

# KENWOOD

COMPONENT SYSTEM/COMPACT HI-FI SYSTEM

## XD-981MD

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### INSTRUCTION MANUAL

KENWOOD CORPORATION



B60-3933-00 (CH) (SY) (Q)

# 2 Before applying power

⚠ Caution : Read this page carefully to ensure safe operation.

XD-981MD (En)

Units are designed for operation as follows.

U.S.A. and Canada .....	AC 120 V only	Europe and U.K. ....	AC 230V only
Austraria .....	AC 240 V only	China and Russia .....	AC 220 V only
		*Other countries .....	AC 110-120/220-240 V switchable







CH01

Preparation section

## Safety precautions

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

 <div style="border: 1px solid black; padding: 2px; text-align: center;"> <b>CAUTION</b>  <small>RISK OF ELECTRIC SHOCK DO NOT OPEN</small> </div> 	<p>CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE, REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.</p>
	<p>THE LIGHTNING FLASH WITH ARROWHEAD SYMBOL, WITHIN AN EQUILATERAL TRIANGLE, IS INTENDED TO ALERT THE USER TO THE PRESENCE OF UNINSULATED "DANGEROUS VOLTAGE" WITHIN THE PRODUCT'S ENCLOSURE THAT MAY BE OF SUFFICIENT MAGNITUDE TO CONSTITUTE A RISK OF ELECTRIC SHOCK TO PERSONS.</p>
	<p>THE EXCLAMATION POINT WITHIN AN EQUILATERAL TRIANGLE IS INTENDED TO ALERT THE USER TO THE PRESENCE OF IMPORTANT OPERATING AND MAINTENANCE (SERVICING) INSTRUCTIONS IN THE LITERATURE ACCOMPANYING THE APPLIANCE.</p>

### The marking of products using lasers (Except for some areas)



The marking is located on the rear panel and says that the component uses laser beams that have been classified as Class 1. It means that the unit is utilizing laser beams that are of a weaker class. There is no danger of hazardous radiation outside the unit.

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## Special features *An MD recorder is standard equipment*

→ 20

An MD recorder with high digital sound quality is standard equipment. Digital copying from a CD is also easy. This recorder has many functions like recording and display of names for discs and titles, changing the sequence of tracks, etc.

### 3D Surround

→ 71

This is a system producing a three-dimensional sound space. The feeling of depth, the width of the sound field, etc. are improved clearly, and the listening area also is widened.

### Convenient Recording Methods

→ 50

Various versatile recording functions are provided according to the use purposes.

- One-touch edit : Recording of one CD or MD or one track by pressing a single key
- TWIN REC function : Simultaneous recording from CD to MD and tape.
- BEST HITS function : Sequential recording of the first track of each CD onto MD or tape
- Program recording : Any desired tracks can be recorded in the desired sequence

### Versatile tone and sound field adjustment

→ 69

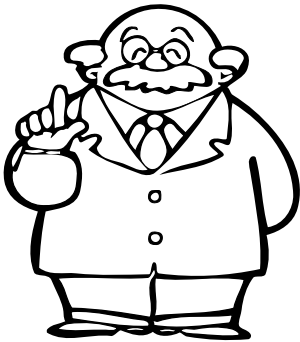
The tone can be selected according to the genre of the music played:  
POP, ROCK, CLASSIC.

### Convenient timer functions

→ 73

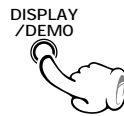
In addition to the possibility of storing up to 2 timer programs in memory, the following functions are available.

- AI timer : When the unit is turned ON by the timer, the sound level increases gradually.
- O.T.T. : A timer with easy setting, which operates only once.
- Sleep timer : Useful when you want to go asleep while listening to music.



### In regard to demonstration

This unit is equipped with a demonstration function (only display). Equalizer, sound field effect, etc. will change sequentially, but the sound will not change. The demonstration function can be cancelled as follows.



Press the key while the power is OFF  
The mode is switched each time the key is pressed.

- ① DEMO (execution)
- ② OFF (demonstration cancelled)

- This operates automatically when a power failure has occurred or the plug of the power cable has been pulled while the power was ON. Cancellation is possible by pressing the key during the demonstration.

## Unpacking

Unpack the unit carefully and make sure that all accessories are put aside so they will not be lost.

Examine the unit for any possibility of shipping damage. If your unit is damaged or fails to operate, notify your dealer immediately. If your unit was shipped to you directly, notify the shipping company without delay. Only the consignee (the person or company receiving the unit) can file a claim against the carrier for shipping damage.

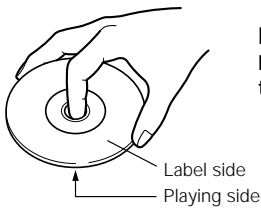
We recommend that you retain the original carton and packing materials for use should you transport or ship the unit in the future.

### Accessories Please confirm that the following accessories are present.

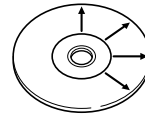
FM indoor antenna (1)		Loop antenna (1)	AM loop antenna stand (1)
Europe, U.K. and Russia	Other countries		
	Speaker cords (2)	Remote control unit (1)	Batteries (R6/AA) (2)

## Handling of discs

### Disc handling precautions

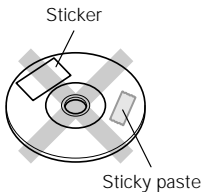


**Handling**  
Hold compact discs so that you do not touch the playing surface.



**Cleaning**  
If fingerprints or foreign matter become attached to the disc, lightly wipe the disc with a soft cotton cloth (or similar) from the center of the disc outwards in a radial manner.

**Storage**  
When a disc is not to be played for a long period of time, remove it from the CD player and store it in its case.

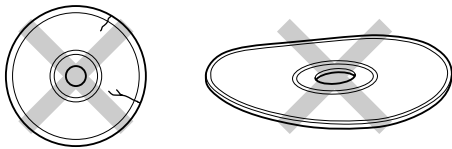


Do not attach paper or tape to either the playing side or the label side of compact discs.

### CD accessories

The CD accessories (stabilizer, protection sheet, protection ring, etc.) which are marketed for improving the sound quality or protecting discs as well as the disc cleaner should not be used with this system because they may cause malfunction.

### Caution on disc used



**Never play cracked or warped disc.**

During playback, the disc rotates at high speed in the player. Therefore, to avoid malfunction, never use a cracked or deformed disc or a disc repaired with tape or adhesive agent.

**Do not use cleaning discs.**

Please do not use commercially available cleaning discs, they may damage the internal mechanism

### Discs which can be played with this unit

**CD (12 cm, 8 cm), CDV (only the audio part)**

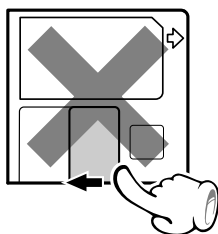
- With CD-G (CD Graphics) discs, this unit can play only the audio.
- Please do not use discs which are not round because they may cause a malfunction.

### Handling of Mini Disc

As the Mini Disc is accommodated inside a cartridge, it can be handled without caring about dust or fingerprint. However, stained or soiled cartridge may cause malfunction. To enjoy beautiful sound for extended period of time, take care on the following points.

**Do not touch the disc directly.**

Do not touch the disc by opening the shutter with your hand. The cartridge will be damaged if it is forced open.



**Storage position**

Do not leave Mini Discs in place where the temperature and/or humidity are extremely high (for example, in a place subject to direct sunlight).

**Dust countermeasure**

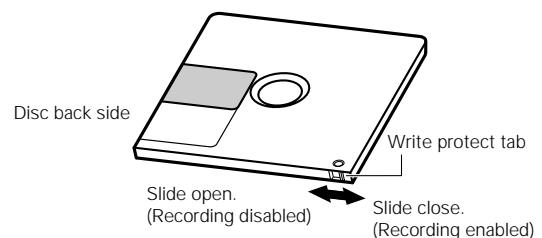
The shutter of the disc cartridge is permanently open while the disc is loaded in the set. Therefore, to prevent dust from penetrating inside the disc, take the disc out of the unit immediately after completion of recording or playback.

**Care**

Wipe periodically dust and dirt attached on the cartridge with a dry cloth.

**Write protect tab**

To protect recorded contents against accidental erasure, set the write protect tab of the disc open. Return the tab to the original position when you want to record signals on the disc.

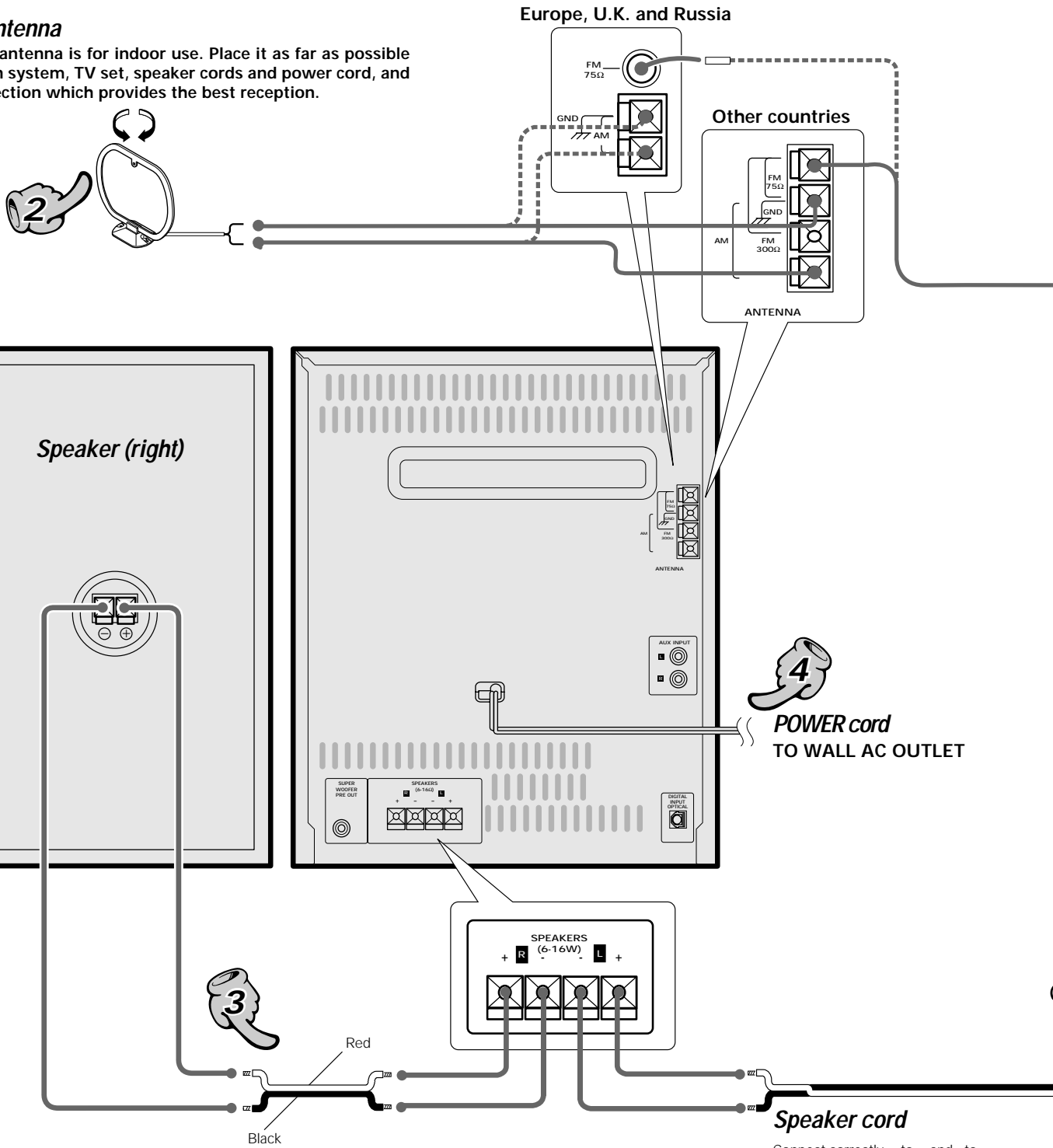


## Connection of the System Accessories

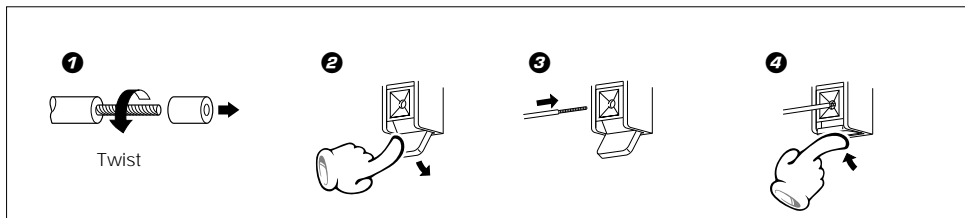
This is the method for connection between the main unit and the accessories. Please connect correctly as shown in the figure.

### AM loop antenna

The supplied antenna is for indoor use. Place it as far as possible from the main system, TV set, speaker cords and power cord, and set it to a direction which provides the best reception.



### Main Unit



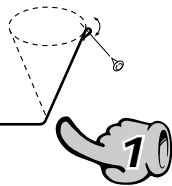
**Malfunction of microcomputer**

If operation is not possible or erroneous display appears even though all connections have been made properly, reset the microcomputer referring to "In case of difficulty".

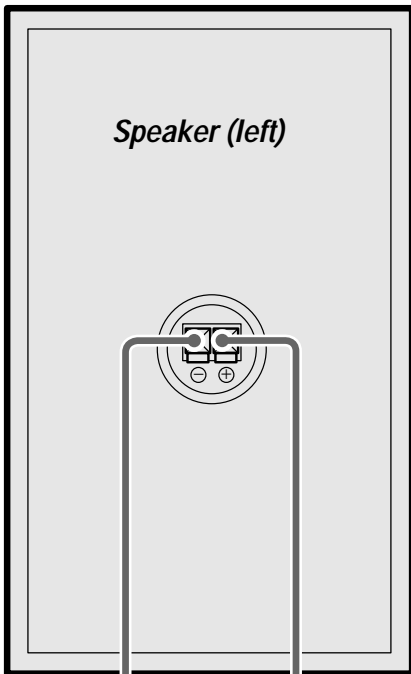


**FM indoor antenna**

The accessory antenna is for temporary indoor use only. For stable signal reception we recommend using an outdoor antenna. Remove the indoor antenna if you connect one outdoors.



- ❶ Remove the insulation from the end of the cord end. (Except for Europe, U.K. and Russia)
- ❷ Locate the position providing good reception condition.
- ❸ Fix the antenna.



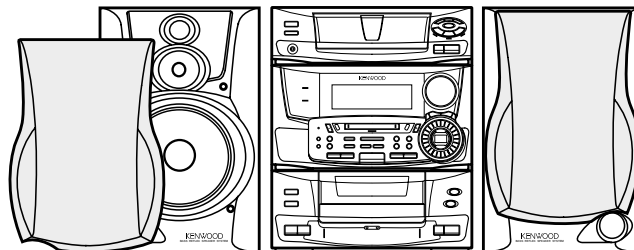
**Except for the U.S.A. and Canada**

**Caution regarding placement**

To maintain proper ventilation, be sure to leave a space around the unit (from the largest outer dimensions including projections) equal to, or greater than, shown below.

Top panel : 50 cm, Rear panel : 10 cm.

**Front View**

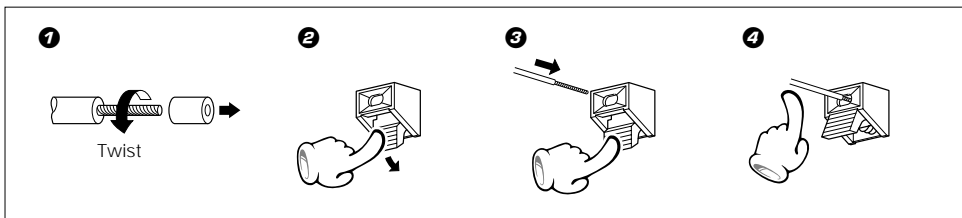


The external view is variable depending on the model and marketing destination type.



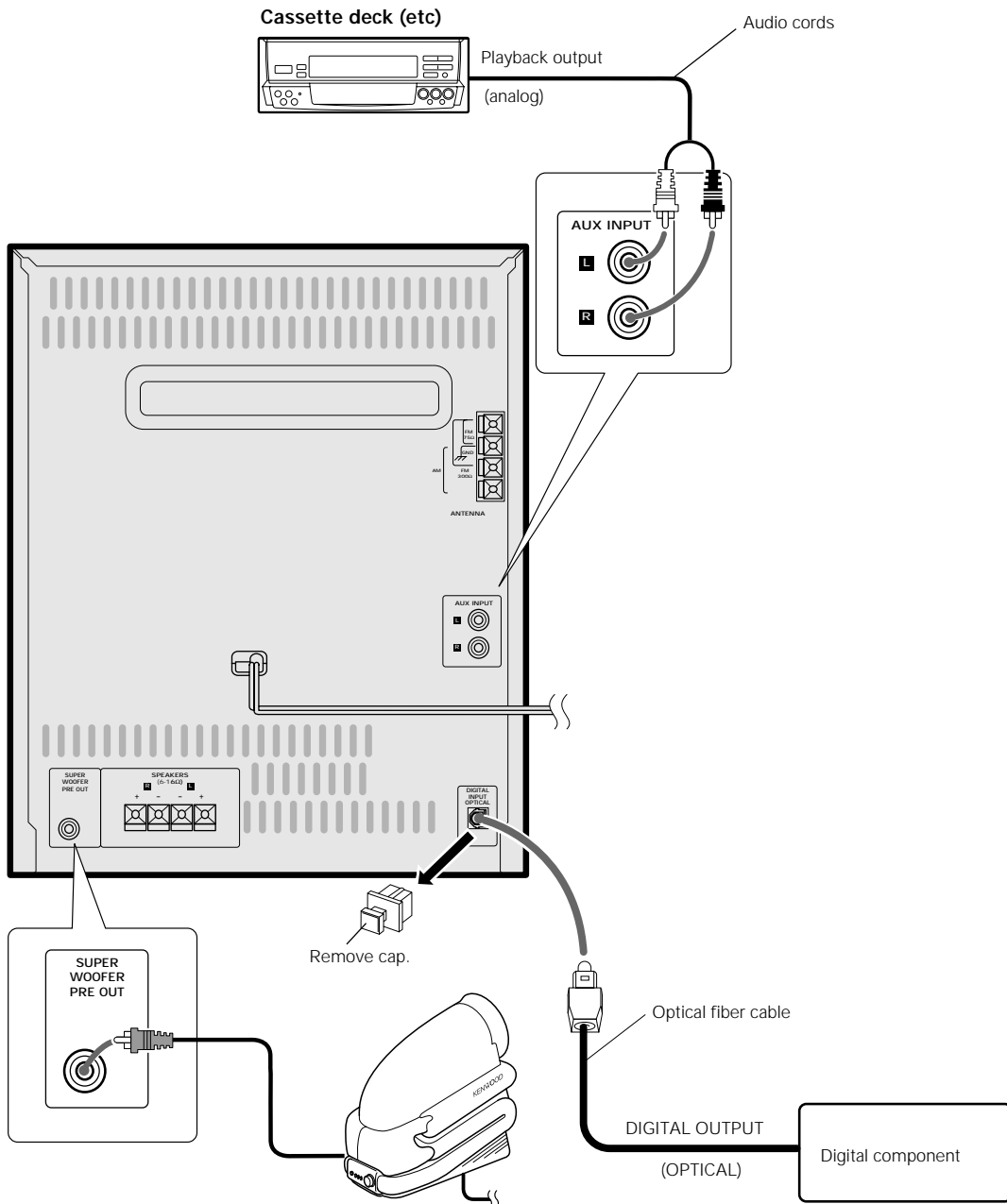
1. Be sure to insert all connection cords securely. If their connections are imperfect, the sound may not be produced or noise may interfere.
2. Before plugging or unplugging a connection cord, be sure to unplug the power cord from the wall AC outlet, if connection cords are plugged or unplugged with the power cord left plugged in, malfunction or damage may result.
3. Never short-circuit the + and - speaker cords.
4. If the left and right speaker connections or the + and - polarity are inverted, the sound will be unnatural with unclear positioning of musical instruments, etc. Be sure to connect them without mistake.

