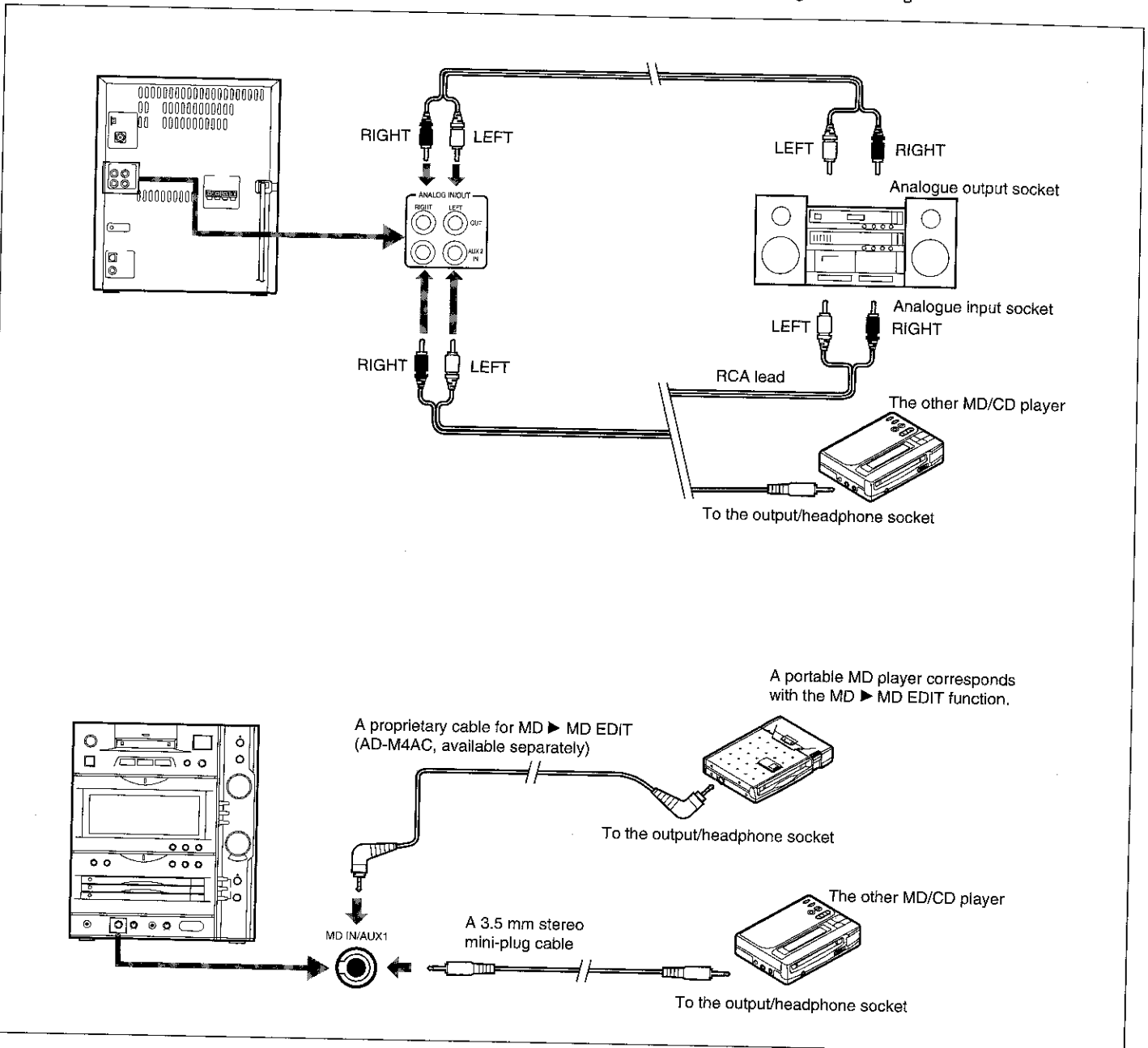


Note:

With a built-in sampling rate converter, you can enjoy high quality digital recording from CD players, DATs and digital tuners.

■ Connecting analogue units

If any of a variety of analogue audio sources are connected to this unit, you can make analogue recordings.

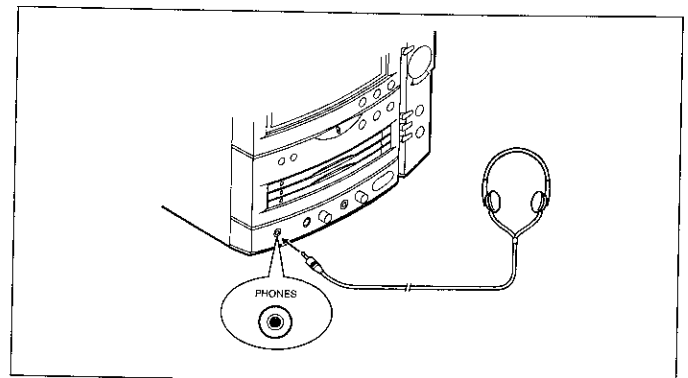


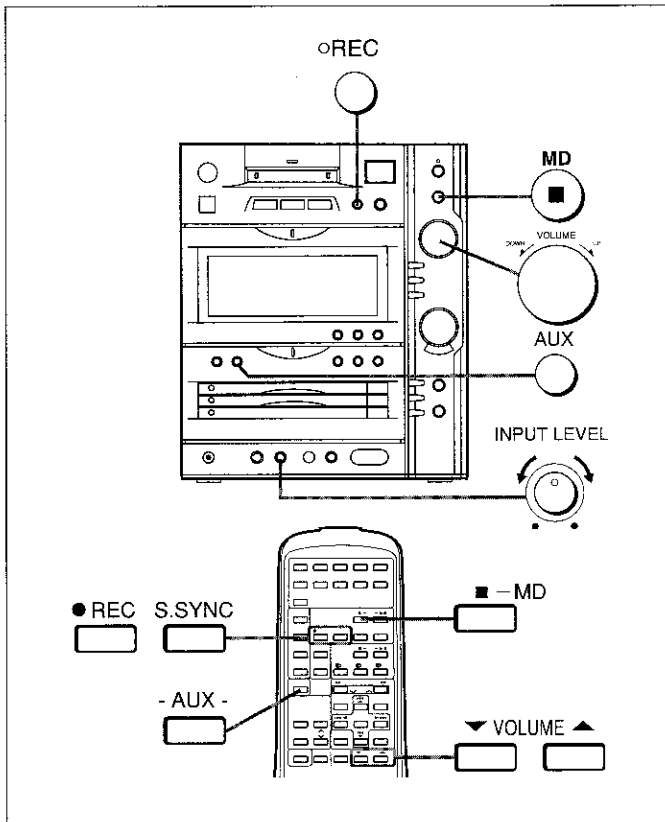
Notes

- When audio input and output signals of an external unit are connected to this unit, oscillation may occur. In such a case, disconnect either the input or output connection.
- When you use the MD ► MD EDIT function, the analogue signal is recorded.

■ Headphones

- Be sure that your headphones have a 3.5 mm (1/8") diameter plug and between 16 ohms and 50 ohms impedance. The recommended impedance is 32 ohms.
- When headphones are connected, the speakers are disabled automatically. Adjust the VOLUME control for the desired volume.





■ Listening to sound from an external unit

To listen to digital sound

- 1 Press the AUX button so that the AUX OPT. or AUX COAX display appears.
 - Each time the button is pressed, the display will change as follows: AUX1 → AUX2 → AUX OPT → AUX COAX
- 2 Start playback on the external unit.
- 3 Adjust the sound level using the VOLUME control of this unit.

Note:

In the following cases, "Din UNLOCK" appears and playback sound is muted:

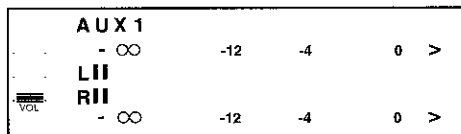
- When the external digital unit is off.
- When there is no digital input from the digital input socket.

To listen to analogue sound

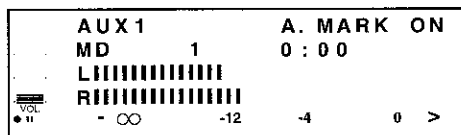
- 1 Press the AUX button so that the AUX 1 or AUX 2 display appears.
 - When connecting an external unit to the "MD IN/AUX1" terminal at the front of the main unit, select "AUX1". When connecting to the "AUX2" terminal at the rear of the main unit, select "AUX2".
- 2 Adjust the input sound level using the INPUT LEVEL control.
 - When the INPUT LEVEL control is set to MIN, no sound is obtained.
- 3 Start playback on the external unit.
- 4 Adjust the volume using the INPUT LEVEL control and VOLUME control on this unit.

Synchro recording

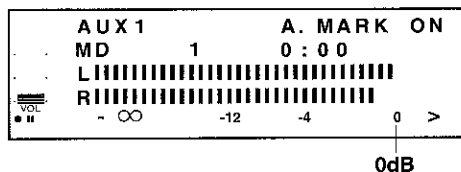
2



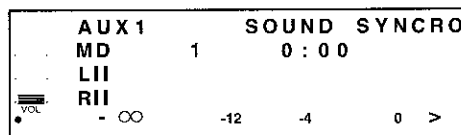
3



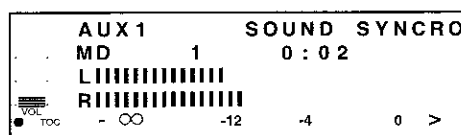
4



7



8



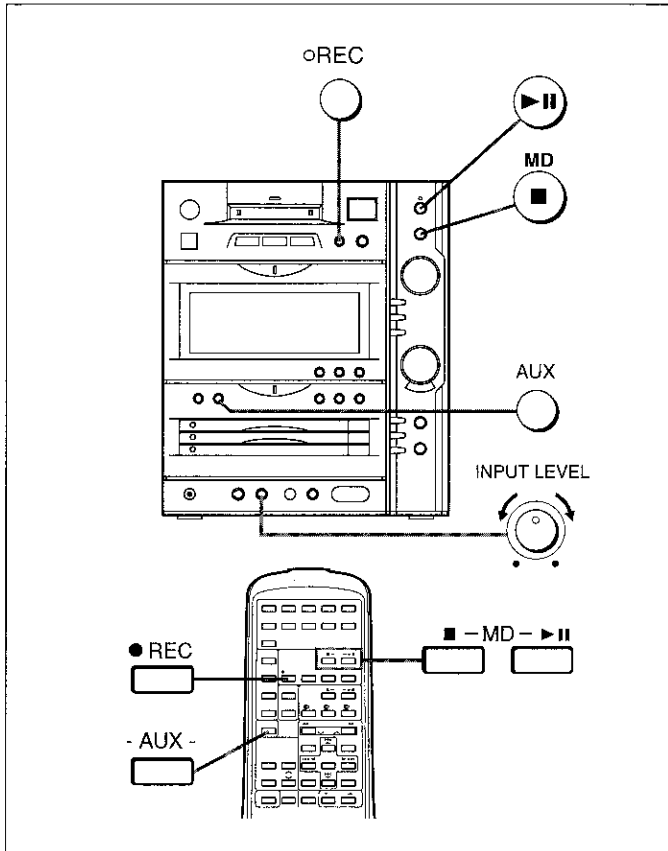
■ Synchro recording

MD recording will start automatically as soon as playback is started on the external unit. This applies to both digital inputs and analogue inputs.

- The space-cut function will work automatically during synchro recording.
- Synchro recording is available only for recordings from an external unit.

- 1 Load a recordable MiniDisc.
- 2 Press the AUX button to select the auxiliary input .
 - Select the input that corresponds to the terminals where the external unit you want to record from is connected.
 - Each time the button is pressed, the display will change as follows: AUX1 → AUX2 → AUX OPT → AUX COAX

To record analogue signals, perform steps 3 - 8.
To record digital signals, perform steps 6 - 8.
- 3 Press the REC button, then start playback on the external unit.
- 4 Adjust the recording level using the INPUT LEVEL control.
 - The maximum level should not exceed 0 dB.
- 5 Stop playback on the external unit.
- 6 Press the MD button.
- 7 Press the S. SYNC button.
- 8 Start playback on the external unit.
 - Recording will start automatically.
 - To stop recording halfway, press the MD button.



After finishing playback on an external unit:

The unit will automatically enter the recording stand-by mode. Press the MD button to cancel this mode.

- Pressing the MD button allows the unit to record the TOC. When performing other operations at the same time, perform them only after this is cleared from the display.

Space-cut function:

If there is silence lasting 4 seconds or longer in the playback signal during a synchro recording, recording will stop automatically and the unit will enter the recording stand-by mode. Then, when playback resumes, recording will automatically restart.

(A space of 4 seconds is placed between tracks.)

- If there is noise between tracks, the synchro recording or the space-cut function may not work properly. If this happens, record manually.
- When you need to record tracks or audio that include very weak sounds lasting 4 seconds or more, manual recording is recommended.

Manual recording

- 1 Load a recordable MiniDisc.
- 2 Press the AUX button to select the auxiliary input.
 - Select the input that corresponds to the terminals where the external unit you want to record from is connected.
 - Each time the button is pressed, the display will change as follows: AUX1 → AUX2 → AUX OPT → AUX COAX
- 3 Press the REC button.
 - When a CD is recorded from a digital source, "AUTO MARK" will not appear.

To turn off the auto mark function:

- Press the AUTO MARK button on the remote control.
- 4 Start playback on the external unit.
 - To record analogue signals, perform steps 5 - 6.
 - To record digital signals, perform step 6.
 - 5 Adjust the recording level using the INPUT LEVEL control.
 - The maximum level should not exceed 0 dB.
 - 6 Press the MD button.

Track numbers

Recording CDs from a digital source:

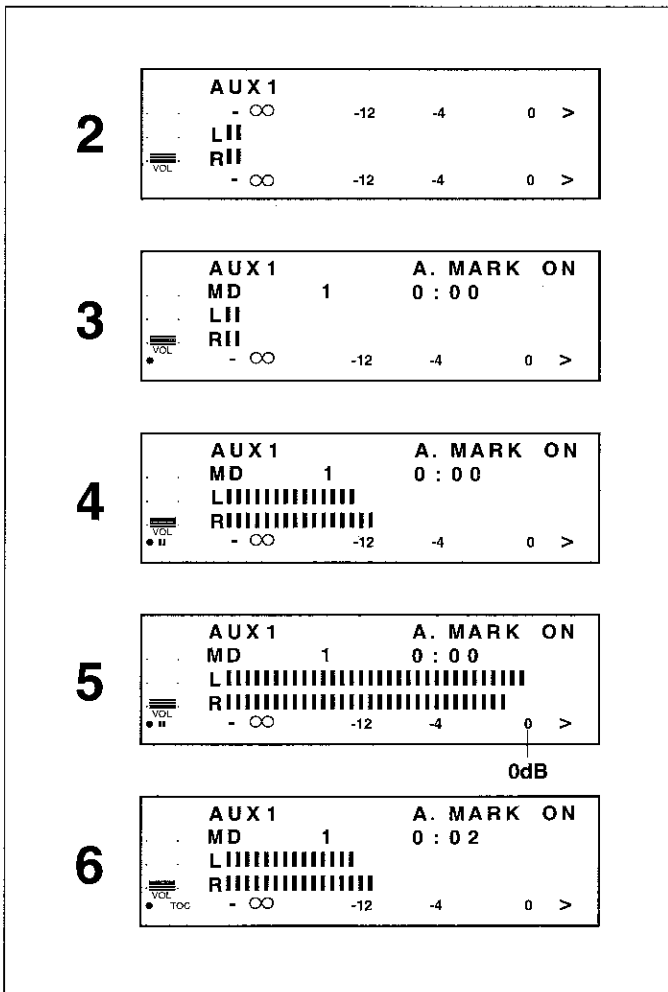
Track numbers are automatically created to mark the beginning of each track in the signal being recorded.