**Speaker Unit**



## Connection of Options (Optional Parts)

Connect separately sold parts as shown in the figure.  
Do not plug the power cord into the power outlet until all of the required connections have been made.



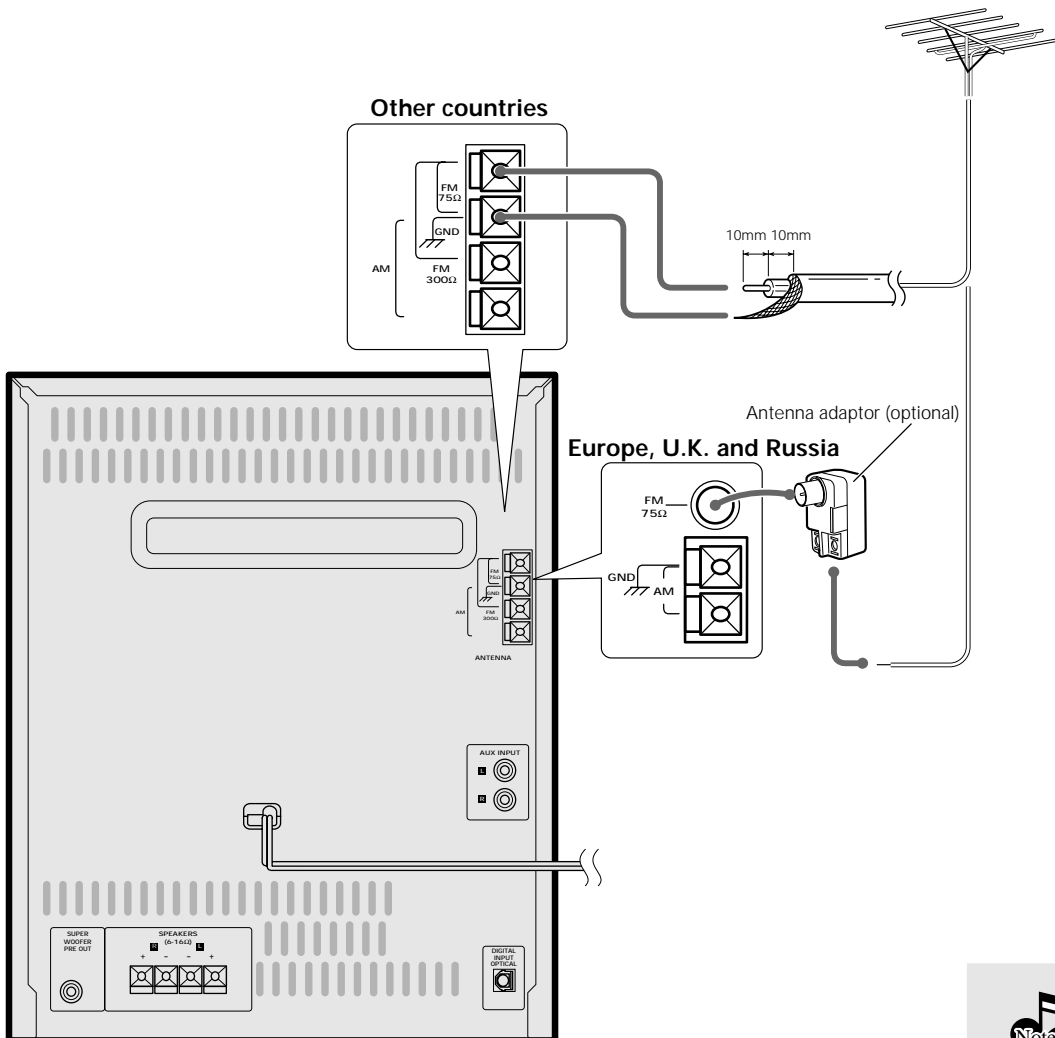
### Super woofer (SW-500)

Extremely low sound is played back powerfully. This can be used with any type of playback.



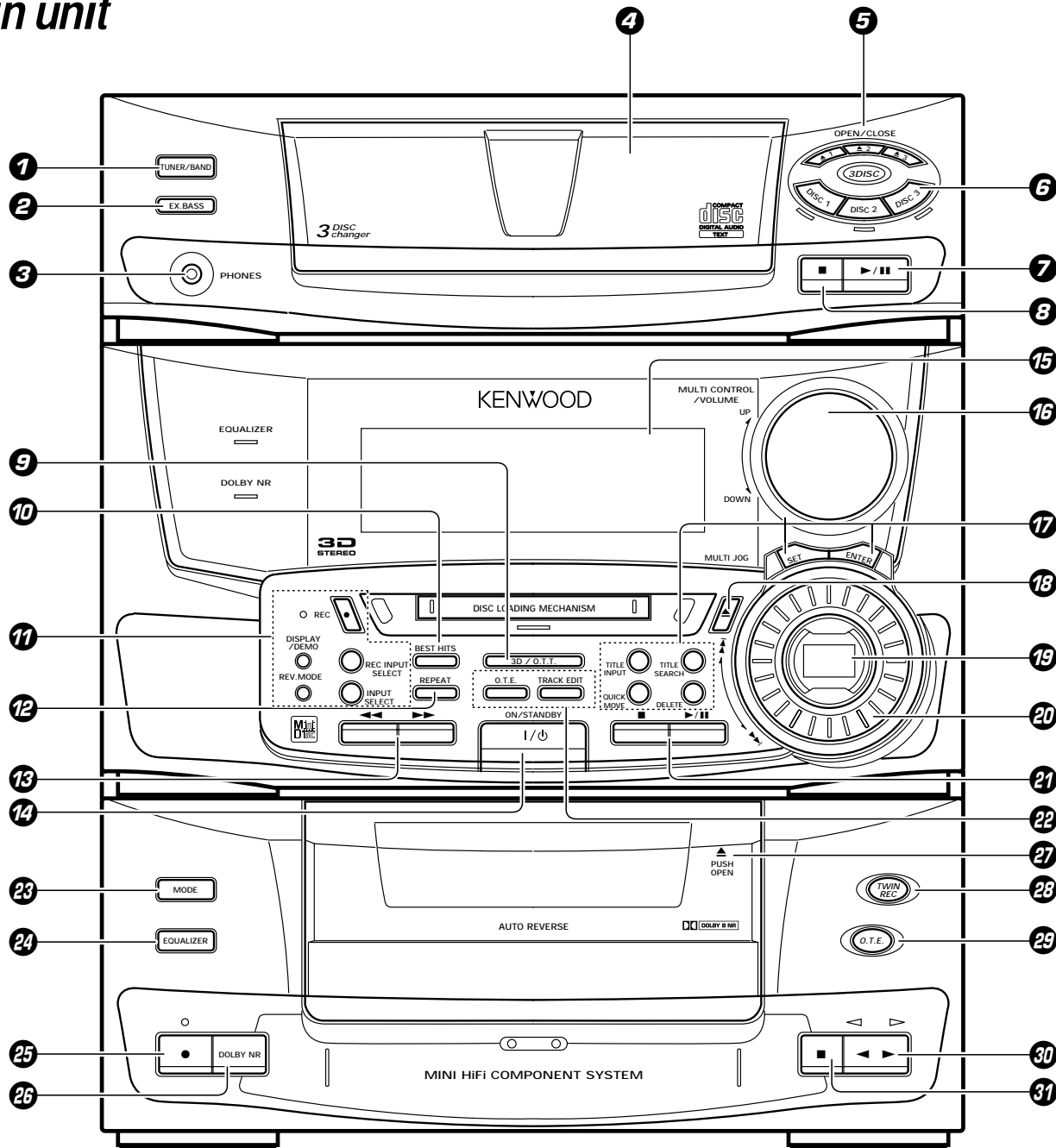
### FM outdoor antenna

Lead the 75Ω coaxial cable connected to the FM outdoor antenna into the room and connect it to the FM 75Ω terminal. Please remove the indoor antenna after an outdoor antenna has been installed.



1. Be sure to insert all connection cords securely. If their connections are imperfect, the sound may not be produced or noise may interfere.
2. Before plugging or unplugging a connection cord, be sure to unplug the power cord from the wall AC outlet. If connection cords are plugged or unplugged with the power cord left plugged in, malfunction or damage may result.
3. In case an associated system component is connected, also read the instruction manual of the component.
4. While pushing the two sides of connector in, pull it straight out.

Main unit



Preparation section

Cassette deck unit

- 23 MODE key** → 68 → 70 → 71  
 At the time of unit ON : This switches the function of the **MULTI CONTROL/VOLUME** knob. The items which can be selected differ according to the status at that time.
- 24 EQUALIZER operation key** → 69 → 70  
 The equalizer effect is switched ON and OFF. Also, the equalizer type can be selected.
- 25 Rec (●) key** → 35  
 Press to start recording. Pressing the key during recording stops it after leaving a non-recorded space (blank) of about 4 seconds.

- 26 DOLBY NR key** → 25  
 Dolby noise reduction ON/OFF switching is executed.
- 27 Cassette holder** → 24  
 Press the area marked ▲ **PUSH OPEN** to load or eject a tape.
- 28 TWIN REC key** → 52 → 53  
 Simultaneous recording from CD to MD and cassette tape is possible.
- 29 O.T.E. (ONE TOUCH EDIT)** → 52 → 53  
 One-touch CD recording is possible.
- 30 Playback (◀, ▶) key**
- 31 Stop (■) key**

## CD player section

- 1 TUNER/BAND key** → 28  
The received broadcasting band is switched.
- 2 EX. BASS key** → 17  
At the time of unit ON : Used for EX. BASS playback ON/OFF.  
At the time of unit OFF : Used for AUTO POWER SAVE ON/OFF.
- 3 PHONES jack** → 17  
Headphones (sold separately) can be connected.
- 4 Disc tray (door)** → 18  
Up to three CDs can be held.

- 5 OPEN/CLOSE (▲) key** → 18  
These keys are used to insert and remove discs.
- 6 DISC SELECTOR keys**  
Selects the disc to be played (or recorded).
- 7 Play/pause (▶/⏸) key**
- 8 Stop (■) key**

## Amplifier/MD recorder section

- 9 3D/O.T.T. key** → 71  
3D surround is switched ON and OFF.  
At the time of unit OFF : Used for O.T.T. timer setting. → 73
- 10 BEST HITS key** → 54 → 55  
The first tracks of all CDs in the unit are programmed sequentially on MD.  
At the time of TUNER : This is used for switching between automatic reception (stereo) and manual reception (monaural).

### 11 Keys related to recording and input switching

#### REC (●) key/indicator

This is used at the time of recording.

#### REC INPUT SELECT key

 → 32

This is used to select digital or analog recording.  
(Switching is possible only when the input selector is set to "CD".)

#### INPUT SELECT key

The input source is selected. When CD, or MD is selected and a disc has already been set, playback will start automatically.

#### REV. MODE key

The reverse mode of the deck (both sides, repeated, one side) is switched.

#### DISPLAY/DEMO key

At the time of unit ON : The indications contents of the display are switched. → 69

At the time of unit OFF : Used for demonstration ON/OFF.

At the time of MD : Used to select the character group at the time of title input. → 60

### 12 REPEAT key

This is used for repeated playback. → 38 → 43

At the time of unit OFF : Used for timer setting. → 74

### 13 Fast forward, fast reverse (◀◀, ▶▶) keys

→ 19 → 21 → 26  
At the time of CD, MD, and TAPE, this is used for fast forward and fast backward.

At the time of TUNER, this is used to tune a broadcasting station. → 28

At the time of title input, this is used for cursor movement.

### 14 ON/STANDBY (I / ⏻) key

The system is switched ON and STANDBY.

### 15 Display section

 → 12

### 16 MULTI CONTROL/VOLUME knob

 → 16

Normally this is used for volume adjustment. Depending on the purpose, the function can be switched with the **MODE** key.

### 17 Keys related to title input and editing

#### TITLE INPUT key

 → 60

This is used for title input.

#### TITLE SEARCH key

 → 22

This is used for title search.

#### QUICK MOVE key

 → 62

This is used to change the track sequence.

#### DELETE key

 → 61

This is used at the time of title input to delete one character.

#### SET key

 → 60

This is used for title input and editing.

#### ENTER key

 → 60 → 72 → 73

Used for time setting, timer setting, etc. Also used for execution of editing processing, confirmation of entered titles, etc.

### 18 Eject (▲) key

This key is pressed to remove discs.

### 19 MULTI TEXT DISPLAY

 → 12

Various text information is displayed.

### 20 MULTI JOG dial (◀◀, ▶▶)

 → 19 → 21

Used as the skip keys (to skip titles) at the time of CD or MD playback.  
At the time of TUNER, these keys are used to receive memorized stations.

These keys also are used for MD editing, character selection, time setting, etc.

### 21 MD operation keys

#### Play/pause (▶/⏸) key

#### Stop (■) key

### 22 Keys related to editing and title display key

#### TRACK EDIT key

 → 63 → 66

Used for track editing and for erasing of tracks or the entire disc.  
Also used for time setting. → 70

#### O.T.E. (ONE TOUCH EDIT) key

 → 52 → 53

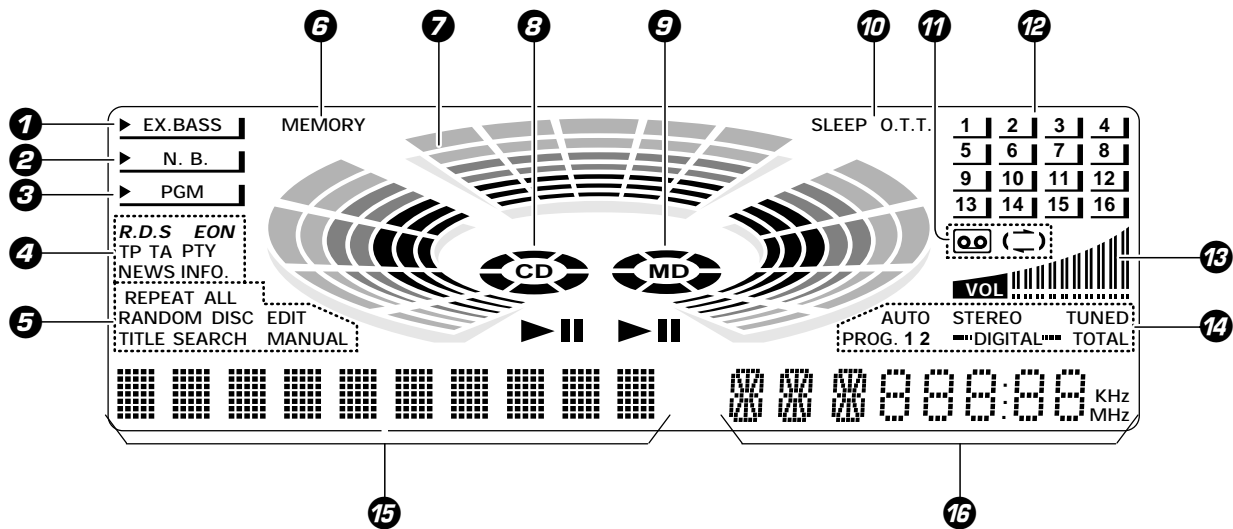
When this key is pressed during MD playback, only the track being played at that time will be recorded to tape. When this key is pressed in stopped condition, the MD selected at that time will be recorded to tape from the first track on.

Also used for program timer setting. → 76

# Display

(The displays given in this manual are approximations only.  
They may differ from what actually appears on the display.)

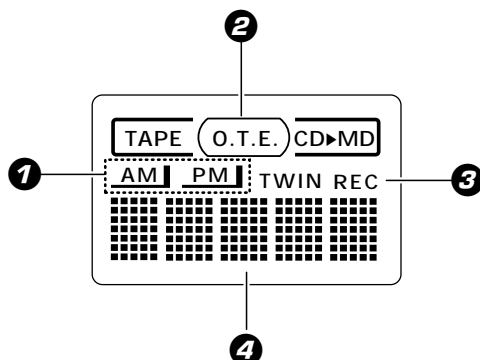
## Amplifier/MD recorder section



- ❶ EX.BASS (extra bass) indication
- ❷ N.B. (natural bass) indication
- ❸ PGM (program) indication
- ❹ RDS-related indication (except for some areas)
- ❺ Indication related to CD and MD
- ❻ MEMORY indication
- ❼ Spectrum analyzer display
- ❸❹ RUNNING INDICATOR  
With CD operation, MD operation, etc., the indicator lights (rotates) according to the operation status.  
The CD or MD play or pause status is displayed.
- ❿ SLEEP, O.T.T. (ONE TOUCH TIMER) display
- ⓫ Cassette deck, reverse mode indication

- ❿ Track number display  
The presently played CD or MD track number is displayed.
- ⓬ Volume display section  
The volume level is displayed.
- ⓭ Display section for tuner, application operation, etc  
In addition to tuner display, CD application operation, timer playback, etc. also is displayed.
- ⓮ Character information display section (dot display)  
Indication of input switching, volume level, disc/track title, disc No., and various other character information.
- ⓯ Character information, time display  
Frequency indication, time indication, track No., program No., etc.

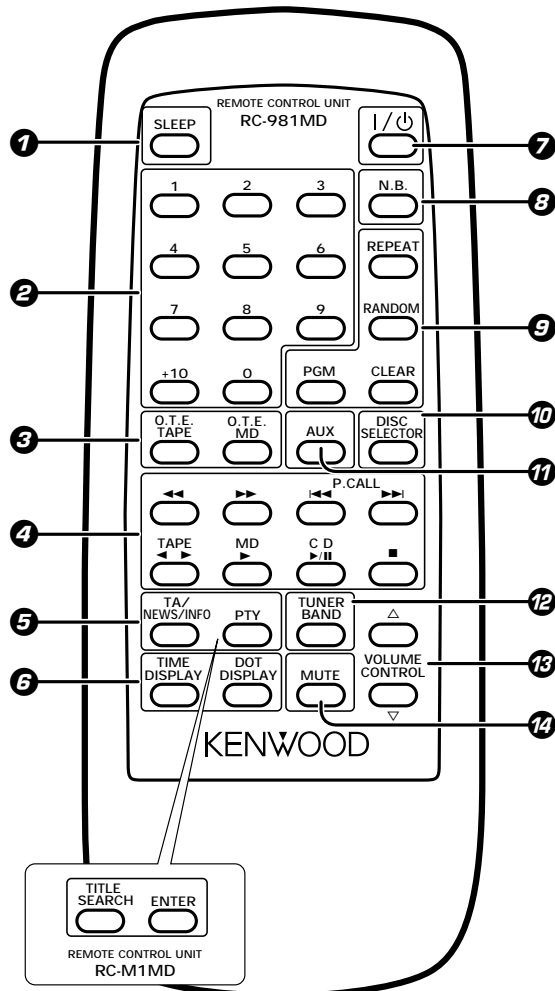
## MULTI TEXT DISPLAY section



- ❶ Time indication (AM: Before noon, PM: Afternoon)
- ❷ O.T.E. (ONE TOUCH EDIT) indication  
(TAPE/CD → MD)
- ❸ TWIN REC indication  
Displayed at the time of simultaneous recording from CD to MD and tape.
- ❹ Character information/time display  
At the time of title input: Characters are displayed.  
Normally the time is displayed.