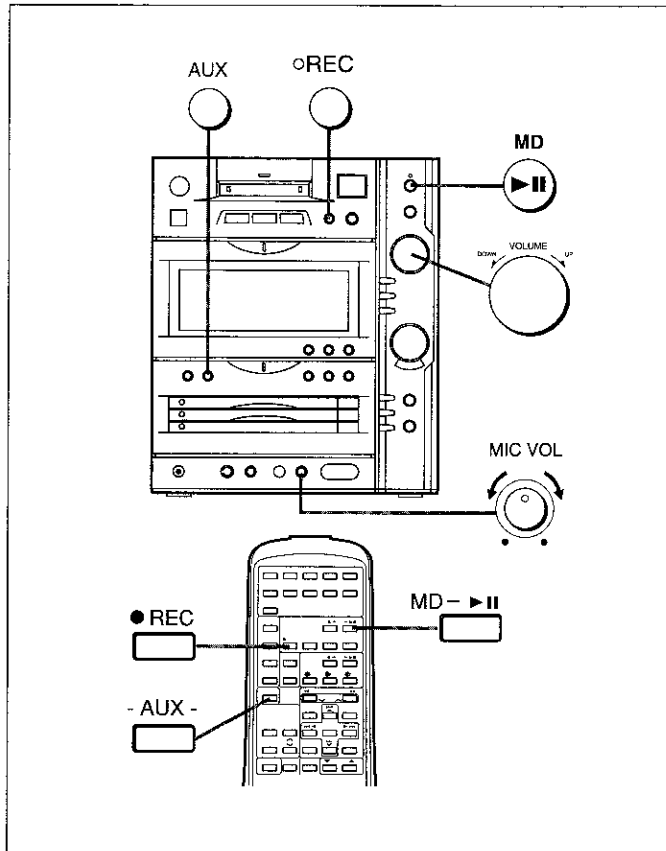
- When making digital recordings from using a CD player as the source, track numbers may not be created automatically, depending on the CD player used.

Other considerations:

When there is a period of silence of 1.5 seconds or longer in the playback signal, a track number will be automatically created. If there is no silence, tracks will be recorded as one track.

- If there is a lot of noise in the playback signal, track numbers may not be created.
- Recordings can be made without using the auto mark function.





■ Using the microphone

You can record voices from the microphone to an MD or enjoy singing karaoke to the accompaniment of the playback sound from this product. (Mic mixing)

■ Using the microphone through the loudspeakers

- 1 Plug the microphone into the MIC socket.
- Set the MIC VOL control to the minimum position.
- 2 Speak into the microphone.
- 3 Adjust the volume using the MIC VOL control and the VOLUME control.

To record sound from the microphone:

- 4 Load a recordable MiniDisc.
 - 5 Press the AUX button so that the AUX 1 or AUX 2 display appears.
 - 6 Press the REC button.
 - 7 Press the MD ►|| button.
- The sound from the microphone will be mono. (When using a stereo microphone, only the left channel will be effective.)
 - If the volume of the MIC VOL control is set too high, feedback may occur.
If this happens, take one or more of the following steps.
 - Decrease the MIC VOL control level.
 - Keep the microphone away from the speaker.
 - Change the orientation of the microphone.
 - Turn down the volume.

■ Mixing with music

- 1 Plug the microphone into the MIC socket.
- Set the MIC VOL control to the minimum position.
- 2 Speak into the microphone.
- 3 Adjust the microphone level using the MIC VOL control.
- 4 Select the sound source you want to play, and start playback.

To make a mixed recording:

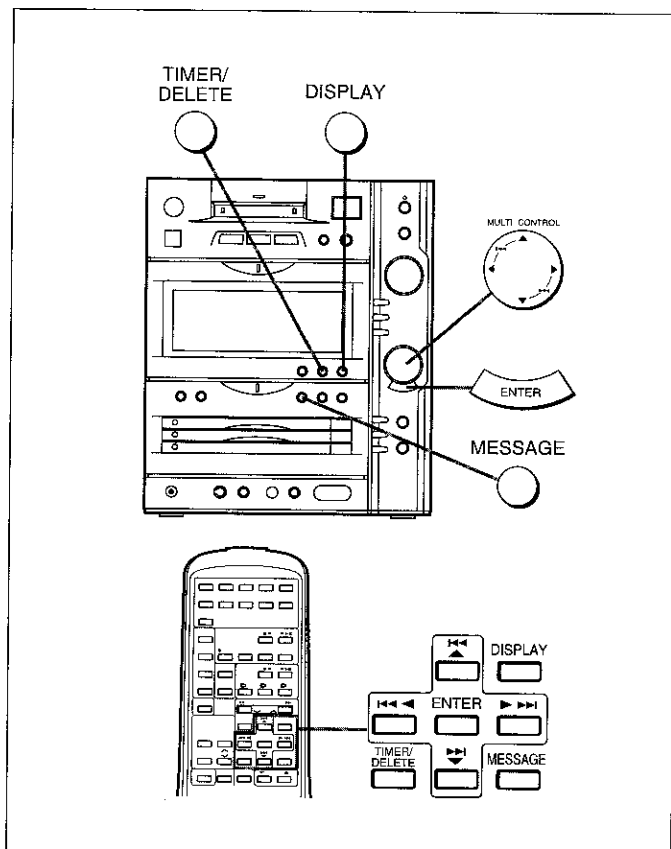
- 1 Load a recordable MiniDisc.
 - 2 Perform steps 1-4 above.
 - 3 Press the REC button.
 - 4 Press the MD ►|| button.
- Make sure to connect the microphone first. If it is connected later, it will not be possible to make a mixed recording.

Notes:

- When not using the microphone, make sure to unplug it. Otherwise undesirable sounds may be heard, or recorded.
- When plugging in or unplugging the microphone, set the MIC VOL control to the minimum position.
- It is possible to record sound from an external analogue source connected to the MD IN/AUX 1 or AUX 2 input terminals, mixed together with sound from the microphone.

However, when an external digital unit is connected to the AUX DIGITAL IN terminal, the sound picked up by the microphone will not be recorded on the MD, even though it can be heard through the speakers.

CHANGING THE MESSAGES DISPLAYED WHEN THE POWER IS TURNED ON/OFF



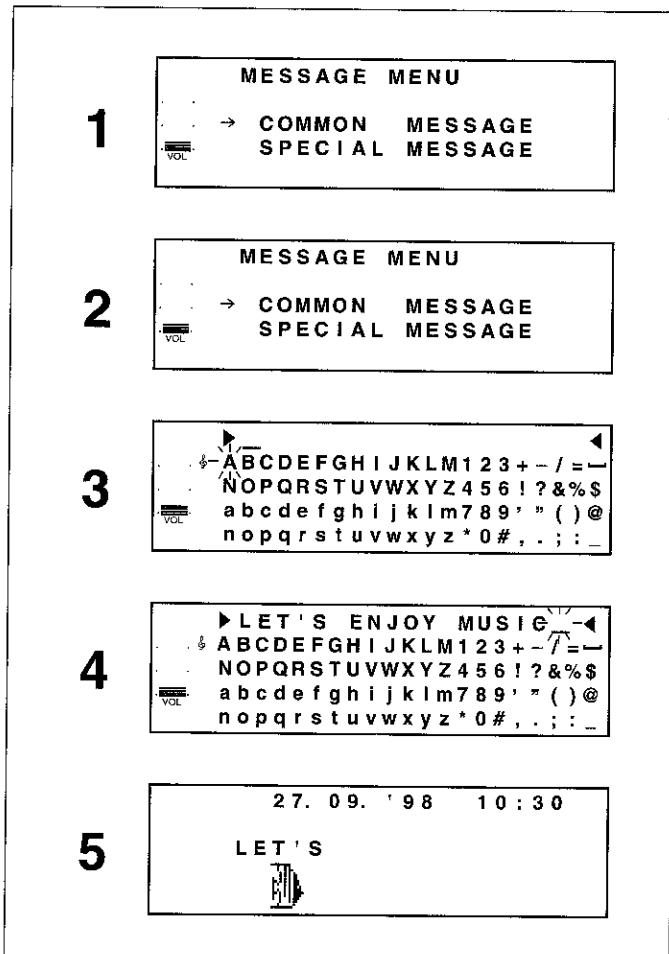
It is possible to change the message displayed on the LCD when the power is off, to suit your preference. It is also possible to select a previously stored message for display on a specified day when the power is turned on.

● COMMON MESSAGE

This is the message displayed on the LCD when the unit is powered off. The default message is "LET'S ENJOY MUSIC", but this can be changed to any other message you choose, up to 20 characters in length.

● SPECIAL MESSAGE

This is the message displayed when the power is turned on. You can even set the unit to display a special message only on a specified day. There are two ways to set a message: One is to select from one of the messages that came stored in the player's memory; the other is to enter a message of your own, up to 32 characters long, and store it in memory.

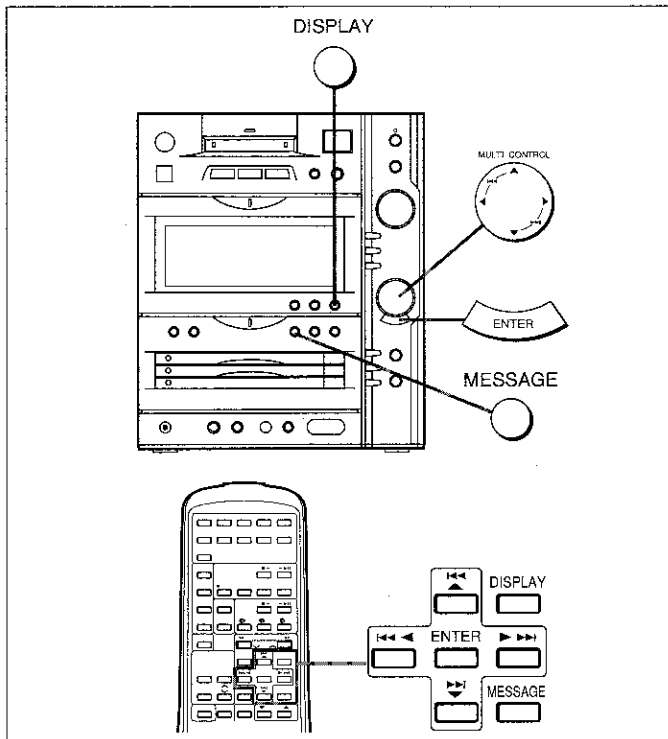


■ To change the common message

- 1 Whilst in the stop mode, press the MESSAGE button.
 - This can be done even when the power is off.
 - To enter a message in extra large characters: Press the DISPLAY button to select the extra large character display.
- 2 Press the ▲ or ▼ on the MULTI CONTROL button to select "COMMON MESSAGE".
- 3 Press the ENTER button.
- 4 Enter the message you want to display.
 - Enter any message up to 20 characters long.
 - For details about entering characters and how to make corrections, see pages 13 - 15.
- 5 Press the MESSAGE button.
 - The common message will be changed. The next time the power is turned off, the new message will appear.

To return to the default common message:

- ① Press the TIMER/DELETE button in step 4 above to erase all message characters.
- ② Press the MESSAGE button.
 - The common message will return to "LET'S ENJOY MUSIC".



■ Storing a special message in memory

Selecting and storing a built-in message:

- 1 Whilst in the stop mode, press the MESSAGE button.
 - You can do this even when the power is off.

To enter a message in extra large characters:

Press the DISPLAY button.

- 2 Press the ▲ or ▼ on the MULTI CONTROL button to select "SPECIAL MESSAGE".
 - If the clock is not set, you cannot select "SPECIAL MESSAGE". Adjust the clock, and then try selecting again.
- 3 Press the ENTER button.
- 4 Enter the month and day that you want to display the special message, using the MULTI CONTROL button.
 - For details on how to enter the month and day, see page 10.
- 5 Press the ENTER button.
 - The built-in messages stored in memory will appear.
- 6 Press the ▲ or ▼ on the MULTI CONTROL button to select the message you want to display.

Types of fixed messages stored in memory

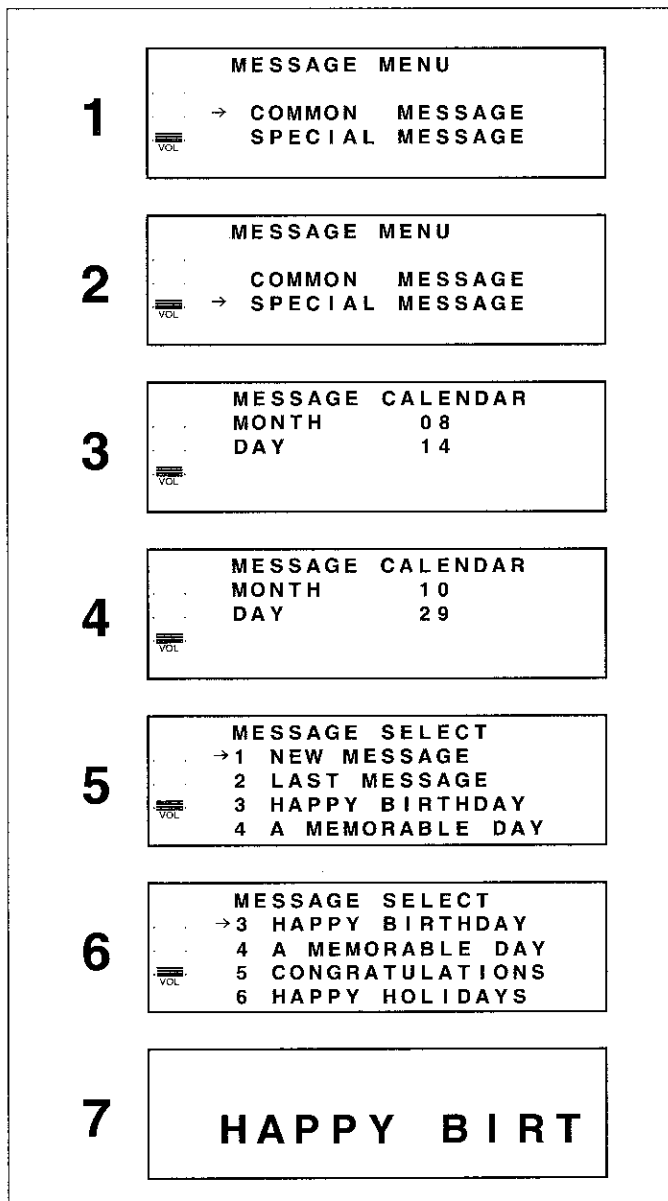
- 1 NEW MESSAGE for creating a custom message by yourself
 - 2 LAST MESSAGE ... for checking or changing a message
 - 3 HAPPY BIRTHDAY
 - 4 A MEMORABLE DAY
 - 5 CONGRATULATIONS
 - 6 HAPPY HOLIDAYS
 - 7 TIME TO PARTY
 - 8 HAPPY ANNIVERSARY
- ... built-in messages