# Remote control Unit

The keys on the remote control unit with the same names as on the main unit have the same function as the keys on the main unit.



Europe, U.K. and Russia : RC-981MD  
Other countries : RC-M1MD

Model : As listed on the left  
Infrared ray system

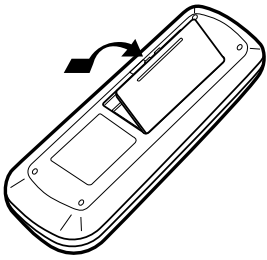
- 1 SLEEP key** → 73  
: This is used to set the sleep timer.
- 2 Numeric keys**  
These are used to select CD or MD tracks and as preset call keys for the tuner.
- 3 O.T.E. key (TAPE)**  
: This has the same function as the **ONE TOUCH EDIT** key on the main unit.
- O.T.E. key (MD)**  
: This has the same function as the **ONE TOUCH EDIT** key on the main unit.
- 4 Basic operation keys**  
Fast forward, fast reverse (◀◀, ▶▶) keys  
P.CALL/skip (◀◀, ▶▶) keys (TUNER/CD, MD)  
: These are used to receive memorized radio stations. → 28  
: Used for skipping (of titles) at the time of playback.  
Playback (◀, ▶) keys (TAPE)  
Playback/pause (▶) key (MD)  
Playback/pause (▶/||) key (CD)  
Stop (■)key

Europe, U.K. and Russia	
<b>RDS-related keys</b>	
<b>TA/NEWS/INFO. key</b> : Used at the time of EON reservation.	→ 48
<b>PTY key</b> : Used at the time of program type detection.	→ 46
Other countries	
<b>TITLE SEARCH key</b> : This is used at the time of title search.	→ 22
<b>ENTER key</b> : Used for execution of editing processing, confirmation of entered titles, etc.	

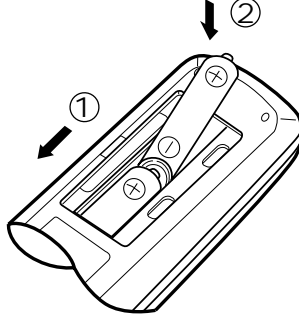
- 5 TIME DISPLAY key** → 23  
: The time display is switched.
- DOT DISPLAY key** → 23  
: This key switches the display mode of the dot display.
- 7 ON/STANDBY(I / ⏻) key** → 16  
: The system is switched ON and STANDBY.
- 8 N.B. (natural bass) key** → 17  
: Very low sound is compensated.
- 9 Keys related to CD and MD**  
(Common keys for CD and MD function for CD or MD according to the input selection.)
  - REPEAT key (CD, MD)** → 38 → 43  
: This is used for repeated playback.
  - RANDOM key (CD)** → 40  
: Playback of the CD tracks in random order.
  - CLEAR key (CD, MD)** → 37 → 42  
: The programmed track sequence is cleared.
  - PGM key (CD, MD)** → 36 → 41  
: This is used to program the track sequence.
- 10 DISC SELECTOR key (CD)** → 19  
: This selects the disc to be played.
- 11 AUX key** → 8 → 68  
: Press to listen to the input source connected to AUX (analog external). Press again to listen to the input source connected to the digital optical input terminal.
- 12 TUNER BAND key (tuner)** → 28  
: This key switches the reception band.
- 13 VOLUME CONTROL (▽, △) keys**
- 14 MUTE key** → 17  
: This is used to suppress the sound temporarily.

## Loading batteries

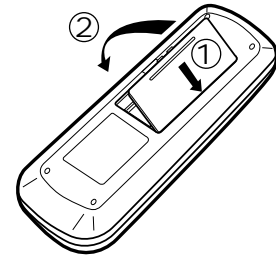
① Remove the cover.



② Insert batteries.



③ Close the cover.



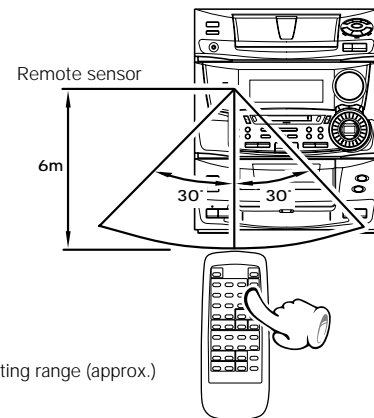
● Insert two R6 ("AA"-size) batteries following the polarity indications.

## Operation

After plugging the power cord of this unit, press the ON/STANDBY (I / ⏻) key of the remote control unit to turn the system ON. When the system is turned ON, press the key of the function to be operated.

Press the ON/STANDBY (I / ⏻) key again for OFF. Only the time display will remain lit and standby status will be reached.

● When pressing more than one remote control keys successively, press the keys securely by leaving an interval of 1 second or more between keys.



Operating range (approx.)



1. The provided batteries are intended for use in operation checking, and their service life may be short.
2. When the remote controllable distance becomes short, replace both of the batteries with new ones.
3. If direct sunlight or the light of a high-frequency fluorescent lamp (inverter type, etc.) is incident to the remote sensor, malfunction may occur. In such a case, change the installation position to avoid malfunction.

## CHANNEL SPACE setting

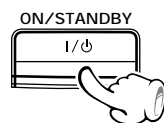
(Except for U.S.A., Canada, U.K., Europe, Australia and Russia)

The CHANNEL SPACE setting is set to the correct setting that prevails in the area to which the unit is shipped.

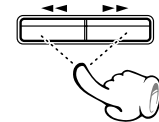
However, if the CHANNEL SPACE setting is not matched to the area where the unit is to be used; for instance, when you move from area 1 to area 2 or vice versa, desired reception of AM/FM broadcasts is not expected. In this case, change the CHANNEL SPACE setting in accordance with the area corresponding to the table.

Area		CHANNEL SPACE freq.
1	U.S.A., Canada, and South American countries	FM: 100kHz AM: 10kHz
2	Other countries	FM: 50kHz AM: 9kHz

① Switch off the unit.



② Select the channel space



Switching is done each time the key is pressed.

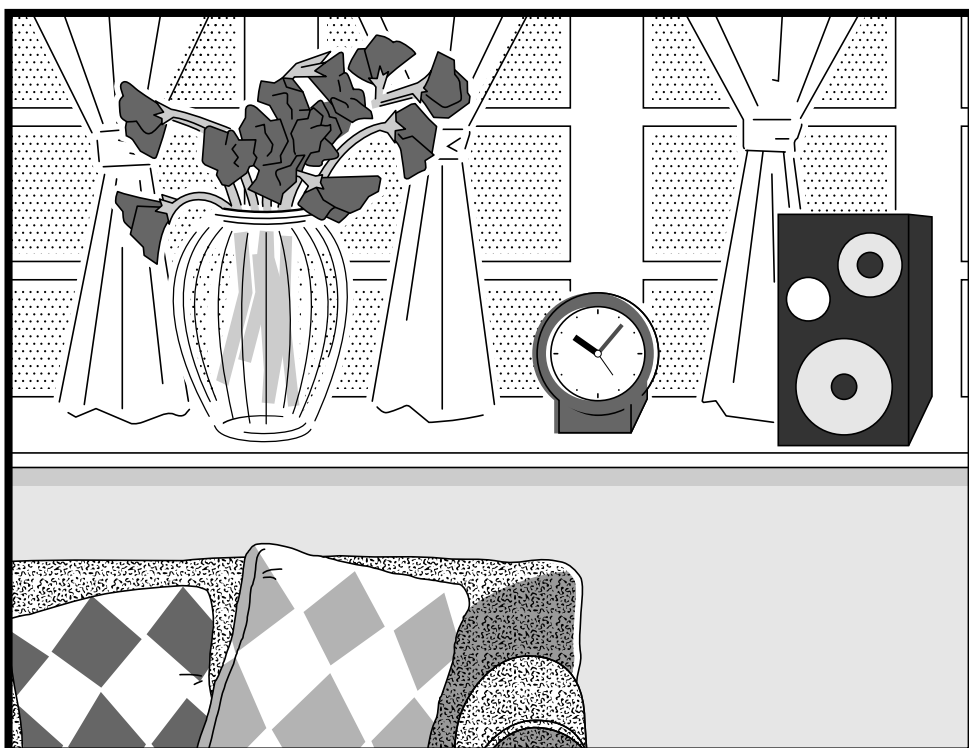
- ① "CH SPACE" ..... FM: 100 kHz steps, (AM: 10 kHz)
- ② "CH SPACE" ..... FM: 50 kHz steps, (AM: 9 kHz)

CH SPACE FM 100 kHz

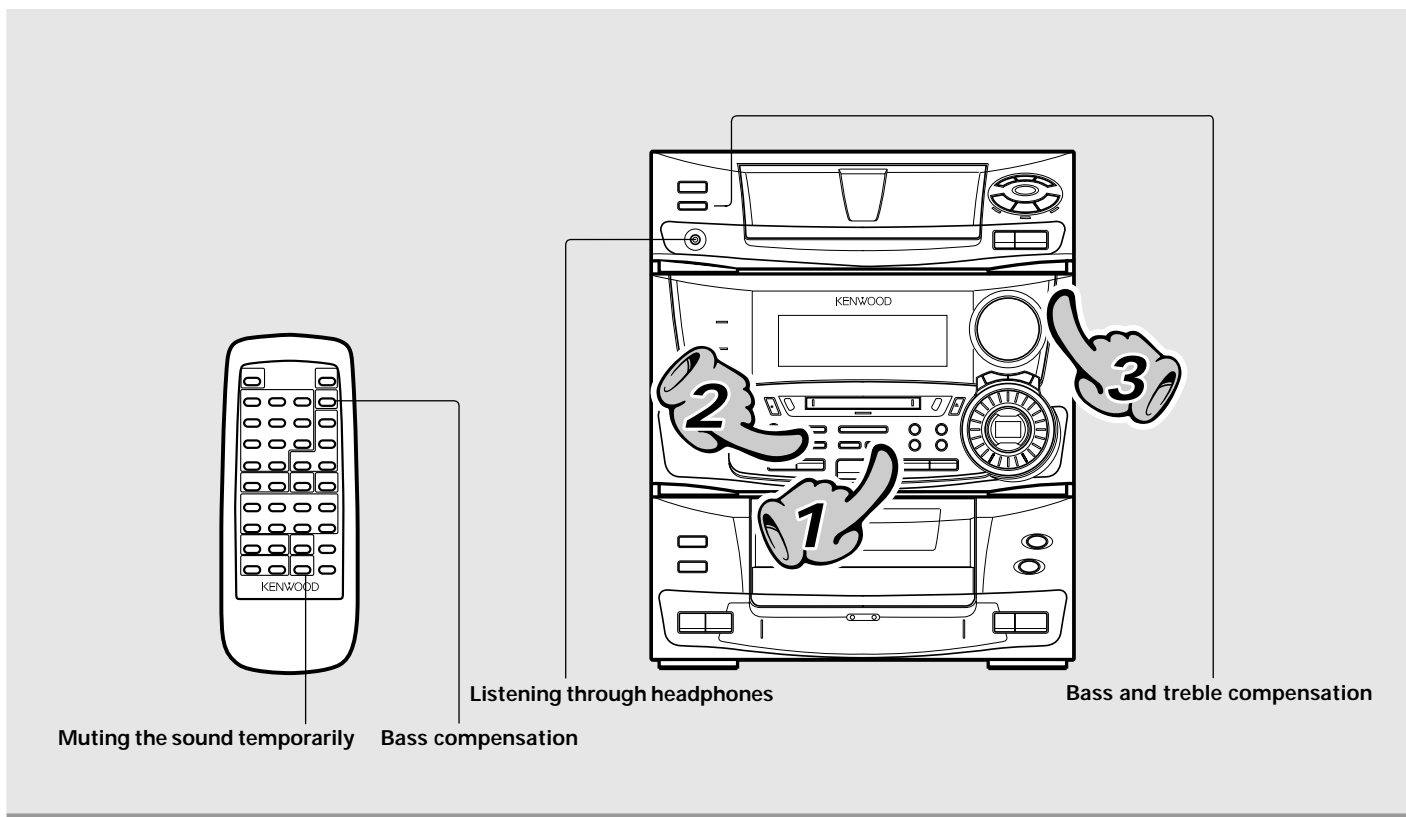
● There is no display for the AM part, but the step is switched simultaneously with the FM switching.

③ Confirm



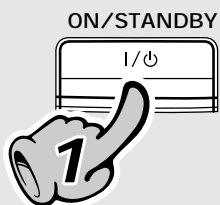


# Basic use method



Basic section

## 1. Set the ON/STANDBY key to ON (STANDBY).



The unit is switched on when the CD, MD and TAPE playback key or the tuner BAND key is pressed. When the ON/STANDBY(I / ⏻) key is pressed while the unit is ON, the unit will be switched OFF.

- The display part becomes dark when the unit is switched OFF. (DIMMER function)

## 2. Selecting the desired output.

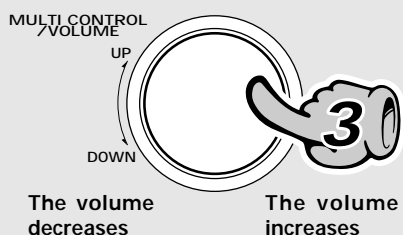


Sequential switching each time the key is pressed.

- ① TUNER (Broadcasts) → 28
- ② CD → 18
- ③ MD → 20
- ④ TAPE → 24
- ⑤ AUX (External input) → 8
- ⑥ DIGITAL IN (OPTICAL input)

- When CD or MD is selected, playback will start when a disc already has been inserted.

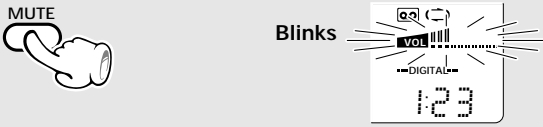
## 3. Volume adjustment.



- Quick turning produces a larger change amount. (Dynamic rotary volume control function)
- The display shows a reference value.



**Muting the sound temporarily** (Remote control unit only)

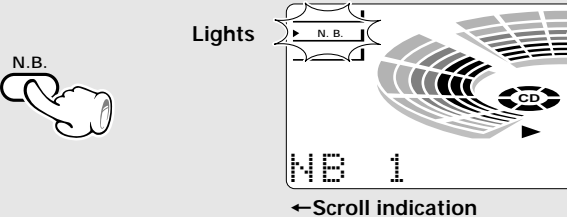


MUTE

Blinks

- Press again to resume the original volume.
- This is also cancelled when the volume is changed.

**Bass compensation** (N.B.CIRCUIT: Natural Bass circuit) (Remote control unit only)



N.B.

Lights

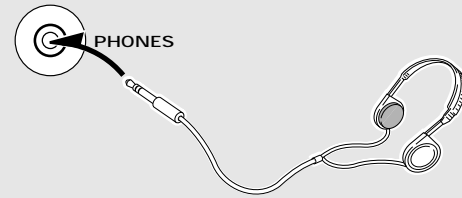
← Scroll indication

Each press switches the modes as follows.

- ① N B 1 ..... The bass range is compensated according to the volume (effective at low volume).
- ② N B 2 ..... Bass range compensation independent of the volume.
- ③ N B OFF ..... N.B. cancellation.

**Listening through headphones**

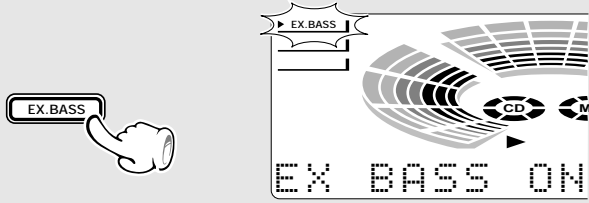
Insert the headphone plug into the PHONES jack.



- The sounds from all speakers are cut off.

**Bass and treble compensation** (EX. BASS)

The factory default is ON. Bass and treble range are compensated.



EX. BASS

EX BASS ON

- Switching between ON and OFF each time the key is pressed.

**AUTO POWER SAVE function**

When the unit is ON and the unit is left for 30 minutes with CD, MD, and TAPE not operating, the unit is switched off automatically by this function. This is convenient when you forgot to switch off the unit. This function can be activated or deactivated by the following operation.



ER SAVE ON

← Scroll indication (AUTO POWER SAVE ON)

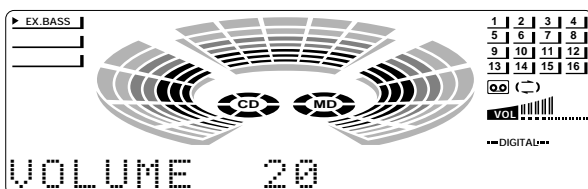
Press the key while the unit is OFF.

- ① "ON" .... Auto power save is used.
- ② "OFF" ... Auto power save is not used.

- When the input selection is TUNER, AUX, or DIGITAL IN, this operates only when the volume is zero or when MUTE is on.

CD DISC 1

When CD has been selected.



Volume display

**STANDBY mode of ON/STANDBY (I / ⏻) key**

When the display section (time display) of this unit is lit or flashing, a small amount of power is supplied to the system. This is called the standby mode. In this condition, the unit can be switched on from the remote control.

# Playback of CD



When a disc is placed into the CD player in advance, the unit will be switched on automatically by pressing the playback (▶/⏸) key, and playback will start.

To stop playback. To pause playback

1

2

Playback from desired track

To fast forward and backward

To fast forward and backward

Skipping tracks

Playback from desired track

Skipping tracks

Basic section

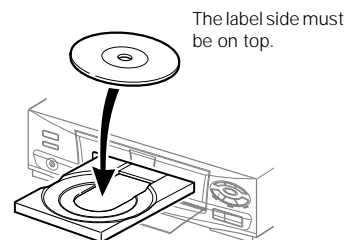
OPEN/CLOSE



When a key is pressed, the tray opens. When the key is pressed again, the tray closes.

## 1. Load a disc.

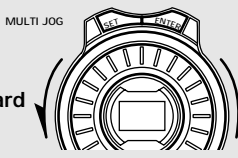
- 1 Open the tray.
- 2 Place a disc.
- 3 Close the tray.



## 2. Start playback.



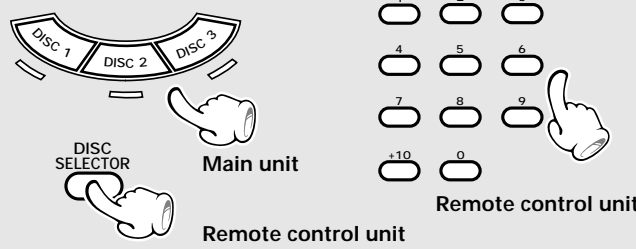
### Skipping tracks



- The track in the direction of rotating the jog dial is skipped, and the selected track will be played from the beginning.
- When the jog dial is rotated a little in the direction of counter-clockwise once during playback, the track being played will be played from the beginning.
- Operation also is possible with the keys ◀◀ and ▶▶ of the remote control unit.

### Playback from desired track

Select the disc.      Select the desired track No.

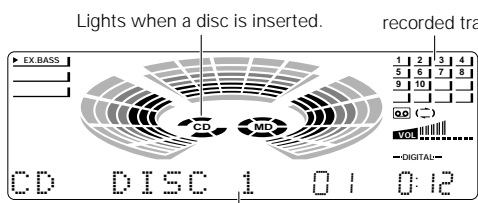


Press the numeric keys as shown below....

To enter track No. 23 : [+10] [+10] [3]

To select track No. 40 : [+10] [+10] [+10] [+10] [0]

- Do not touch the played side of disc.
- Place the disc properly along the groove on the tray. (If the disc is not placed horizontally, malfunction will result.)

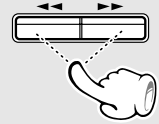


The selected disc is indicated.

- Titles are displayed for discs conforming to CD-TEXT.
- After a few seconds, play starts from track No.1.

The key names in brackets in the explanations are the names of the keys on the remote control unit.

### To fast forward and backward



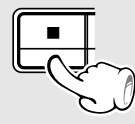
- Playback starts from the position where the key is released.

### To pause playback



- Each press pauses and plays the CD alternately.

### To stop playback



### In regard to CD-TEXT

When discs conforming to CD-TEXT are played with this unit, the text information recorded on the CD (disc name or titles) is displayed automatically.

### Time display on CD player

Each press of the TIME DISPLAY key changes the displayed contents.

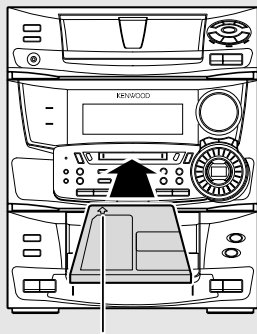
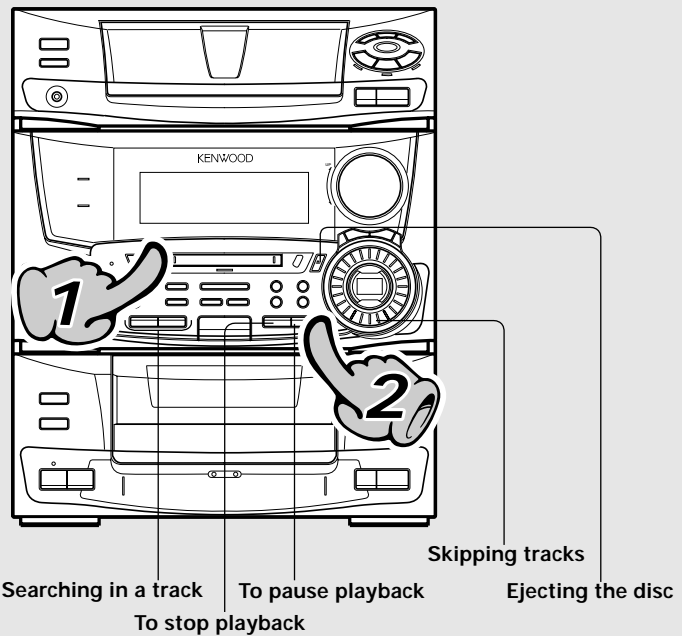
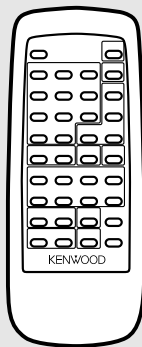
- ① 1:23 : Elapsed time of track being played
- ② - 2:37 : Remaining time of track being played
- ③ 23:45<sup>TOTAL</sup> : Elapsed time of entire disc
- ④ - 36:15<sup>TOTAL</sup> : Remaining time on entire disc

- There is no TOTAL indication in PROGRAM mode, in EDIT mode, and in RANDOM mode.

# Playback of Mini Disc



When a disc is placed into the MD recorder in advance, the unit will be switched on automatically by pressing the playback (▶) key, and playback will start.

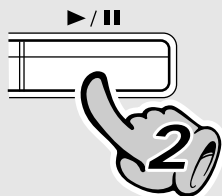


In the direction of the arrow

## 1. Load a Mini Disc.

Insert the minidisc correctly into the slot of this unit.

- When a title has been recorded for the disc or the track, the title is displayed.



## 2. Start playback.

To listen from the track No. 1

- In a few seconds, playback starts from track No. 1.
- During playback, the track title is displayed at the beginning of each track.

To select a track

Press the numeric keys as shown below....

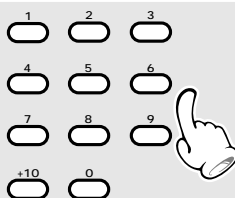
To enter track No. 23:

..... **+10** **+10** **3**

To enter track No. 40:

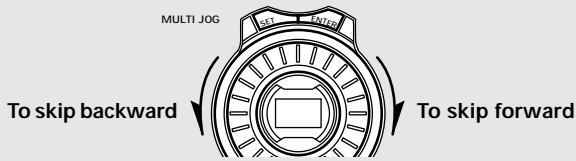
..... **+10** **+10** **+10** **+10** **0**

- If the "PGM" indicator is lit, press the PGM key of the remote control unit to not lit.
- If a track NO. which does not exist on the disc is selected while "READING" is blinking, the last track on the disc will be played.



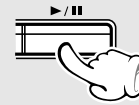
Remote control unit

### Skipping tracks



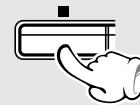
- The track in the direction of rotating the jog dial is skipped, and the selected track will be played from the beginning.
- When the jog dial is rotated a little in the direction of counter-clockwise once during playback, the track being played will be played from the beginning.
- Operation also is possible with the keys ◀◀ and ▶▶ of the remote control unit.

### To pause playback

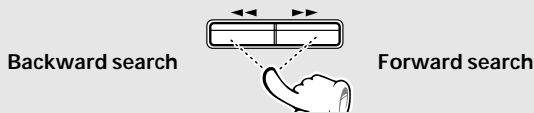


- Each press pauses and plays the MD alternately.

### To stop playback



### Searching in a track



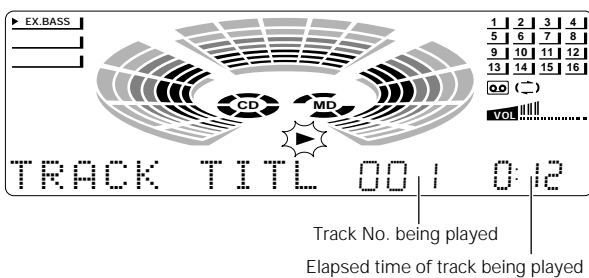
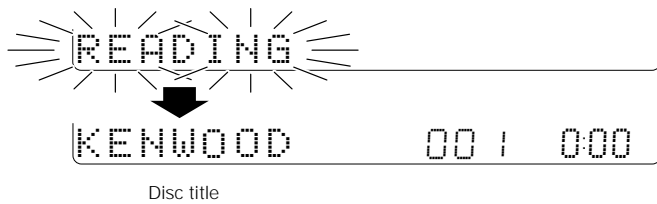
- Playback restarts when the key is released. (When the key is pressed in pause mode, unit returns to the pause mode at the reached position.)
- If forward or reverse search is started during play-pause, the disc can be searched at a high speed but sound is not output.

### Ejecting the disc



- The minidisc comes out from the minidisc insertion slot.

### The display changes.



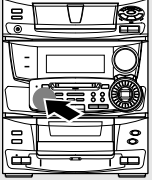

### Disc recorded in monaural mode

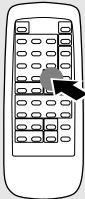

This unit is capable of playing a disc recorded in the monaural mode. As the amount of data required to record information in the monaural mode is half the amount required in the stereo mode, the play (record) time of a disc recorded in the monaural mode is twice (max. 148 minutes) that of a disc recorded in the stereo mode.

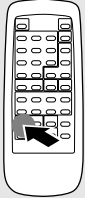

## Searching a desired track by its title (TITLE SEARCH)

When the titles of the tracks recorded on a minidisc for recording are entered in advance, search by title is possible for the tracks to be played. → 60

- 1** Select the "MD" input.

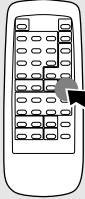
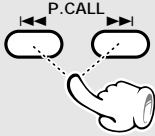


- 2** Confirm that the "PGM" indicator is not lit.



- 3** Press the TITLE SEARCH key.


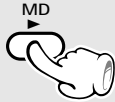



Press during stop.

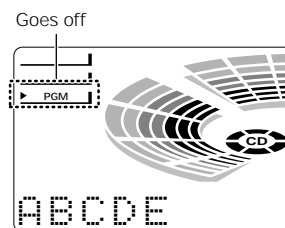
To abort operation, press the TITLE SEARCH key again.
- 4** Select the desired title.

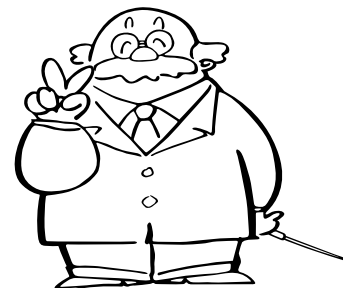
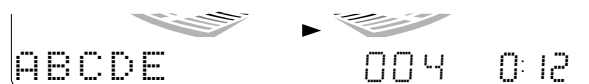
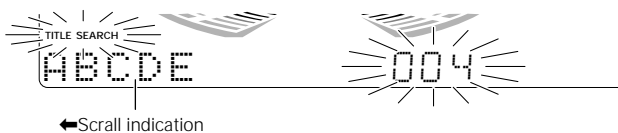
To smaller track No.      To larger track No.
- 5** Start playback.

- When the "PGM" display is lit, press the PGM key on the remote control unit to switch it off.

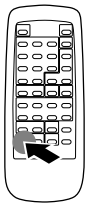


- With a track to which no title has been assigned, the track number and "NO TITLE" are displayed.
- Track selection is possible with the MULTI JOG dial (◀◀, ▶▶) on the main unit.

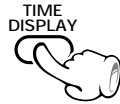


### In Regard to the TIME DISPLAY key

This can be used to change the time display type at the MD recorder section.



Remote control unit

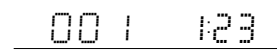


Each press switches the modes as follows.

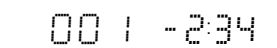
In stopped condition, during playback, and in PGM stop condition

- ① Elapsed time of track (0:00 indication)
- ② Remaining time of track (-0:00 indication)
- ③ Elapsed time and Recordable time for the entire minidisc
- ④ Remaining time for the entire minidisc

Elapsed time of track being played



Remaining time of track being played



Recordable time for the entire minidisc

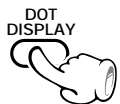
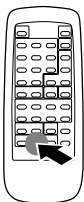


Remaining time for the entire minidisc



### In regard to the DOT DISPLAY key

For CD and MD, the display mode of the dot display can be switched.



Each press switches the modes as follows.

(For discs conforming to CD-TEXT)

- ① Disc title display
- ② Track title display
- ③ Recordable time for the MD (only during MD recording)

(For discs not conforming to CD-TEXT)

- ① CD disc No.
- ② Recordable time for the MD (only during MD recording)

During MD recording

- ① Normal display
- ② Recordable time for the entire minidisc

Disc title display



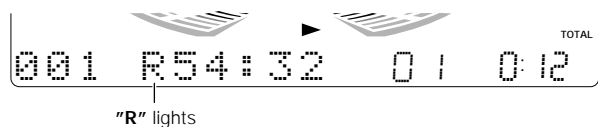
Track title display



● Switching to ① Disc title display and ② Track title display is done by pressing the **DOT DISPLAY** key while the display is moving (during scroll).

● When no track name (track title) and no disc name (disc title) has been recorded, "NO TITLE" is displayed.

Indication of the recordable time for the MD

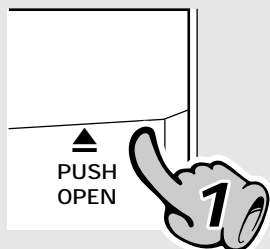
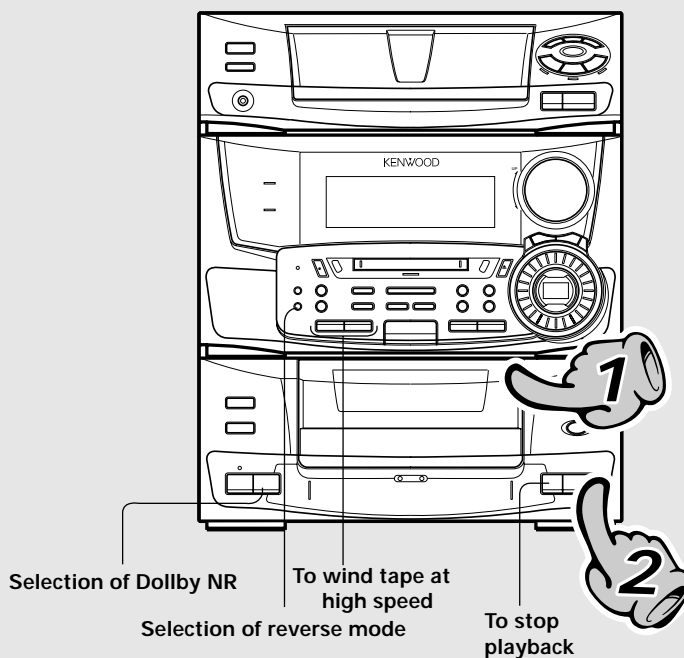
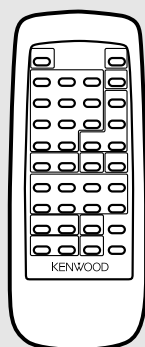


● "BLANK DISC" is displayed when not even one track has been recorded. (When there is a disc title, the disc title will be displayed.)

# Playback of tape

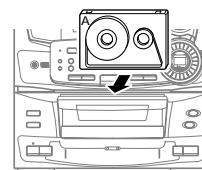


If you load a tape(s) in a cassette deck(s) while the power is off, simply pressing the tape play key turns power automatically ON and starts playback.



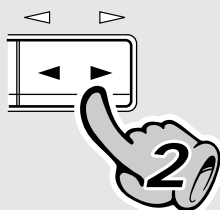
## 1. Load a cassette tape.

- ① Open the door.
- ② Insert a tape and close the door.



## 2. Start playback.

During playback, the tape running direction changes each time the key is pressed.





### To wind tape at high speed

To fast wind in direction ← To fast wind in direction →

● Press the ■ key to stop fast winding.

### To stop playback

● Do not take out the cassette tape until the tape transport has stopped completely.

### Selection of reverse mode

REV.MODE

Each press switches the modes as follows.

- ① "↔" ... Both sides are played back (recorded), and then the tape stops.
- ② "↔" .. Both sides are played back endlessly. (The tape stops after recording onto both sides.)
- ③ "↔" ... Only one side is played back (recorded), and then the tape stops.

### Selection of DOLBY NR (Noise Rednction)

The Dolby NR system minimizes the hiss noise heard when playing tape. When playing a tape Prerecorded with Dolby NR ON, be sure to set the DOLBY NR ON for playback.

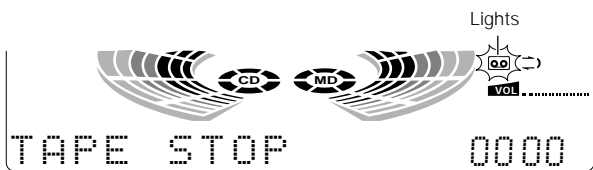
DOLBY NR

Lit when "DOLBY NR" is ON

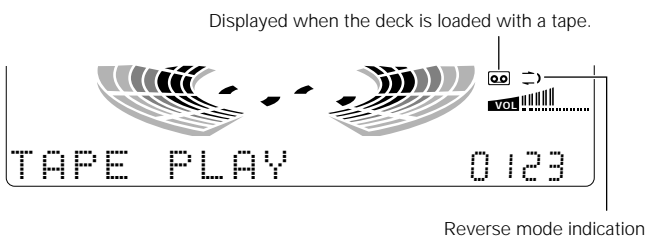
Each press switches the modes as follows.

- ① "DOLBY NR" ON ..... DOLBY NR is used.
- ② "DOLBY NR" OFF ..... DOLBY NR is not used.

● Select the DOLBY NR mode according to the recording condition of the tape.



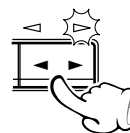
- Normal (TYPE ∅), high (TYPE ε), or metal (TYPE -) tape selection is set automatically.
- Remove tape slack before loading.
- Close the door securely.



### Transport direction indicators

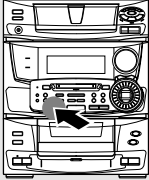
The ◀ and ▶ indicators indicate the current direction in which the tape advances when playback or recording is started automatically by the easy operation function, etc. This direction is the direction stored in memory when the tape was last stopped. (To change the tape running direction, press the ◀▶ key during playback, and then press the (■) key.)

Transport direction indicators



## Searching for the desired music program (DPSS)

The DPSS (Direct program Search System) is capable of detecting non-recorded spaces of more than 4 seconds as "blanks between programs" and, based on this information, can return to the beginning of the music program being played or the beginning of a desired program by skipping up to 16 other programs.

	During play in direction ►	During play in direction ◀
	<p>To play the next program : Press once. To play the 4th program after the current program : Press 4 times.</p>	<p>To play the next program : Press once. To play the 4th program after the current program : Press 4 times.</p>
	<p>To return to the beginning of the current program : Press once. To play the 4th program before the current program : Press 5 times.</p>	<p>To return to the beginning of the current program : Press once. To play the 4th program before the current program : Press 5 times.</p>



The DPSS may not function normally with the following kinds of tape.

- Tapes containing several no-sound intervals of more than 4 seconds, such as conversation and talk tapes.
- Tapes containing pianissimo sections, such as classical music tape.
- Tapes in which large noise is recorded in blanks between programs.
- Tapes containing blanks between programs that are shorter than 4 seconds.
- Tapes recorded at low level.
- Tapes recorded by cross-fade recording (in which the beginning of next program is overlapped on the end of previous program).

### A tip for use of the tape counter

The tape counter is set to "0000" when a cassette tape is loaded. By writing down the counter reading in case you want to interrupt recording (playback) in the middle of the tape, the memo will be helpful as a reference for locating the same position when continuing the recording (playback) the next time. The tape counter figure decrements during recording or playback of the back side (while the ◀ tape transport indicator is lit).

To set the tape counter to "0000", open the cassette holder once. Then the counter will be reset.