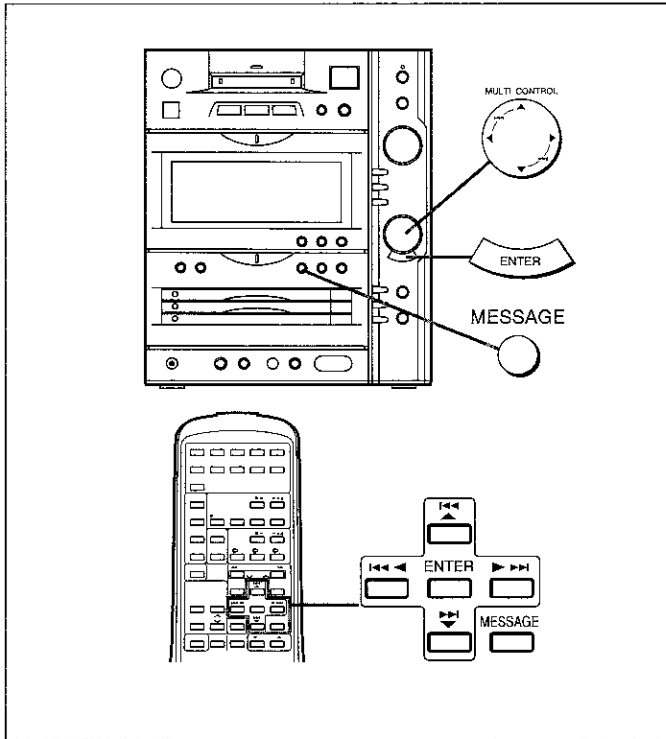
- 7 Press the MESSAGE button.

- A special message will be stored in memory. When the power is turned on when the specified day comes, the set special message will appear.

Note:

- You can store up to 12 special messages in memory. After this, each subsequent new message stored in memory will cause the earliest message to be erased.





When creating your own message:

- 1 Perform steps 1 - 5 of "Selecting and storing a built-in message" (page 55).
- 2 Press the ▲ or ▼ on the MULTI CONTROL button to select "NEW MESSAGE".
- 3 Press the ENTER button.
- 4 Enter the message you want to display.
 - The message can be up to 32 characters long.
 - For details on entering characters and how to make corrections, see pages 13 - 15.
- 5 Press the MESSAGE button.
 - The message you created will be stored in memory. When the power is turned on on the specified day, your special message will appear.

To create a new message based on a built-in message:

By selecting one of the built-in messages, for example, "HAPPY BIRTHDAY", you can create another message by modifying it.

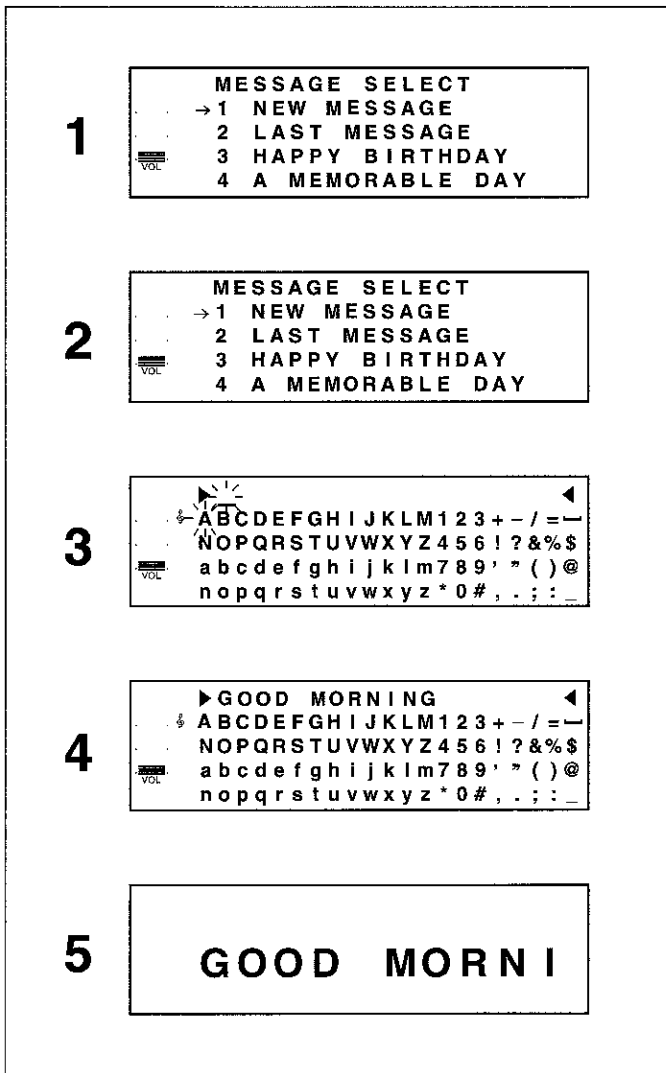
- ① Perform steps 1 - 6 of "Selecting and storing a built-in message" (page 55) to select the message you want to use.
- ② Press the ENTER button.
- ③ Add to the message being displayed or change it, as you like.
 - The final message must be no longer than 32 characters.
- ④ Finally, press the MESSAGE button.

To check or change a message:

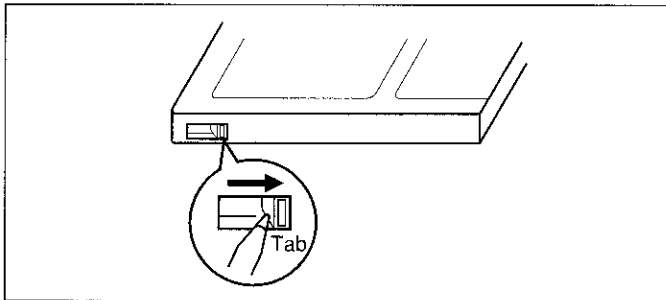
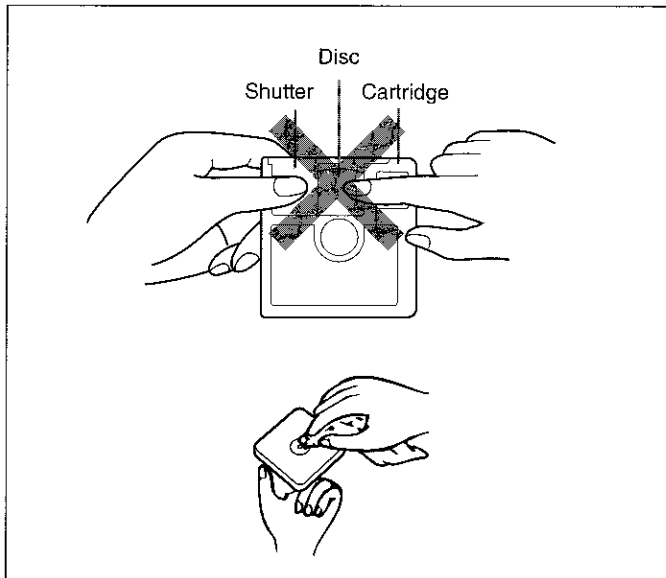
- ① Perform steps 1 - 4 of "Selecting and storing a built-in message" (page 55). Then, specify the month and day on which the message you want to check or change is set to be displayed.
- ② Press the ENTER button.
- ③ Select "LAST MESSAGE".
- ④ Press the ENTER button.
- ⑤ Check or change the message.
 - To change the message, see pages 13 - 15.
- ⑥ Finally, press the MESSAGE button.