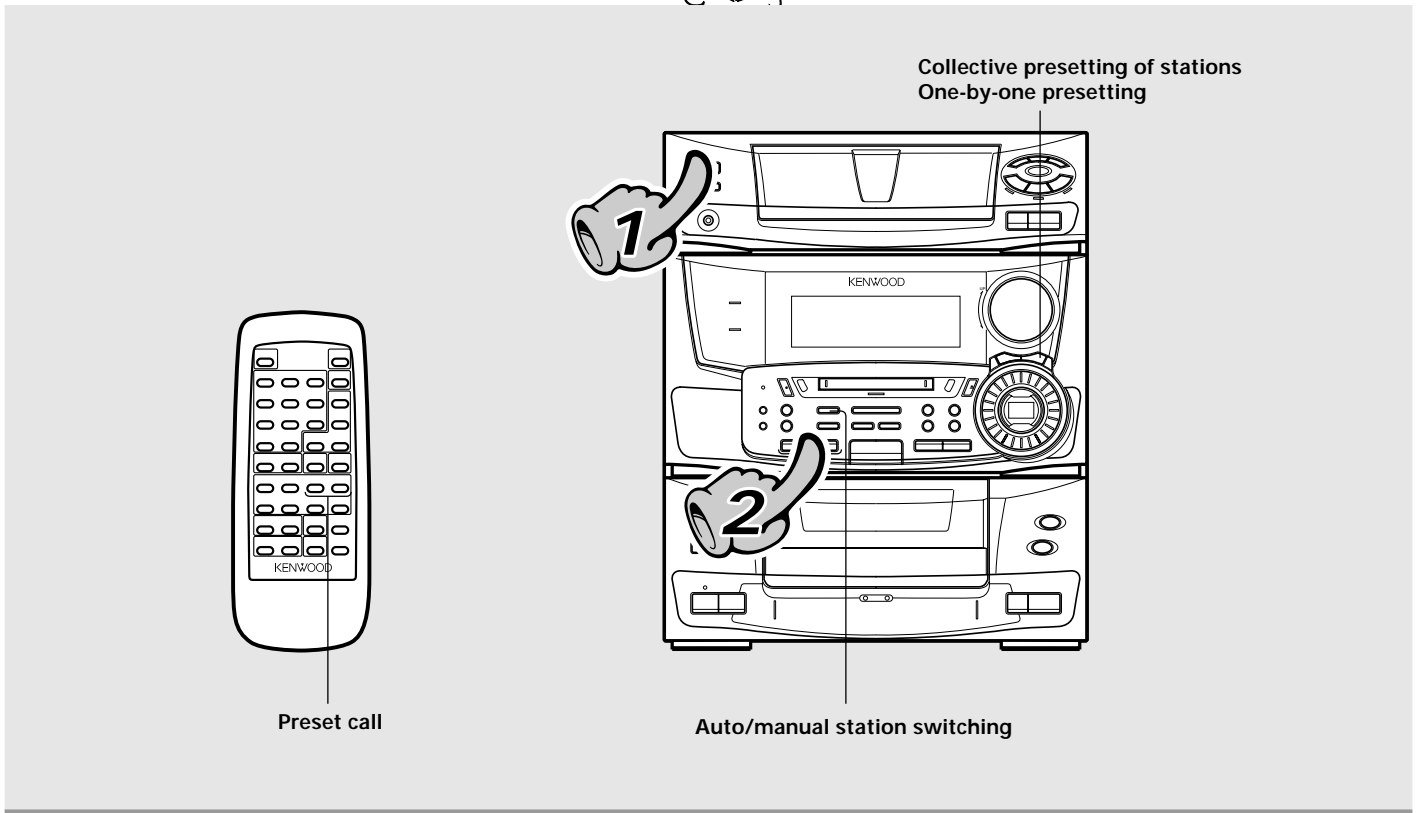


## Receiving broadcast station

It is also possible to receive them by one-touch operations by storing up to 40 stations in the preset memory.



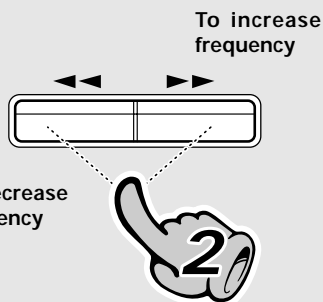
When the TUNER/BAND key is pressed, the unit will automatically be switched on and reception status will be reached.



### 1. Select the broadcast band.

Each press changes the band.

- ① FM
- ② AM



### 2. Select a station.

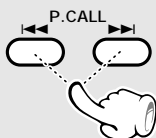
When no stations have been memorized

**Auto tuning** : The next broadcasting station will be received automatically each time this key is pressed.

**Manual tuning** : Press the key repeatedly or hold it depressed until a station is received.

When stations have been memorized (preset call)

Select a station.



Remote control unit

Every time the key is pressed, the preset stations are switched over as follows.

Press ►► for the order of 1→2→3 ... 38→39→40→1...

Press ◄◄ for the order of 40→39→38 ... 3→2→1→40...



### Collective presetting of stations (auto preset)

Keep the ENTER key depressed (about 2 seconds).



### One-by-one presetting (manual preset)

1 Press the ENTER key during reception.



Presetting is cancelled when no operation is executed for 5 seconds or more.

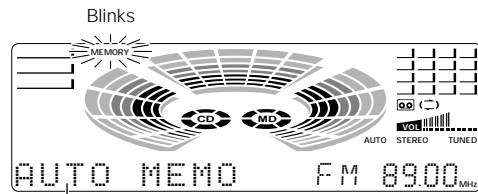
2 Select one of the preset numbers from 1 to 40.



3 Press the ENTER key again.



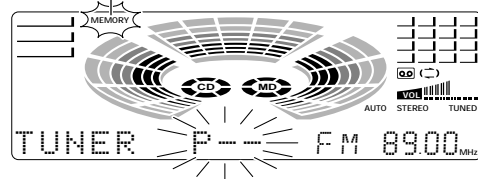
4 Repeat steps 1, 2, 3 to preset other stations.



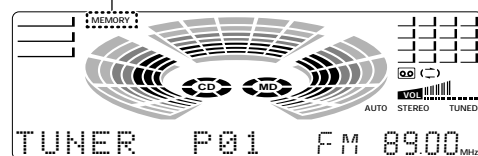
The display differs according to the equipment (country and area), and "A.PRESET" also may be shown.

- A maximum of 40 stations of the band presently being received will be preset.
- When there are many stations and the intended station has not been preset, please also use "One-by-one presetting (manual preset)".

"MEMORY" lights (for approx. 5 sec.)



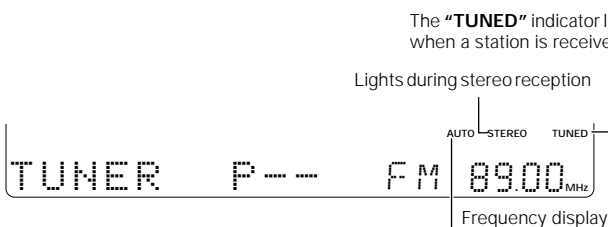
Goes off



- If several stations are preset under the same number, the previous memory is replaced with the latest memory contents.



Reception band indication



Lights at the time of automatic station selection.

### Select the tuning mode



Each press alternates the mode.

- 1 "AUTO" lit (Auto tuning)
- 2 "AUTO" not lit (Manual tuning)

Use the manual tuning mode when reception is noisy due to weak reception. (In the manual mode, stereo broadcasts are received in monaural.)

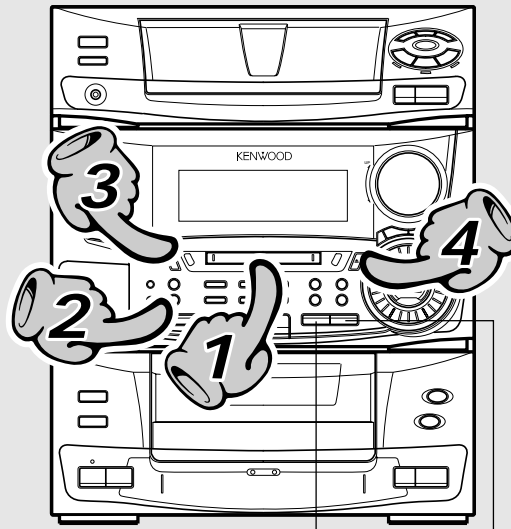
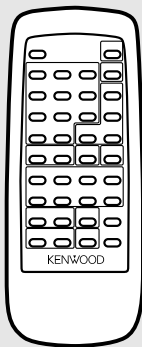
- Normally, use the **AUTO** (Auto tuning) mode.

- When a key is held depressed, preset stations will be skipped at an interval of about 0.5 second.
- Preset stations can be called using the number keys on the remote control unit.

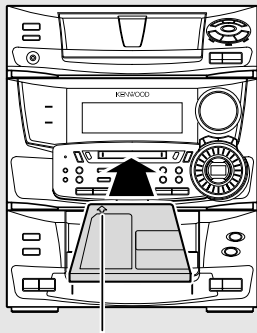
## Recording on MD

This unit cannot record audio in monaural mode.

MD recording is possible as "digital recording", where the digital signal of the CD is used as it is, and as "analog recording", where the analog signal of a broadcast etc. is converted to a digital signal.



Stop the recording    Pause the recording



In the direction of the arrow

### 1. Make the preparations for recording.

- ① Open the write protect tab of the Mini Disc to make it recordable. → 5
- ② Load the Mini Disc.

Select an input source other than "MD".

### 2. Select the source to be recorded.

Each press switches the modes as follows.

- ① TUNER (Broadcasts) : Only analog recording
- ② CD : Digital or analog recording
- ③ MD : Recording is not possible
- ④ TAPE : Only analog recording
- ⑤ AUX (tape etc.) : Only analog recording
- ⑥ DIGITAL IN (Optical input)

CD    DISC 1

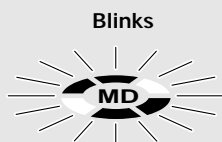
Indication of the input source to be recorded.



For CD analog recording, refer to "How to use the REC INPUT SELECT key".

- While a CD or MD is set, play will start, so that the STOP(■) key must be pressed to stop the disc.

## Pause the recording



- Press the key again to resume recording. At this time, the track number is incremented by "1".
- Recording can also be started by pressing the record (● REC) key.

## In regard to display messages

Recording is not possible when one of the following messages is displayed.

- |             |   |           |
|-------------|---|-----------|
| "DISC FULL" | : The minidisc is full.<br>➔ Erase unrequired tracks.               | → 66 → 81 |
| "PROTECTED" | : The write protect tab is open.<br>➔ Close it.                     | → 5       |
| "PLAY ONLY" | : The minidisc is only for playback.<br>➔ Insert a recordable disc. |           |

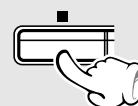
## Check the remaining recording time.

Press during recording or during recording pause.



The recordable time for the MD is displayed.

## Stop the recording



## 3. Start recording.

- 1 Press the record (● REC) key. (Recording pause status is reached.)
- 2 When the preparations have been made, press the recording (● REC) key again.
- 3 Play the music source to be recorded.

- For recording from a CD, read "ONE TOUCH EDIT recording". → 52 → 53



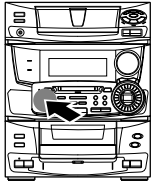
## 4. Remove the minidisc after the end of recording.

Always remove the minidisc after recording.

"WRITING" displayed during the minidisc ejection operation indicates that the data associated with recording or editing is being written on the disc. Do not apply vibration or shock to the unit while this message is displayed.

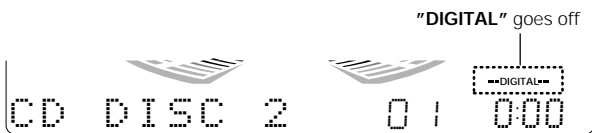
### How to use the REC INPUT SELECT key

Digital recording is executed automatically when the input selection is CD. For analog recording from a CD, use the REC INPUT SELECT key.



Each press switches the modes as follows.

- ① "DIGITAL" is lit : Digital recording
- ② Not lit : Analog recording

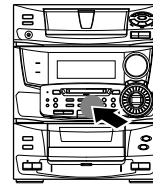


### In regard to track numbers at the time of recording

When a part without sound continues for 2 sec. or more during recording, the track number is automatically increased by "1" when the next sound enters. When classic music continues with low sound, the track number may be increased by "1". The erroneously set track number can be erased later.

When it is desired to increase the track No. during recording, press the TRACK EDIT key during recording to record a track No. at that position.

The track numbers are used at the time of playback to find the start of tracks, for programming, etc.



Press during recording.



- With digital recording from a CD, the track number is increased when the track changes. (The track number is not increased even when there is a part without sound in excess of 2 sec in the track.)



At the time of recording from a CD, the track number may be incremented when CD playback starts. This occurs because of a signal included in the digital signal from the CD. Delete unwanted track numbers under reference to "TRACK ERASE or ALL ERASE".

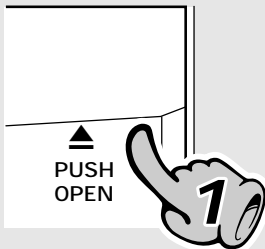
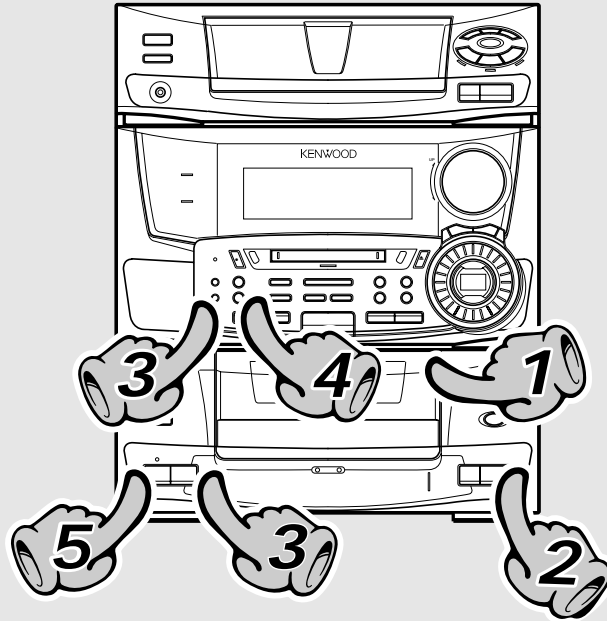
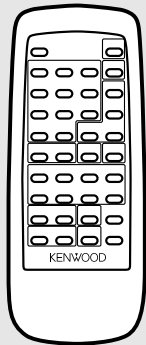




# Recording on TAPE



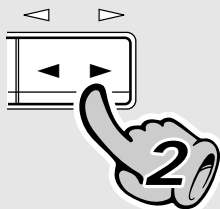
Note that this cassette deck cannot record onto Metal tapes.



## 1. Load a tape in deck.

- ① Open the door of deck.
- ② insert a tape.
- ③ Close the door.

- Differentiation between normal (TYPE  $\emptyset$ ) and high (TYPE  $\epsilon$ ) tape is set automatically.
- Remove tape slack before loading.



## 2. Select the tape transport direction.

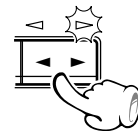
To reverse the transport direction

- ① Press the play key.
- ② Press the play key again.
- ③ Stop playback.

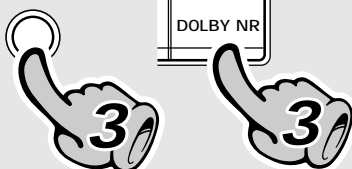
- When recording is started, the tape is transported in the direction selected in this step.
- Wind the tape to the position where recording is to be started.

Check the tape transport direction indicator.

Transport direction



REV. MODE



## 3. Set the recording condition.

- ① Select the reverse mode.
- ② Select the Dolby NR mode.

### Selection of the reverse mode

REV.MODE

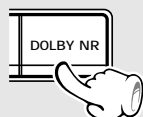


Each press switches the modes as follows.

- ① "↔" ... Both sides are played back (recorded), and then the tape stops.
- ② "↔" .. Both sides are played back endlessly. (The tape stops after recording onto both sides.)
- ③ "↔" ... Only one side is played back (recorded), and then the tape stops.

### Selection of DOLBY NR (Noise Reduction)

The Dolby NR system minimizes the hiss noise heard when playing tape. When playing a tape prerecorded with Dolby NR ON, be sure to set the DOLBY NR ON for playback.



DOLBY NR

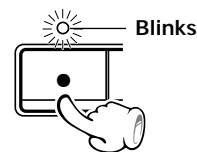


Lit when "DOLBY NR" is ON

Each press switches the modes as follows.

- ① "DOLBY NR" ON ..... DOLBY NR is used.
- ② "DOLBY NR" OFF ..... DOLBY NR is not used.

### To pause recording



- Pressing the key pauses recording after leaving a non-recorded space of about 4 seconds.
- If the key is pressed again in less than 4 seconds after it has been pressed, recording resumes from that instant.

### Points in CD recording

Where recording CD tracks onto a tape, if you leave the cassette deck in record-pause mode beforehand, the cassette deck recording can be started at the CD starts to be played. (Synchro recording function)

- ① Put the CD player in pause mode.
- ② Select the track to be recorded with the skip (←, →) keys. (The CD player pauses at the beginning of the selected track.)
- ③ Put the cassette deck in Record-pause mode.
- ④ Start playing the CD. (Synchro recording starts)

- Recording stops when the stop (■) key of the playback unit is pressed.
- Synchronized recording from MD also is possible with the same procedure.



INPUT SELECT

Select an input source other than "TAPE"

## 4. Select the source to be recorded.

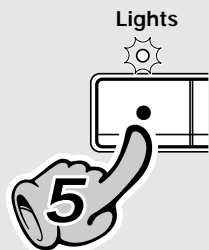
Sequential switching each time the key is pressed.

- ① TUNER (Broadcasts)
- ② CD
- ③ MD
- ④ TAPE (Recording is not possible)
- ⑤ AUX (External input)
- ⑥ DIGITAL IN (Optical input)

CD DISC 1

The input source component to be recorded should be displayed

- When the CD input is selected and if a disc has been set in the CD player, its playback starts immediately.



Lights

## 5. Start recording.

- ① Play (or tune) the input source to be recorded.
- ② Start recording.

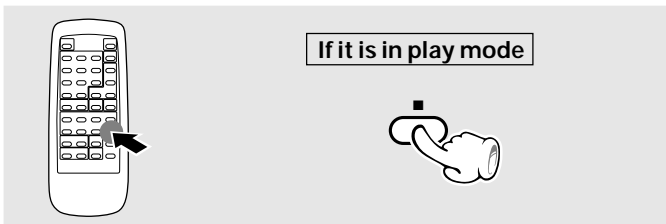
- Recording stops automatically when the tape side (s) to be recorded have been fully recorded.

## Listening in the desired sequence (program playback)

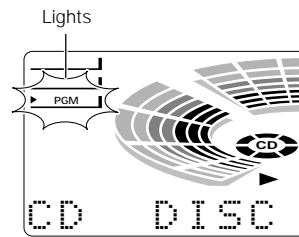
Any titles on the discs in the tray can be listened to in the desired sequence. (Max. 32 titles)

Select the "CD" input.

### 1 Check that the CD player is in the stop mode.



### 2 Light the "PGM" indicator.



### 3 Enter track Nos. in the order you want to play them.

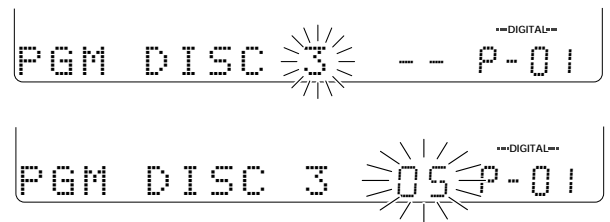
**1** Select the disc.  
DISC SELECTOR  
Go to step 2 within 8 seconds.

**2** Select the track.

1	2	3
4	5	6
7	8	9
+10	0	

**3** Confirm the selection.  
PGM

To select tracks from more than one disc, repeat 1, 2 and 3.



Press the numeric keys as shown below....

To enter track No. 23 : [+10] [+10] [3]

To select track No. 40 : [+10] [+10] [+10] [+10] [0]



- Up to 32 tracks can be programmed. When "FULL" is displayed, no more tracks can be programmed.
- If you make a mistake, press the PGM key to quit the program mode and restart from step 2.

### 4 Start playback.

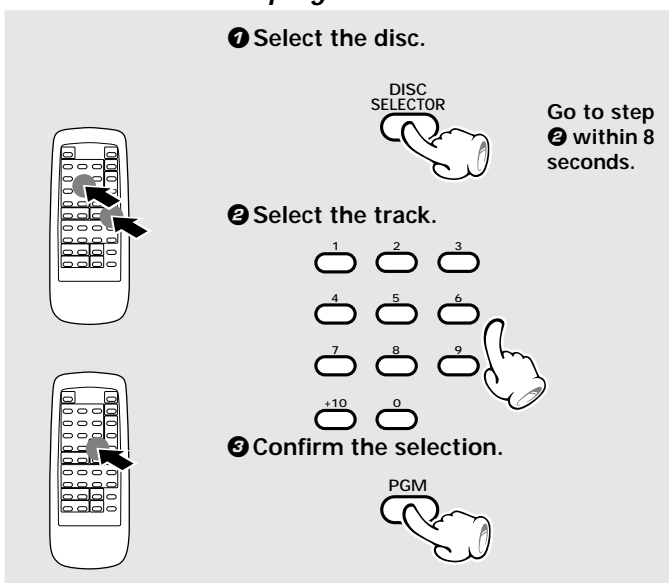


- When the ◀◀ or the ▶▶ key is pressed during play, the program will jump to the preceding or the following track respectively.
- When the ◀◀ key is pressed once during playback, the play position returns to the beginning of the current track being played.

**To stop playback**

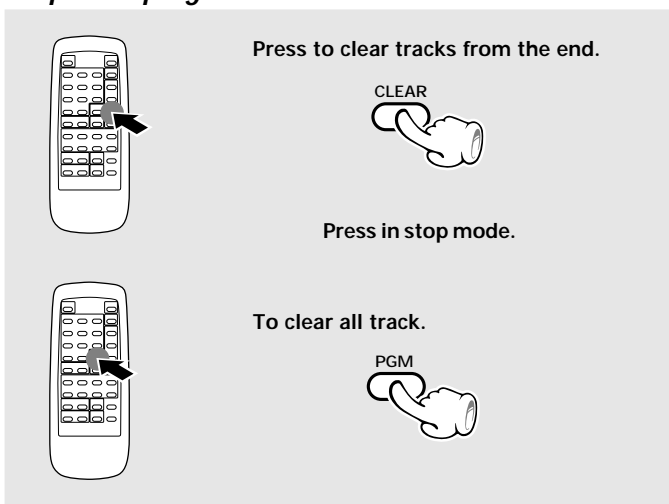


**To add a track to the program**

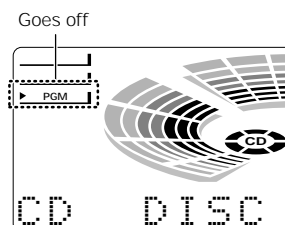


- When a track No. is entered, the track will be added to the end of the existing program.

**To quit the program mode**



- Each time the key is pressed, the last track in the program is cleared.

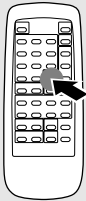


# Repeated playback

You can repeatedly listen to a favorite track or disc.

Select the "CD" input.

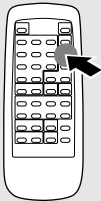
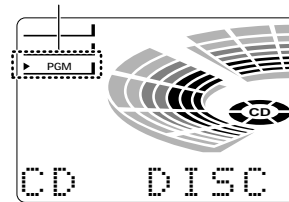
## To repeat a disc



- 1 Confirm that the "PGM" indicator is not lit.

If the "PGM" indicator is lit, press the PGM key to turn it off.

Confirm that this is not lit.

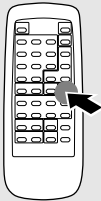


- 2 Specify "DISC REPEAT".



Each press switches the repeat mode.

- 1 REPEAT
- 2 DISC REPEAT
- 3 ALL REPEAT
- 4 Repeat OFF



- 3 Select the disc.

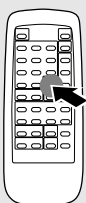


## To stop repeated playback

Press the REPEAT key twice.

- The "DISC REPEAT" indicator goes off and the playback following the current mode of the CD player starts.

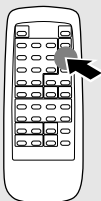
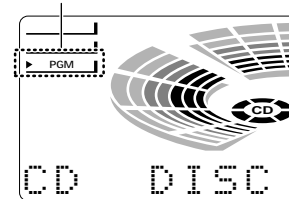
## To repeat all discs



- 1 Confirm that the "PGM" indicator is not lit.

If the "PGM" indicator is lit, press the PGM key to turn it off.

Confirm that this is not lit.



- 2 Specify "ALL REPEAT".



Each press switches the repeat mode.

- 1 REPEAT
- 2 DISC REPEAT
- 3 ALL REPEAT
- 4 Repeat OFF



- 3 Select the disc to be played first.

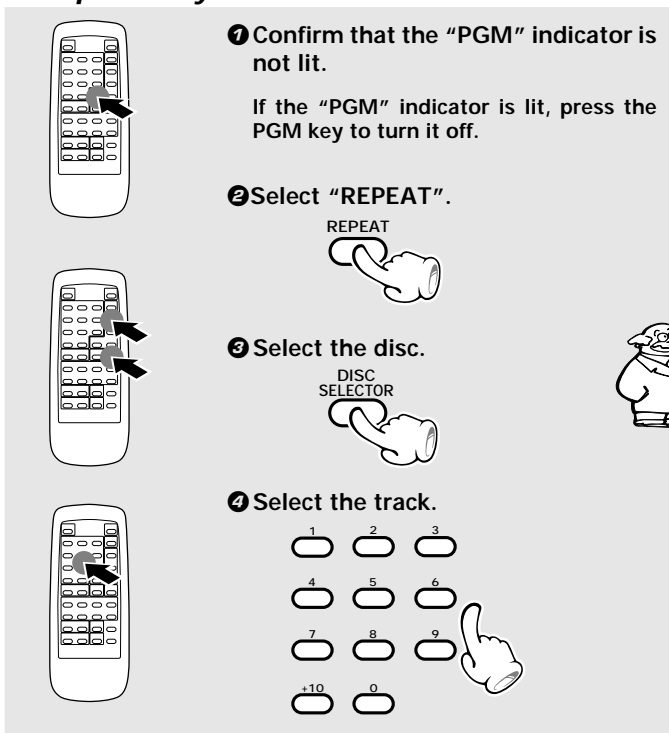


## To stop repeated playback

Press the REPEAT key again.

- The "ALL REPEAT" indicator goes off and the playback following the current mode of the CD player starts.

### To repeat only one track



**1** Confirm that the "PGM" indicator is not lit.  
If the "PGM" indicator is lit, press the PGM key to turn it off.

**2** Select "REPEAT".

**3** Select the disc.

**4** Select the track.

Each press switches the repeat mode.

- ① REPEAT
- ② DISC REPEAT
- ③ ALL REPEAT
- ④ Repeat OFF

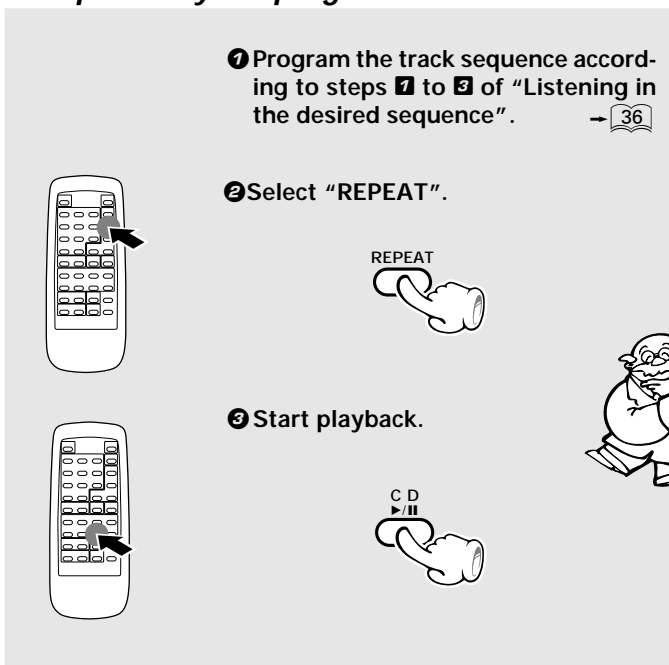


### To stop repeated playback

Press the REPEAT key three times.

- The "REPEAT" indicator goes off and the playback following the current mode of the CD player starts.

### To repeat only the programmed tracks

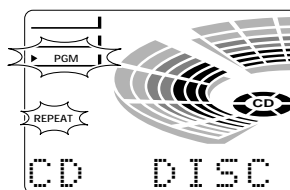


**1** Program the track sequence according to steps **1** to **3** of "Listening in the desired sequence". → 36

**2** Select "REPEAT".

**3** Start playback.

- All selected tracks will be repeated.



### To stop repeated playback

Press the REPEAT key again.

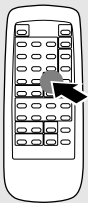
- The "REPEAT" indicator goes off and the playback following the current mode of the CD player starts.

## Listening to an unexpected title sequence (random playback)

As the titles each time are selected randomly, the music can be enjoyed without getting tired of it.

Select the "CD" input.

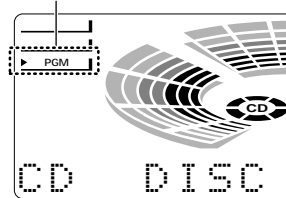
### 1 Confirm that the "PGM" indicator is not lit.



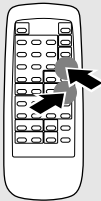
If the "PGM" indicator is lit, press the PGM key to turn it off.



Confirm that this is not lit.



### 2 Select the RANDOM mode.



Please select the disc before selecting "DISC RANDOM".



Each press switches the modes as follows.

- ① DISC RANDOM ..... Random play of one disc.
- ② ALL RANDOM ..... Random play of all discs.
- ③ Normal playback

For random playback of one disc

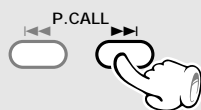
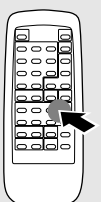
For random playback of all discs



- Playback stops after each title has been played once.
- The random playback can also be repeated by pressing the REPEAT key.



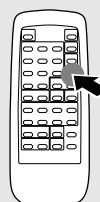
### To select another track in the middle of playing one



- Pressing the P.CALL key once returns to the beginning of the track being played.

### To cancel random playback

Press so that the "RANDOM" indicator goes off.



- The "RANDOM" indicator goes off and the playback in order of the tracks starts from the track being played.

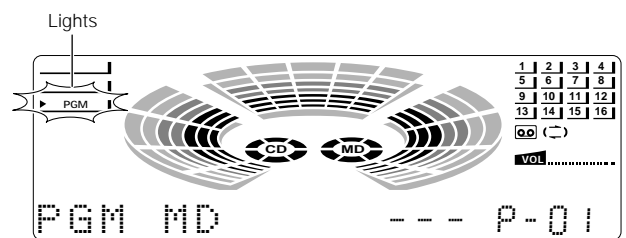


## Listening in the desired sequence (program playback)

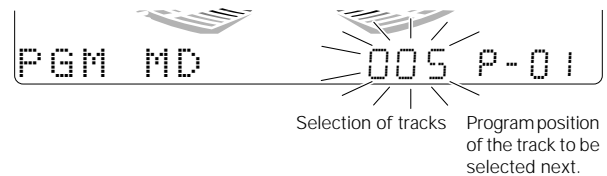
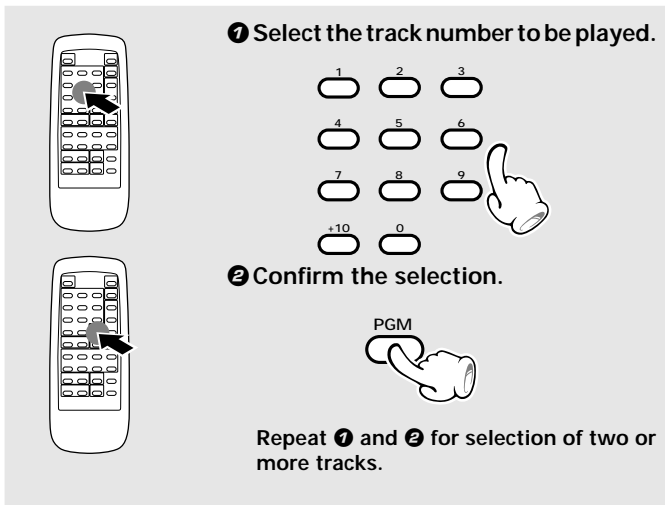
Use the following procedure to program desired tracks in a desired order. (up to 32 tracks)

Select the "MD" input.

### 1 Let the "PGM" indicator light.



### 2 Select track numbers in the order you want to play them.



Press the numeric keys as shown below....

To enter track No. 23 : **+10 +10 3**

To select track No. 40 : **+10 +10 +10 +10 0**

- Up to 32 tracks can be programmed. More than 32 tracks cannot be selected.
- If you made a mistake, press the **CLEAR** key and enter the track No. again.
- An extremely short track cannot be programmed.
- "-- --:-- --" is displayed when the total programmed period has attained 100 minutes or more.

### 3 Start playback.




- When the **◀** or **▶** key is pressed during playback, tracks will be skipped in the direction of the pressed key.

To stop playback



**To add a track to the program**




**①** Sequentially select the track numbers to be added.

1	2	3
4	5	6
7	8	9
+10	0	

Press in stop mode.

**②** Confirm the selection.

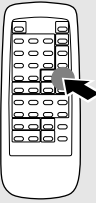


Repeat ① and ② for selection of two or more tracks.


- When a track No. is entered, the track will be added to the end of the existing program.

**To clear tracks from the program**

**Clearing tracks from the end**




CLEAR



Press in stop mode.


**Clearing all tracks**

Remote control unit      Main unit



PGM

or



Press in stop mode.

**Last program display after deletion**



(P-14 has been deleted.)

- Each time the key is pressed, the last track in the program is cleared.

- The entire program is cleared.

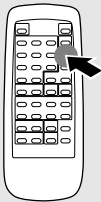
# Repeated playback

Select the "MD" input.

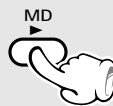
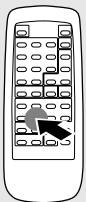
## To repeat only the programmed tracks

① Program the track sequence according to steps ① to ② of "Listening in the desired sequence". → 41

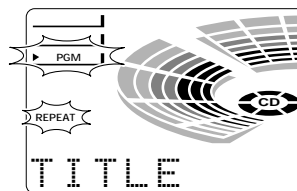
② Let the "REPEAT" indicator light.



③ Start playback.



"REPEAT", "PGM" light.



- All of the programmed tracks will be repeated.
- In case only one track is programmed, only that track will be repeated.

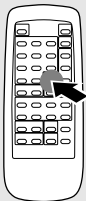
## To stop repeated playback

Press the REPEAT key again.

- The "REPEAT" indication goes out and program playback is executed.

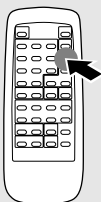
## To repeat the entire disc

① Make the PGM display go out.



Press in stop mode.

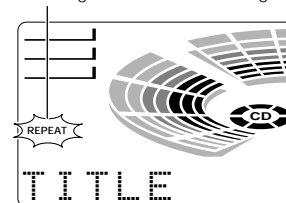
② Let the "REPEAT" indicator light.



③ Start playback.



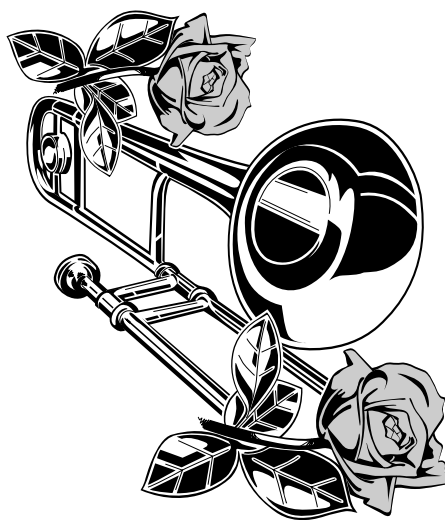
"PGM" goes off, "REPEAT" light.



## To stop repeated playback


Press the REPEAT key again.

- The "REPEAT" indication goes out and program playback is executed.




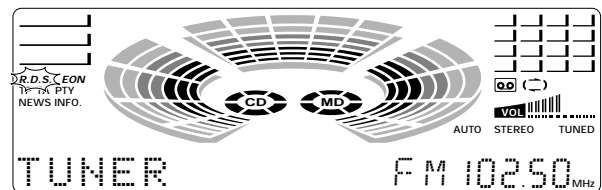
RDS is a system which transmits useful information (digital data) for FM broadcasts together with the broadcast signal. Tuners and receivers designed for RDS reception can extract the information from the broadcast signal for use with various functions such as automatic display of the station name.

## ***This unit is equipped with the following functions utilizing RDS data :***

**PTY (Program Type Identification) Search :** —  46  
The tuner automatically searches for a station which is currently broadcasting a specified program type (genre).

**PS (Program Service Name) Display :** (See below.)  
When an RDS broadcast is received, the station name is automatically displayed.

**EON (Enhanced Other Network) :** —  48  
When the information to be received is set in advance and any RDS station in the same network starts broadcasting of such information, the reception automatically will be switched to that station.



The "RDS" indicator lights up when an RDS broadcast (signal) is received.

- Some functions may not be provided or be given different names depending on countries or areas.

## ***Before using RDS***

For reception of RDS stations, the auto presetting function must be used to preset the stations. With the auto presetting function, RDS stations are preset with priority. "NO DATA" will be flashed when a station is not preset by auto presetting.