To cancel the special message setting:

- ① Perform steps 1 - 4 of "Selecting and storing a built-in message" (page 55). Then, specify the month and day on which the special message you want to cancel is set to be displayed.
- ② Press the ENTER button.
- ③ Select "LAST MESSAGE".
- ④ Press the ENTER button.
- ⑤ Press the TIMER/DELETE button to delete all the characters displayed.
- ⑥ Finally, press the MESSAGE button.
 - The display will return to "WELCOME TO SHARP MD WORLD".



WHAT IS A MINIDISC?



The disc is stored in a cartridge. You can handle it easily without worrying about dust, fingerprints, etc. However, dust entering the opening of the cartridge, dirt on the cartridge, etc. may cause malfunctions. Please note the following.

■ Handling MiniDiscs

Do not touch the disc directly!

Do not open the shutter or touch the disc directly. If the shutter is opened forcibly, it may break.

Where not to store discs:

Do not store discs in places with high temperatures or humidity. Specifically, do not leave discs in places exposed to direct sunlight or in cars with doors and windows closed. Do not leave discs in places where sand can get into the cartridge easily (e.g., a beach).

Regular cleaning:

If the surface of the cartridge becomes dusty or dirty, clean it with a soft, dry cloth.

■ To prevent recorded discs from being erased accidentally (accidental erasure prevention)

Slide the accidental erasure prevention tab, located on the side of the disc, in the direction indicated by the arrow.

- The disc will then be protected against accidental erasure.
- To add a recording to such a disc, slide the accidental erasure prevention tab back to its original position.

■ What is a MiniDisc?

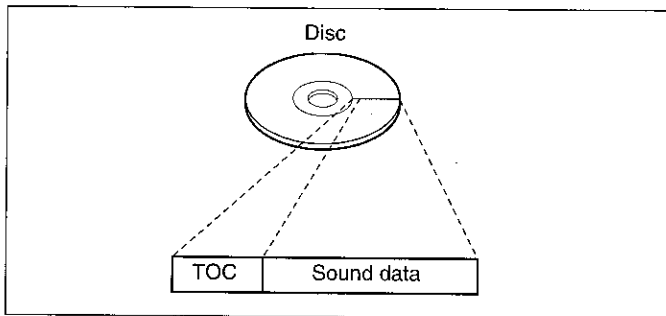
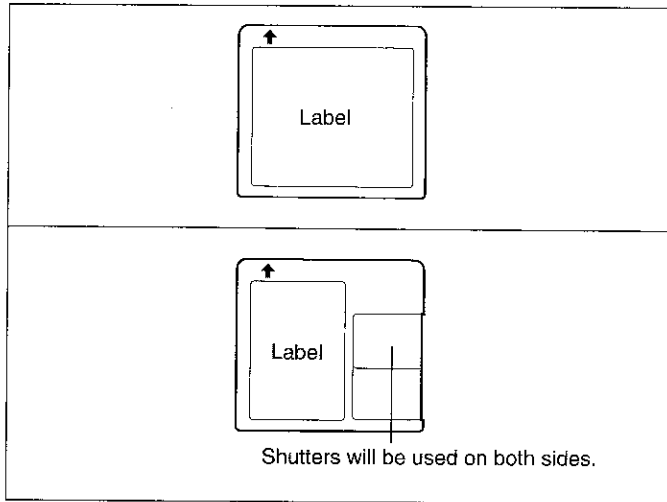
- A MiniDisc is 64-mm (2-1/2") diameter disc which is stored in a cartridge. MiniDiscs are easy to handle, compared with compact discs, because they are protected against dust and scratches.
- Recording and playback use a digital system with a sound quality that is similar to that with compact discs.
MiniDiscs cannot twist or stretch like tapes. The quality of sound will not deteriorate. MiniDiscs are extremely durable.
- Never disassemble a MiniDisc.

■ Adaptive TRansform Acoustic Coding [ATRAC]

ATRAC (Adaptive TRansform Acoustic Coding) is a new technology that is designed to eliminate the information in sounds which you can not hear and to compress the remaining sound data so that the recording uses about 1/5 of the original sound information.

Sound data is analysed and filtered to take advantage of psycho acoustic masking. The acoustic quality of the sound is not impaired.

(Continued)



Types of discs

There are two types of MiniDiscs: playback-only and recordable type.

● Playback-only MiniDisc:

This type of MiniDisc is used for commercially available pre-recorded music. This is the same kind of optical disc as a CD. Playback is performed using an optical pickup. (Recording and editing are not possible.)

A shutter is used on only one side (back).

● Recordable MiniDisc:

This is a "blank disc" on which recording can be performed. A magneto optical disc is used.

Recordings are made using a laser and a magnet. Repeated recording is possible.

High-speed access

A unique feature of the MiniDisc is the ability to locate the beginning of a desired track at high speed.

This is because the track number and track name data are stored in a TOC (Table of Contents).

Shock-Resistant Memory

During playback, approximately 10 seconds of information is stored in the semiconductor memory. Therefore, even when the pickup cannot read information for a second or two because of external shock, the sound continues without interruption because the information stored in memory is output.

MINIDISC SYSTEM LIMITATIONS

Even if the maximum recording time of a MiniDisc is not reached, "DISC FULL" or "TOC FULL" may be displayed.

When the number of tracks used reaches the limit, regardless of the remainder being recording time, further recording will be impossible. (Maximum number of tracks: 255)

Even if the number of tracks and the recording time have not reached the limit, "DISC FULL" may be displayed.

When emphasis information (equalizer treatment in the treble section) in a track switches on/off many times, each change is assumed to be the beginning of a new track, which will quickly use up all available track numbers, making further recording impossible, regardless of the remaining time, recording time or the number of tracks on the original.

Even if several short tracks are erased, the remaining recording time may not show an increase.

When the remaining recording time of a disc is displayed, short tracks less than 12 seconds long may not be included in the total.

Two tracks may not be combined in editing.

For MiniDiscs on which repeated recording and editing operations were performed, the COMBINE function may not work.

The total of the recorded time and time remaining on a disc may not add up to the maximum possible recording time.

A cluster (about 2 seconds) is normally the minimum unit of recording. So, even if a track is less than 2 seconds long, it will use about 2 seconds of space on the disc. Therefore, the time actually available for recording may be less than the remaining time displayed.

If there are scratches on a disc, those sections will be automatically avoided (no recording will be placed in those sections). Therefore, the recording time will be reduced.

TROUBLESHOOTING

■ If a problem occurs

If this unit functions abnormally during operation, first check the following items. If the unit continues to function abnormally, or if an abnormality appears other than listed below, turn off the player's power and disconnect the AC power plug, then consult your SHARP dealer or service personnel.