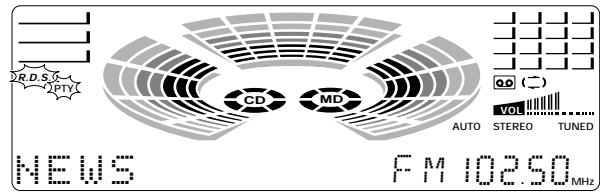
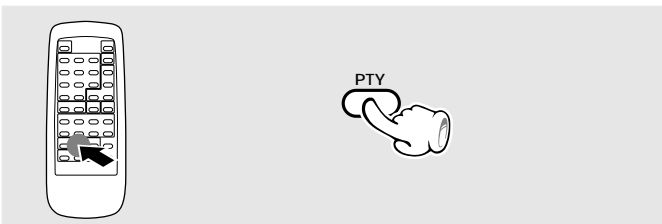
## Searching for a desired program type (PTY search)

By specifying the type of program (genre) you want to listen to, the tuner automatically searches for a station which is currently broadcasting a program of the specified type.

Set the reception band to FM. Preset RDS stations with the auto preset function.



### 1 Select the PTY search mode.



When an RDS broadcast is received, the program type is shown on the display. If no PTY data is available, or if the station is not an RDS station, "NONE" is displayed.

### 2 Select the desired program type.

Use program type table on the right for your convenience.

**(A) Selection with the ◀▶▶▶ keys**

Select while "PTY" is lit.

The desired program type can be selected with the ◀▶▶▶ keys from 29 types. Press the key and release it when the desired type is displayed.

**(B) Selection with the number keys**

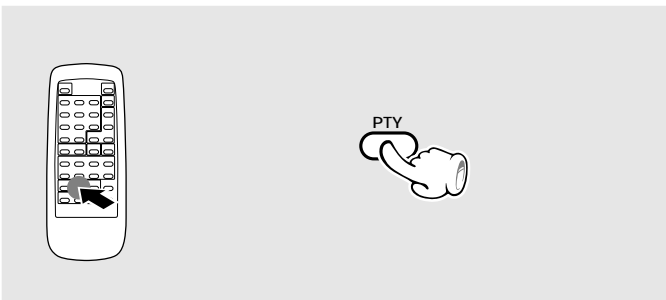
The program types 1 to 9 and 0 can be selected directly with the number keys. Use the ◀▶▶▶ keys to select other program types.

Program type table

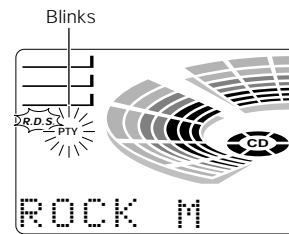
(A) ◀▶▶▶ keys	(B) Program Type Name	Display
DOWN ↑ UP ▶▶	1 Pop Music	POP M
	2 Rock Music	ROCK M
	3 *M.O.R. Music	M.O.R. M
	4 Light Classical	LIGHT M
	5 Serious Classical	CLASSICS
	6 Other Music	OTHER M
	7 News	NEWS
	8 Current Affairs	AFFAIRS
	9 Information	INFO
	0 Sport	SPORT
	Education	EDUCATE
	Drama	DRAMA
	Culture	CULTURE
	Science	SCIENCE
	Varied	VARIED
	Weather	WEATHER
	Finance	FINANCE
	Children's programs	CHILDREN
	Social affairs	SOCIAL A
	Religion	RELIGION
	Phone in	PHONE IN
	Travel	TRAVEL
	Leisure	LEISURE
	Jazz music	JAZZ
	Country music	COUNTRY
	National music	NATION M
	Oldies music	OLDIES
	Folk music	FOLK M
	Documentary	DOCUMENT

\*M.O.R. Music (Middle of the Road Music)

**3** Start the search.

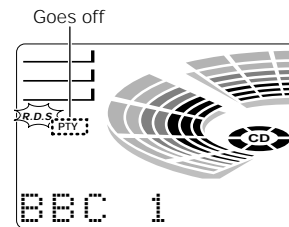


When searching for a Rock Music broadcast  
 Display while the tuner is searching.



Program type name display.

When a station is received.



Station name display.

- No sound is heard while "PTY" is blinking.
- If a program of the desired type cannot be found, "NO PROG" is displayed, then after several seconds the display returns to the original display.
- If a program of the desired type is found, that program is received and the program type name display changes temporarily to the station name display.

To change to a different program type :

Repeat steps 1, 2, 3.

# To be able to listen to the desired information at any time

By using the EON function, which manages the information of other stations, listening to desired information like traffic information or news etc. can be reserved even when it is not being transmitted at the present. When listening to a station with the "EON" display lit and another station of the same network starts to broadcast an information program for which a reservation has been made, then that station will be selected automatically. When the desired information program ends, return is made to the original program.

## Set the reception band to FM.



### 1 Auto preset the stations.

- 1 Receive a broadcast.
- 2 Keep the ENTER key pressed (2 sec or longer).



The EON data presently being broadcasted are taken in automatically.

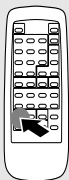


This is not required when auto presetting has already been executed.



- When all 40 stations have already been preset by the procedure for "One-by-one presetting (manual preset)", the EON function will not operate. Auto presetting must be used.

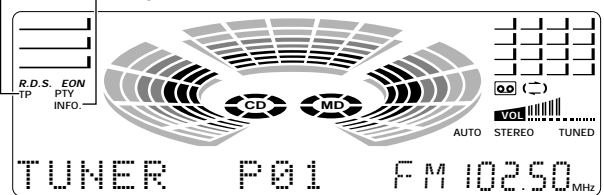
### 2 Select the desired information.



Each press switches the modes as follows.

- 1 TA ..... Traffic Announcement
- 2 NEWS ..... News
- 3 INFO ..... Information
- 4 Display not lit ..... EON cancelled

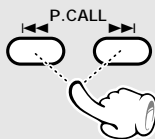
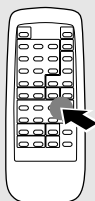
This lights when a station transmits traffic information.  
Lights when "INFO" is selected.



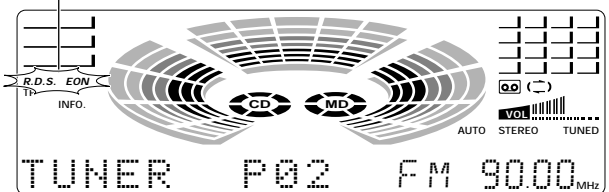
- Please execute automatic presetting when TA, NEWS, and INFO cannot be selected.

### 3 Receive an RDS station.

Select a station where "RDS" and "EON" are lit.



"RDS" and "EON" are lit.



- When "EON" does not light although an RDS station is received, that station is not transmitting EON data. Please select a different station.
- When TA is desired, select a station where the "TP" display lights.



#### **4** Wait for the desired information.

CD, MD or TAPE playback may also be started.

As long as the unit is ON, the unit is always ready for the reception.

- When one of the stations of the network of the station received in **2** starts broadcasting the program contents selected in **2**, that station will be received automatically. At this time, Tape playback will stop and CD or MD playback will pause. However, external equipment (AUX, DIGITAL IN) will remain as it is.
- When the unit is OFF and during recording (including dubbing), the EON function does not operate.
- When the transmission of the selected program contents ends in case of automatic reception with the EON function, return will be made to the status directly before operation of the EON function. When CD, MD or TAPE playback has been interrupted, it will be continued from the point of interruption.

#### ***In case of waiting for information with an RDS station without EON function***

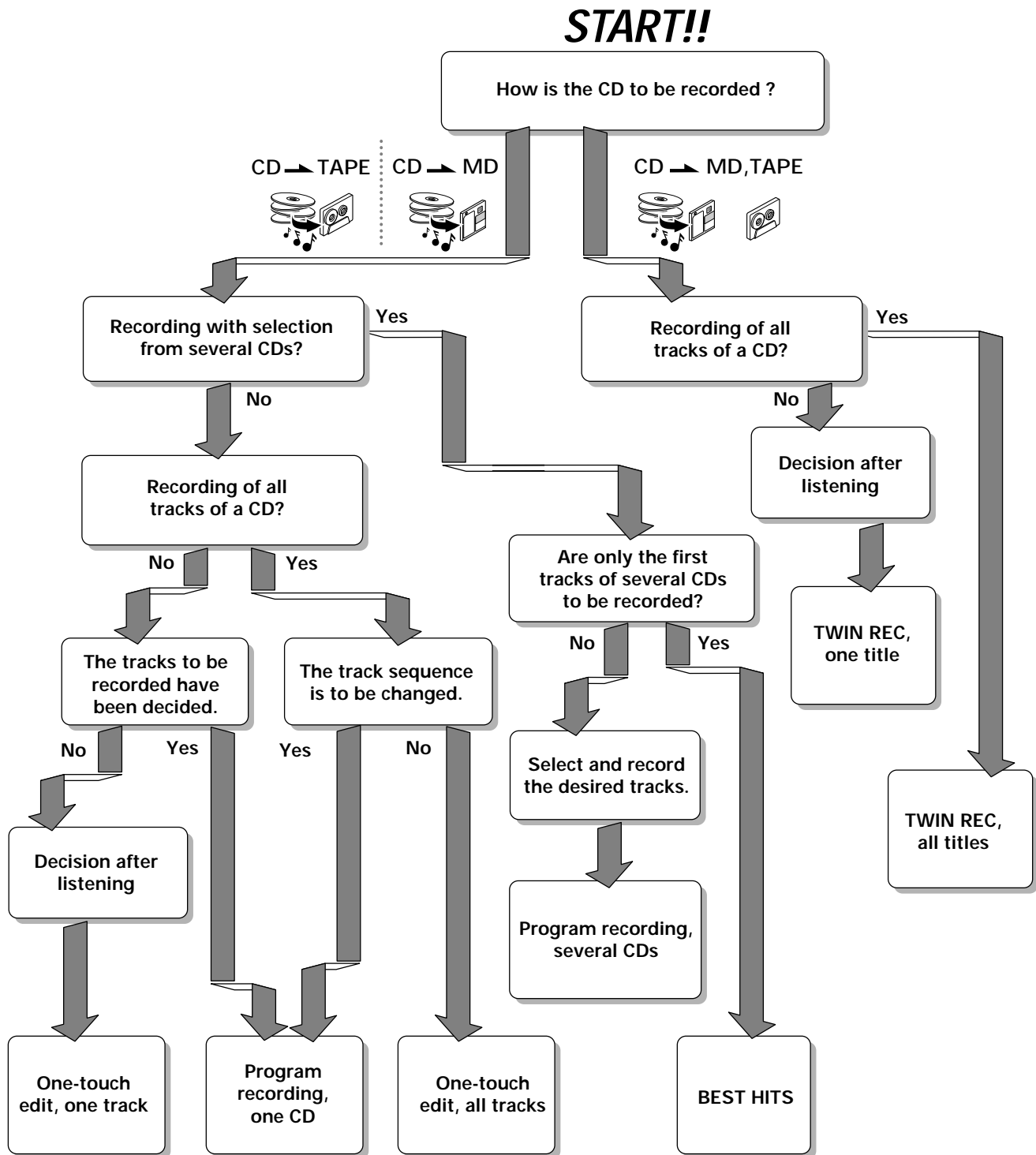
When there is no "EON" display with the operations of steps **2** and **2** and the desired information is selected in advance, waiting for the desired information will be done only with the presently received RDS station.

#### ***In regard to TP (Traffic Program) indicator***

When the "TP" indicator is lit, this indicates that the station or another station in the same network is broadcasting traffic information. Even without an EON reservation, traffic information can be heard from the station when "TP" indicator is lit for the presently received station.

## Selection of the Recording Type

Many convenient recording functions have been provided. Please select them according to the application. It is possible to record desired tracks in the desired sequence from two or more CDs. In this case, select "Program recording".



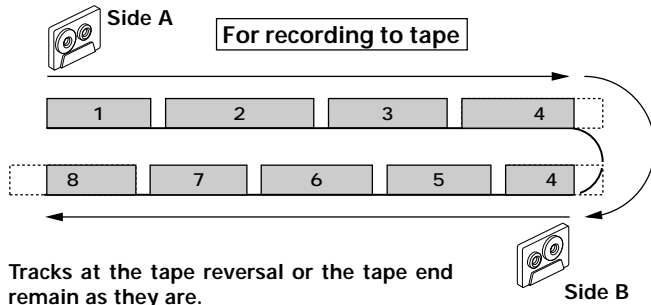


### A One-touch recording of one CD, MD

(one-touch edit recording of all tracks)

→ 52

All tracks of one CD can be recorded by one-touch operation. Recording from CD is possible to tape or MD and simultaneously to MD and tape.



### B When a desired track is found, only that track is recorded

(One-touch edit recording of one track)

→ 53

While listening to a CD, it is possible to record the track being heard at that time by one-touch operation from the beginning of that track.

Recording from CD is possible to tape or MD and simultaneously to MD and tape.

This is convenient for recording of desired tracks from a disc being heard for the first time.

### C Producing a MD collecting only the first titles

(BEST HITS function)

→ 54

The first tracks of all set CDs are programmed in sequence by this function, and they can be played or recorded to MD.

### Producing a tape collecting only the first titles

(BEST HITS function)

→ 55

The first tracks of all set CDs are programmed in sequence by this function, and they can be played or recorded to tape.

### D Recording of one CD or several CDs

(CD → MD) (Program recording)

→ 56

**From one CD** Recording in the programmed sequence from CD to MD.

**From 2 or more CDs** Selected tracks are recorded from several CDs to MD.

### Recording of one CD or several CDs

(CD → TAPE) (Program recording)

→ 57

**From one CD** Recording in the programmed sequence from CD to tape.

**From 2 or more CDs** Selected tracks are recorded from several CDs to tape.

# One-touch recording of one CD (one-touch edit recording of all tracks)

All tracks of one CD can be recorded by one-touch operation.  
Recording from CD is possible to tape or MD and simultaneously to MD and tape.

## 1 Make the preparations for recording.

### CD → MD

- ① Insert a recordable disc into the MD recorder.
- ② Select CD with the INPUT SELECT key.
- ③ Insert disc(s) in the CD player.

### Simultaneous recording from CD to MD and tape

- ① Load a tape.
- ② Select the tape transport direction. (◀ or ▶)
- ③ Select "▷". (two-side recording)
- ④ Select the Dolby NR mode.
- ⑤ Select CD with the INPUT SELECT key.
- ⑥ Insert disc in the MD recorder.
- ⑦ Insert disc(s) in the CD player.

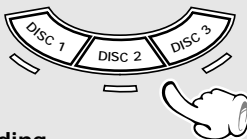
### CD → TAPE

- ① Load a tape.
- ② Select the tape transport direction. (◀ or ▶)
- ③ Select "▷". (two-side recording)
- ④ Select the Dolby NR mode.
- ⑤ Select CD with the INPUT SELECT key.
- ⑥ Insert disc(s) in the CD player.

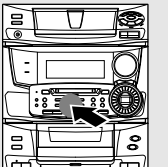
## 2 Start recording.

### CD → MD

- ① Select the target disc.



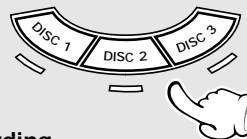
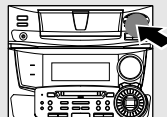
- ② Start recording.



O.T.E.  
Press before playback of the CD starts.

### CD → MD, TAPE

- ① Select the target disc.



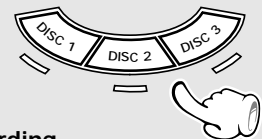
- ② Start recording.



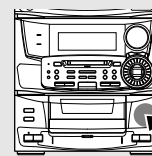
TWIN REC  
Press before playback of the CD starts.

### CD → TAPE

- ① Select the target disc.



- ② Start recording.



O.T.E.  
Press before playback of the CD starts.



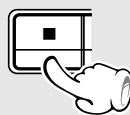
CD player and MD recorder must be brought to stopped condition.

**Note** When the O.T.E. key is pressed after playback has started, only the track being played at that time will be recorded.

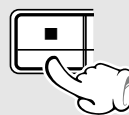
• With recording onto tape, the track will be interrupted for the part of the guide tape at the tape reversal, where recording is not possible. Please use a different recording method if this is to be avoided.

## To interrupt a recording

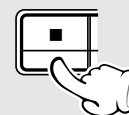
### CD → MD



### CD → MD, TAPE



### CD → TAPE



• Recording and playback will be stopped.

# When a desired track is found, only that track is recorded

(One-touch edit recording of one track)

While listening to a CD, it is possible to record the track being heard at that time by one-touch operation from the beginning of that track. Recording from CD is possible to tape or MD and simultaneously to MD and tape.

## 1 Make the preparations for recording.

### CD → MD

- 1 Insert a recordable disc into the MD recorder.
- 2 Select CD with the INPUT SELECT key.
- 3 Insert disc(s) in the CD player.

### Simultaneous recording from CD to MD and tape

- 1 Load a tape.
- 2 Select the tape transport direction. (◀ or ▶)
- 3 Select "▷". (two-side recording)
- 4 Select the Dolby NR mode.
- 5 Select CD with the INPUT SELECT key.
- 6 Insert disc in the MD recorder.
- 7 Insert disc(s) in the CD player.

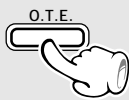
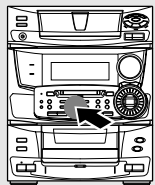
### CD → TAPE

- 1 Load a tape.
- 2 Select the tape transport direction. (◀ or ▶)
- 3 Select "▷". (two-side recording)
- 4 Select the Dolby NR mode.
- 5 Select CD with the INPUT SELECT key.
- 6 Insert disc(s) in the CD player.

## 2 Playback of a CD.

## 3 Press the O.T.E. or TWIN REC key during playback of a track to be recorded.

### CD → MD



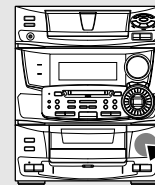
Press during playback.

### CD → MD, TAPE



Press during playback.

### CD → TAPE



Press during playback.

• Return is made to the beginning of the track being played and recording starts.

### At the end of the recording

MD recorder : Stop.

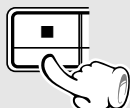
Cassette deck : Stop is executed after an unrecorded portion of about 4 sec. has been produced.



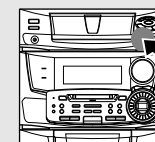
To record another track ... repeat the steps 2 and 3.

## To interrupt a recording

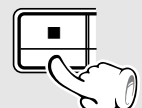
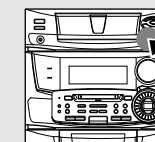
### CD → MD



### CD → MD, TAPE



### CD → TAPE



• Recording and playback will be stopped.

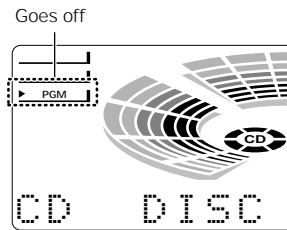
# Producing a MD collecting only the first titles (CD → MD) (BEST HITS Function)

The first tracks of all set CDs will be recorded on MD in sequence.

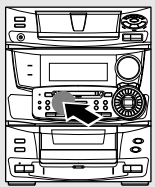
During recording of the disc, the already recorded discs can be exchanged. This is convenient for collecting from a large number of single CDs.

## 1 Make the preparations for recording.

- ① Insert a recordable disc into the MD recorder.
- ② Select CD with the INPUT SELECT key.
- ③ Insert disc(s) in the CD player.
- ④ Confirm that the "PGM" indicator is not lit.