General

SYMPTOM	POSSIBLE CAUSE	REMEDY
• The clock is wrong.	• Did a power failure occur?	• Try setting it again.
• When a button is pressed, the unit does not respond.	—	• Turn the power off and on again, and then retry the operation.
• No sound is heard.	• Are the speaker wire disconnected? • Are the speaker wires shorted? • Is the volume level set to "0" ? • Are the headphones connected?	• Connect the wires securely. • Disconnect the AC power lead, and connect it again. • Increase the volume level. • Disconnect the headphones.
• Radios make unusual noise or the picture on the TV screen is distorted.	• When a radio or TV which uses an indoor aerial is placed near the unit, the picture on the TV screen may be distorted or the radio may not function properly.	• It is recommended that you use an outdoor aerial.

CD playback

SYMPTOM	POSSIBLE CAUSE	REMEDY
• Even though a disc has been loaded, "NO DISC" or "ERROR" is displayed.	• The disc is loaded upside down. • The disc is very dirty.	• Load the disc with the correct side up. • Clean the disc.
• Playback stops in the middle of a track, or playback is not performed properly.	• The disc which does not satisfy the standards. • Is the unit located near excessive vibrations?	• Load the correct disc. • Place the unit on a firm, level surface free from vibration.
• Playback sounds are skipped.	• Has condensation formed inside the unit?	• Remove the disc and leave the power turned on. The unit should function properly in about 1 hour.

MD recording and playback

SYMPTOM	POSSIBLE CAUSE	REMEDY
• A recording cannot be made.	• Is the MiniDisc protected against accidental erasure? • Did you try to record on a playback-only MiniDisc?	• Slide the accidental erase prevention tab back to its original position. • Replace it with a recordable disc.
• Even though a disc has been loaded, "NO DISC" or "ERROR" is displayed.	• Can you see the "TOC FULL" message in the display?	• Put in another recordable disc with recording space on it.
• Playback sounds are skipped.	• The disc is very dirty. • Is the unit located near excessive vibrations? • Has condensation formed inside the unit?	• Clean the disc. • Place the unit on a firm, level surface free from vibration. • Remove the disc and leave the power turned on. The unit should function properly in about 1 hour.

Radio reception

SYMPTOM	POSSIBLE CAUSE	REMEDY
• Radios make unusual noise consecutively.	• The unit is placed near the TV or computer. • The aerial direction is not placed properly.	• Place the unit apart from the noise. • Correct the aerial direction.
• The preset channel cannot be called.	• Did a power failure occur?	• Preset the channel again.

Remote control

SYMPTOM	POSSIBLE CAUSE	REMEDY
• The remote control does not function or does not operate properly.	• The batteries (polarity) are not inserted properly. • The batteries inside the remote control are dead. • The remote control is operated from an incorrect distance or angle.	• Insert properly. • Replace the batteries. • Operate it within a range of 0.2 m (8") to 6 m (20') and within an angle of 15° to either side of centre.
• The power cannot be turned on from the remote control.	• Is the AC power lead plugged in?	• Connect the AC power lead.

(Continued)

When an error message is displayed, proceed as follows:

Error messages	Meaning	Remedy
BLANK MD	• Nothing is recorded.	• Replace the disc with a recorded disc.
Can't ACCESS	• The unit cannot access the personal computer. • Whilst an MD player is being edited on this units incorrect digital signals are input from the portable MD .	• Make sure the sound card is plugged in correctly. • Make sure the cable is connected correctly and the portable MD's power is on.
Can't COPY	• No copy can be made because of the SCMS copyright system.	• Record using the analogue cable.
Can't EDIT	• A track cannot be edited.	• Change the stop position of the track and then try editing it.
Can't REC	• Recording cannot be performed correctly due to vibration.	• Record or replace it.
DEFECT	• Since this disc has scratches on it, the recording operation was skipped.	• Replace the disc with another recordable disc.
CH ERROR	• The CD changer doesn't work well.	• Turn off the power, and disconnect the AC power lead from the AC socket. Then connect the AC power lead, and turn on the power again.
CONNECT ERR	• Whilst an MD player is being edited on this units, incorrect digital signals are input from the portable MD player.	• Make sure the cable is connected correctly and that power is being supplied to the portable MD player.
Din UNLOCK	• Incorrect digital signals are input.	• Connect correct digital signals. • Use the analogue input socket.
DISC ERR*	• The disc is damaged. • The TOC information is not recorded on the disc.	• Reload the disc or replace it.
DISC FULL	• The disc is out of recording space.	• Replace it with another recordable disc.
EDIT OVER	• There is no space left for recording CD.	• Replace it with another recordable disc.
FOCUS ERROR	• A disc has not been loaded. • The disc data cannot be read.	• Reload the MiniDisc.
MD ERROR	• Trouble is found.	• Contact a Sharp Authorised Servicing Dealer or Sharp Authorised Service station.
MECHA ERR*	• There is a mechanical problem and the disc is not working properly.	• Turn off the power, and press the \blacktriangle button.
NAME FULL	• The number of characters for the disc name or track name exceeds 40.	• Shorten the disc or track name.
NO DISC	• A MiniDisc has not been loaded. • The MiniDisc data cannot be read.	• Load a MiniDisc. • Reload the MiniDisc.
NOT AUDIO	• The data recorded on this disc is not audio data.	• Select another track. • Replace the MiniDisc.
PLAYBACK MD	• You tried to record on a playback-only disc. • The disc and track names cannot be moved on playback discs.	• Replace it with a recordable MiniDisc. • Edit only the sound.
PROTECT	• Trouble is found.	• Restart the unit. If the unit doesn't work, contact a Sharp Authorised Servicing Dealer or Sharp Authorised Service station.
PROTECTED	• The MiniDisc is write protected.	• Move the write protection tab back to its original position.
TEMP OVER	• The temperature is too high.	• Turn off the power, and wait for a while.
TOC ERR*	• The disc has a large amount of damage.	• Replace the disc with another disc.
TOC FULL*	• There is no space left for recording character information (track names, disc names, etc.)	• Replace it with another recordable disc.
TOC W ERROR	• Trouble is found.	• Contact a Sharp Authorised Servicing Dealer or Sharp Authorised Service station.
TRAY ERROR	• The disc tray for CD doesn't work well.	• Turn off the power, and disconnect the AC power lead from the AC socket. Then connect the AC power lead, and turn on the power again.
U TOC ERR*	• The TOC information on this disc does not meet the MD specifications or it cannot be read.	• Replace it with another disc. • Erase all the data, and try recording.
U TOC W ERR	• The TOC information could not be created properly due to a mechanical shock or to scratches on the disc.	• Turn off the power, and try to write the TOC again. (Remove any source of shock or vibration whilst writing.)
? DISC	• The data contains an error.	• Replace the disc with another disc.
00:00	• Music is not being recorded.	• Replace the disc with a recorded disc.

*: Number or symbol

■ Moisture condensation

In the following cases, condensation may form inside the unit.

- Shortly after turning on a heater.
- When the unit is placed in a room where there is excessive steam or moisture.
- When the unit is moved from a cool place to a warm place.

When the unit has condensation inside, the disc signals cannot be read, and the product may not function properly.

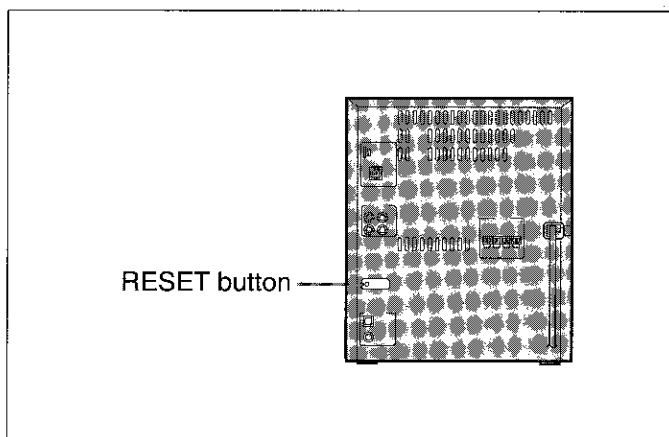
- If this happens, remove the disc. The condensation should evaporate in approximately 1 hour. The unit will then function properly.

■ If a power failure occurs during recording

If the AC power plug is disconnected from the AC socket or a power failure occurs during recording (before the TOC information has been recorded on the disc), the audio portion being recorded at that time will be erased.

When a recording is being added to a MiniDisc which already has a recording on it, if the TOC is not updated before the power failure, the added recording will be erased.

RESETTING THE MICROCOMPUTER

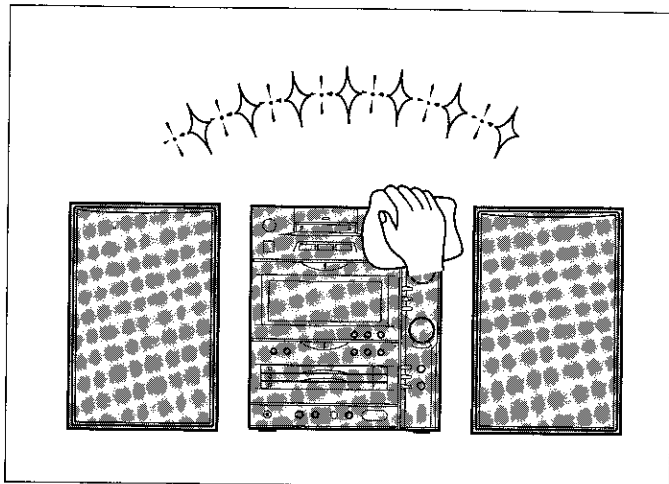


■ If a problem occurs

If subjected to any strong external interference (mechanical shock, excessive static electricity, abnormal supply voltage due to lightning, etc.), or if it is operated incorrectly, or if an MD cannot be removed, this product or the display may become damaged.

- 1** Unplug the AC power lead from the AC socket.
 - 2** Press the RESET button on the back of the unit for at least 10 seconds.
 - 3** Plug the AC power lead back into the AC socket.
- When the RESET button is pressed, all of the settings in memory will be erased.
 - If strange sounds, smells or smoke come out of the unit, or if a foreign object falls into the unit, turn off the power, unplug the AC power lead from the AC socket immediately. Contact an authorised Sharp services.

MAINTENANCE



Internal care

- In order to ensure proper operation of the CD player, preventative maintenance (cleaning of the Laser Pick-up lens) should be performed periodically in order to keep the lens dust-free. Lens cleaners are commercially available. Contact your local CD software dealer for options.

External care

- Periodically wipe the cabinet with a soft cloth and dilute soap solution, then wipe with a dry cloth.
- Do not use chemically treated cleaning cloths or other chemicals.

SPECIFICATIONS

As a part of our policy of continuous improvement, SHARP reserves the right to make design and specification changes for product improvement without prior notice. The performance specification figures indicated are nominal values of production units. There may be some deviations from these values in individual units.

Main unit section

(MiniDisc recorder section)

Type:	MiniDisc recorder
Signal readout:	Non-contact, 3-beam semi-conductor laser pick-up
Audio channels:	Stereo 2 channels/monaural (long-play mode) 1 channel
Frequency response:	20 - 20,000 Hz (+1/-3 dB)
Rotation speed:	400 - 900 rpm CLV, Approx.
Quantization:	16-bit linear
Filter:	8-times oversampling digital filter
Error correction:	ACIRC (Advanced Cross Interleave Reed-Solomon Code)
Coding:	ATRAC (Adaptive Transform Acoustic Coding)
Recording method:	Magnetic modulation overwrite method
D/A converter:	1-bit
Sampling frequency:	44.1 kHz
Wow and flutter:	Unmeasurable (less than 0.001% W. peak)
Signal/noise ratio:	95 dB (1 kHz)
Dynamic range:	90 dB (1 kHz)

(Compact disc player)

Type:	3 disc multi-play compact disc player
Signal readout:	Non-contact, 3-beam semi-conductor laser pickup
Rotation speed:	200 - 500 rpm CLV, Approx.
Error correction:	CIRC (Cross Interleave Reed-Solomon Code)
Quantization:	16-bit linear
D/A converter:	1-bit
Filter:	4-times oversampling digital filter
Frequency response:	20 - 20,000 Hz (+1/-3 dB)
Signal/noise ratio:	95 dB (1 kHz)
Dynamic range:	90 dB (1 kHz)
Wow and flutter:	Unmeasurable (less than 0.001% W. peak)

(Tuner section)

Frequency range:	FM; 87.5 - 108 MHz AM; 522 - 1,620 kHz
Sensitivity:	FM; 2.5 μ V (75 ohms, unbalanced) AM; 650 μ V/m

(General)

Power source:	AC 230V, 50 Hz
Power consumption:	230 W
Output power:	MPO; 170W (85W+85W) (10 % T.H.D) RMS; 100W (50W+50W) (10 % T.H.D)
Input terminals:	MD IN/AUX 1 (Analogue); 500 mV/ 47 kohms AUX 2 (Analogue); 500 mV/47 kohms AUX DIGITAL 1 (Optical) AUX DIGITAL 2 (Coaxial)
Output terminals:	Headphones; 16- 50 ohms (recommended; 32 ohms) Speakers; 6 ohms AUX (Analogue); 2.0 V (1 kohm)
Dimensions:	Width; 240 mm (9-1/2") Height; 290 mm (11-7/16") Depth; 317 mm (12-1/2")
Weight:	8.2 kg (18.1 lbs.)

Speaker section

Type:	2-way, 130mm (5") woofer and 50mm (2") tweeter type
Maximum input power:	100 W
Rated input power:	50 W
Impedance:	6 ohms
Dimensions:	Width; 190 mm (7-1/2") Height; 290 mm (11-7/16") Depth; 248 mm (9-13/16")
Weight:	3.0 kg (6.6 lbs.) /each

TERMS OF GUARANTEE

Sharp Electronics (UK) Ltd. ("Sharp") guarantees to provide for the repair, or at its option the replacement, of this product subject to the conditions listed below:-

1. This guarantee shall only apply to faults which are due to inferior workmanship or materials. It does not cover faults or damage caused by accident, misuse, fair wear and tear, neglect, tampering with the product, or repair other than by a Service Facility appointed by Sharp.
2. As this product is intended for private domestic use only, the guarantee will not apply if the product is used in the course of a business, trade or profession.
3. To benefit from this guarantee, any fault which occurs must be notified to Sharp, or its appointed Service Facility within one year from the date this product was purchased. Proof of purchase must be provided.
4. The guarantee does not cover carriage costs, jewelled styli, audio tapes, compact discs or batteries.
5. In the unlikely event of this product requiring repair, please contact the supplier from whom it was purchased. Where this is not possible, please contact the Sharp Customer Information Centre on the telephone number given below.
6. No person has any authority to vary the terms or conditions of this guarantee.
7. This guarantee is offered as an additional benefit to your statutory rights, and does not affect these rights in any way.

If you have any difficulty operating this product, or would like information on other Sharp products, please telephone the Sharp Customer Information Centre on the number given below.

Sharp Customer Information Centre - Telephone 0345 125387

SHARP

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