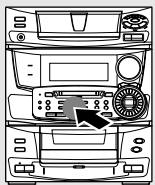
## 2 Press the BEST HITS key.



Press in stop mode.



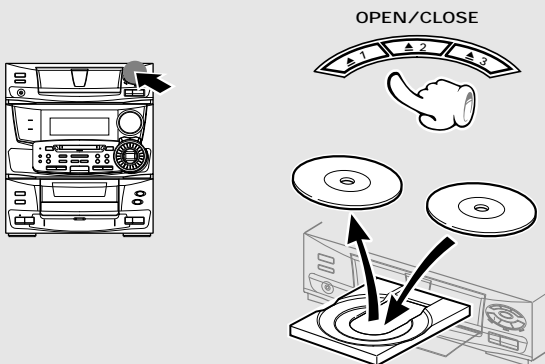
## 3 Start recording.



- The first title of each CD will be programmed automatically.
- When the **TWIN REC** key is pressed, simultaneous recording to MD and tape is possible.
- When the **▶/||** key is pressed before pressing the **O.T.E.** key, the BEST HITS program can be played back.

## 4 Exchange discs as required.

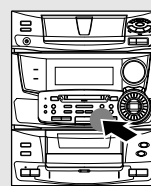
### ① Exchange the disc.



### ② Close the tray.

- Even while recording from the next disc, the already recorded disc can be exchanged.
- When a CD is exchanged, the first title of that disc will be programmed automatically.

### To end recording



When the discs are exchanged sequentially, recording can be continued without interruptions.



- Recording and playback are also stopped when the **■** key of the CD player is pressed.
- Press the **PGM** key or the **BEST HITS** key to cancel the BEST HITS function.

# Producing a tape collecting only the first titles (CD → TAPE) (BEST HITS Function)

The first tracks of all set CDs will be recorded on tape in sequence.

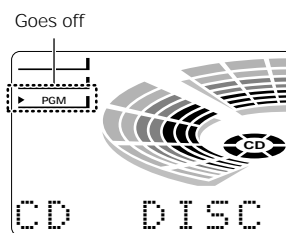
During recording of the disc, the already recorded discs can be exchanged. This is convenient for collecting from a large number of single CDs.



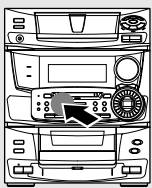
With recording onto tape, the track will be interrupted for the part of the guide tape at the tape reversal, where recording is not possible. Please use single-side recording if this is to be avoided.

## 1 Make the preparations for recording.

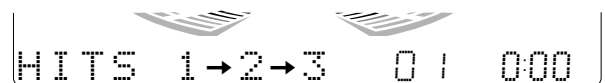
- ❶ Load a tape.
- ❷ Select the tape transport direction. (◀ or ▶)
- ❸ Select "▷". (two-side recording)
- ❹ Select the Dolby NR mode.
- ❺ Select CD with the INPUT SELECT key.
- ❻ Insert disc(s) in the CD player.
- ❼ Confirm that the "PGM" indicator is not lit.



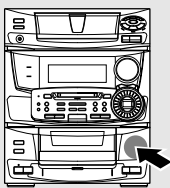
## 2 Press the BEST HITS key.



Press in stop mode.



## 3 Start recording.

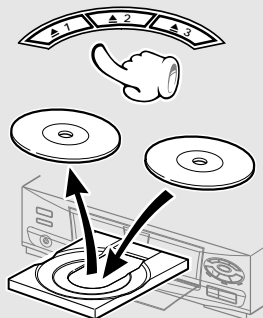


- The first title of each CD will be programmed automatically.
- When the **TWIN REC** key is pressed, simultaneous recording to MD and tape is possible.
- When the ▶/|| key is pressed before pressing the **O.T.E.** key, the BEST HITS program can be played back.

## 4 Exchange discs as required.

### ❶ Exchange the disc.

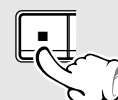
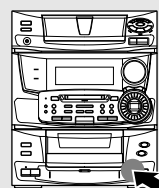
OPEN/CLOSE



### ❷ Close the tray.

- Even while recording from the next disc, the already recorded disc can be exchanged.
- When a CD is exchanged, the first title of that disc will be programmed automatically.
- Recording ends when the tape end (one side or both sides) is reached.

### To stop recording




- Recording and playback are also stopped when the ■ key of the CD player is pressed.
- Press the **PGM** key or the **BEST HITS** key to cancel the BEST HITS function.

When the discs are exchanged sequentially, recording can be continued without interruptions.

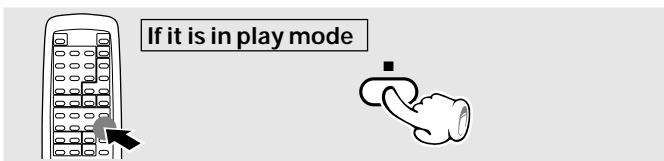


# Recording of one CD or several CDs (CD → MD) (Program recording)

The desired tracks from 3 CDs can be recorded in the programmed sequence on one MD.

Recording preparation is required.  52

## 1 Check that the CD player is in the stop mode.



## 2 Light the "PGM" indicator.



## 3 Enter disc Nos. and track Nos. in the order you want to record them.

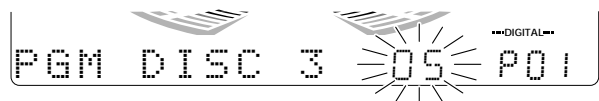
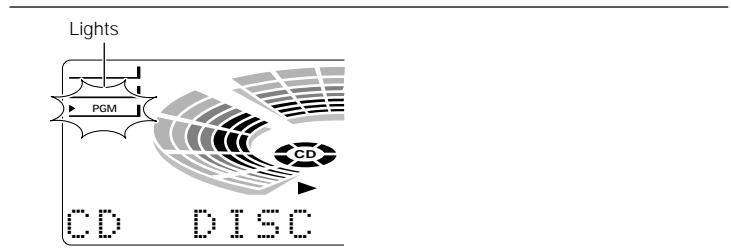
1 Select the disc.  
DISC SELECTOR  
Go to step 2 within 8 seconds.

2 Select the track.  
1 2 3  
4 5 6  
7 8 9  
+10 0

3 Confirm the selection.  
PGM

To edit tracks from more than one CD, repeat 1, 2, 3 for each CD.

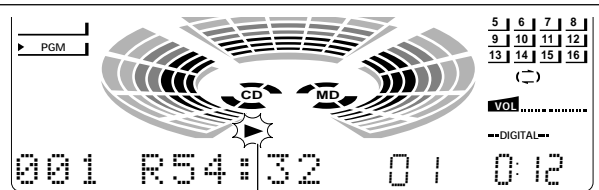
## 4 Start edit recording.



Displays the entered track No.

- Select so that the usable recording time of the MD is not exceeded.
- Up to 32 tracks can be programmed. When "FULL" is displayed, no more tracks can be programmed.
- If you make a mistake, press the CLEAR key and enter the track No. from the beginning.

Application section



Lights

- The MD recording is paused while the CD is exchanged in the tray.
- When the PGM key is pressed to cancel the edited contents, the entire editing contents will be erased.



Always remove the disc after recording.



# Recording of one CD or several CDs (CD → TAPE) (Program recording)

The desired tracks from 3 CDs can be recorded in the programmed sequence on one tape.

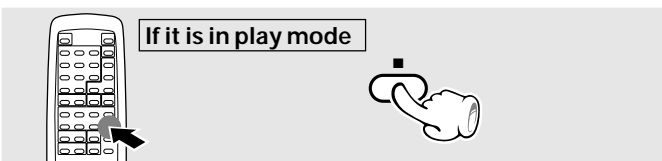


With recording onto tape, the track will be interrupted for the part of the guide tape at the tape reversal, where recording is not possible. Please use single-side recording if this is to be avoided.

Recording preparation is required.

52

## 1 Check that the CD player is in the stop mode.



## 2 Light the "PGM" indicator.



## 3 Enter disc Nos. and track Nos. in the order you want to record them.

**1 Select the disc.**  
DISC SELECTOR  
Go to step 2 within 8 seconds.

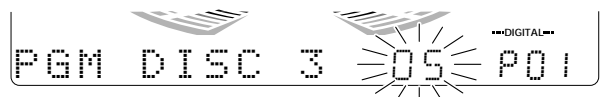
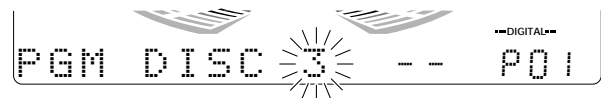
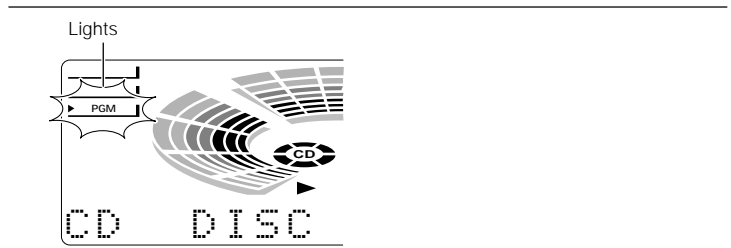
**2 Select the track.**

1	2	3
4	5	6
7	8	9
+10	0	

**3 Confirm the selection.**  
PGM

To edit tracks from more than one CD, repeat 1, 2, 3 for each CD.

## 4 Start edit recording.



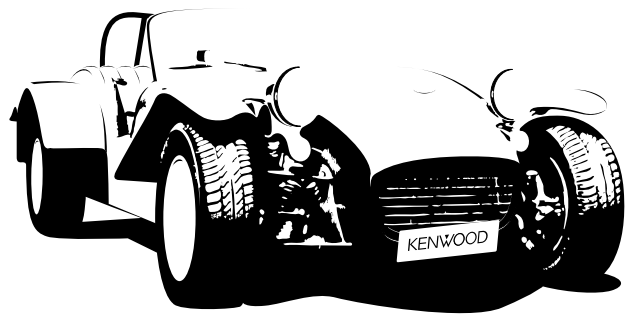
Displays the entered track No.

- Select CD tracks so that their total playing time does not exceed the recording time of the tape.
- Up to 32 tracks can be programmed. When "FULL" is displayed, no more tracks can be programmed.
- If you make a mistake, press the CLEAR key and enter the track No. from the beginning.



Lights

- The tape recording is paused while the CD is exchanged in the tray.
- Tracks programmed in excess of the tape recording time will be cut off.
- When the PGM key is pressed to cancel the edited contents, the entire editing contents will be erased.



## Selecting the editing function type

When a commercially available Mini Disc fabricated for user recording is used, various editing operations can be applied after recording. Note that editing is not possible with commercially available prerecorded Mini Disc software designed for playback only.

**Function Limitations because of the MD Standard**  
Some of the functions are limited because of the MD standard. Please check this before assuming a malfunction. → 81

For editing, set the write protect tab of the mini disc to "Write enable" side. → 5

**Assigning a Title to a Disc or a Track** → 60

**Changing or deleting a title** → 61

Title input is possible simply by selecting one character after another from the characters shown on the display. As the entered title is compatible between models, it will be displayed also when the disc is set into a different MD recorder (player). (The title compatibility is limited partly according to the character types which can be displayed, the number of characters, etc.)

**Reordering tracks by moving them**

Moving several tracks at a time (QUICK MOVE) → 62  
Moving a single track (TRACK MOVE) → 63

**Dividing a track, combining two tracks**

Dividing a track into two → 64

TRACK DIVIDE

Combining two tracks into one → 65

TRACK COMBINE

**Erasing track(s)**

Erasing a single track → 66

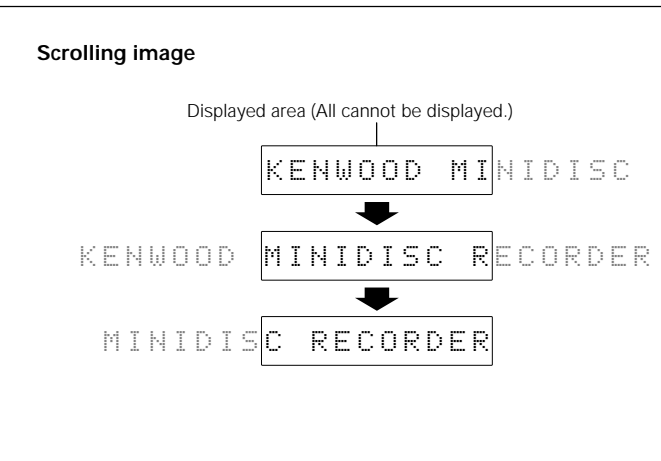
TRACK ERASE

Erasing all tracks on a disc → 66

ALL ERASE

**In regard to display scrolling**

When the character information for the titles of mini discs or titles is too long, it cannot be displayed all at once. In such a case, the characters on the display scroll from the right to the left and the rest of the information can be seen. This is called scrolling.



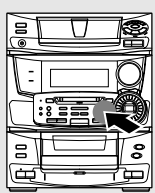
# Assigning a title to a disc or track

When titles are assigned to a disc and its tracks, the titles cannot only be displayed during playback but title search (searching a track by the title) is also made possible. The assigned titles can be changed or deleted with the same procedure.

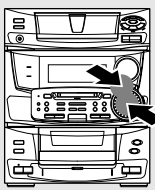
Always remove the minidisc after title input or editing. The names in brackets in the explanations are the names of the remote control keys.

Execute operation in stopped condition or during playback.

## 1 Activate the title input mode.



1 Press the TITLE INPUT key.



2 Select whether the disc title or track title input.

MULTI JOG

To return



To advance

3 Set the selection.

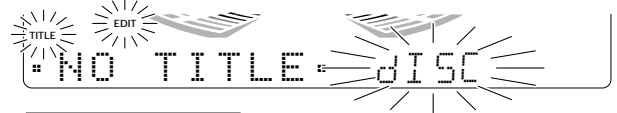


To abort operation, press the TITLE INPUT key again.

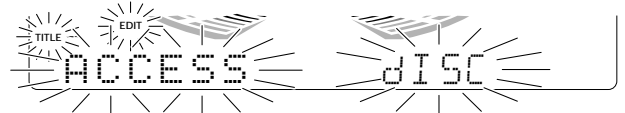


Disc titles are assigned while playback is stopped. When the ► (playback) key is pressed before step 1-3 while assigning a title to a track, the title can be entered while listening to that track.

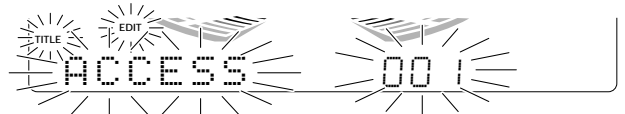
• It takes a while because data should be read out of the disc.



In case of disc title Select "disc".



In case of track title Select the desired track No.

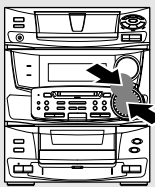


## 2 Input the title.



1 Select the group of the characters used in the title.

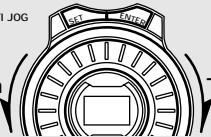
DISPLAY / DEMO



2 Select a desired character by placing the selection cursor on it.

MULTI JOG

To return



To advance

3 Set the selected character.



Input the title characters by repeating 1 to 3 for each of them.

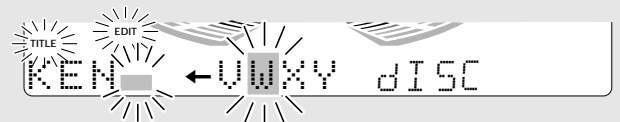
The following types of characters, numbers, and symbols can be selected. Press the DISPLAY/DEMO key as often as required to display the desired group of characters.

- A-Z, space (1 blank character)
- a-z, space
- 0-9, symbols, space



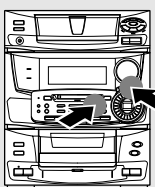
- When the MULTI JOG dial is turned, the display scrolls and all characters (in the same group) can be selected.
- Characters are displayed also on the liquid crystal display in the MULTI JOG dial.

Example of disc title



The cursor moves and waits for input of the next character.

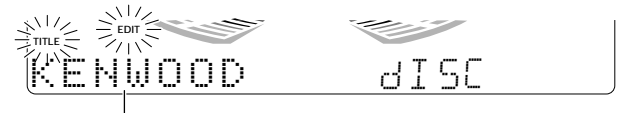
## 3 Execute title assignment.



1 Enter the title in memory.



2 Complete the operation.



The title scrolls.

# Changing or deleting a title

## Total number of title characters

Up to 1792 characters can be input per disc and up to 80 characters can be input per track.  
A space (blank character) also require the same amount of data as alphanumeric characters. When deleting a title, it is not recommended to overwrite spaces on previous characters but use the DELETE function.

## Symbol list (ASCII codes) :

!"#\$%&'()\*+,-./:;<=>?@\_`

Always remove the minidisc after title input or editing. The names in brackets in the explanations are the names of the remote control keys.

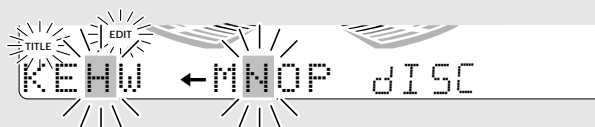
**1** Perform step **1** of "Assigning a title to a disc or track".



**2** Change or delete characters one by one.

- ➊ Move the cursor to the desired character (the character to be changed).
- ➋ Select the character group.
- ➌ Select overwrite or insert mode.

## Title input section



The input cursor can be moved with the ◀▶ keys.

Each press of the TITLE SEARCH key switches the operation.

- ➊ **Overwrite mode** : To replace characters  
(The cursor "■" becomes large.)
- ➋ **Insert mode** : To insert characters before the cursor  
(The cursor "■" becomes small.)

## In regard to the key functions

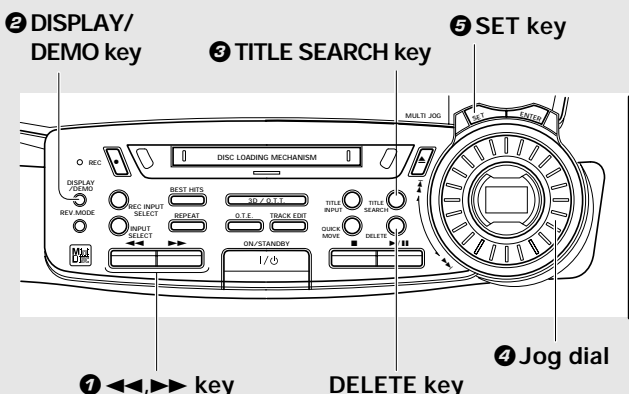
### DISPLAY/DEMO key :

The group of characters displayed at the character selection section is switched.  
At the time of unit OFF : Used for demonstration ON/OFF.

### DELETE key :

The character at the cursor is deleted (erased) and the following characters move up by one character each. Titles can be erased easily by continuous pressing (or by holding the key down for repeated input).

- If the title to be changed is too long to be displayed on the display section, press the ◀▶ key to scroll the display so that the characters hidden until then appear.
- When the MULTI JOG dial is turned, the display scrolls and all characters (in the same group) can be selected.

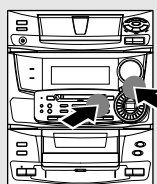


- ➏ Select the correct character.
- ➐ Confirm the character.

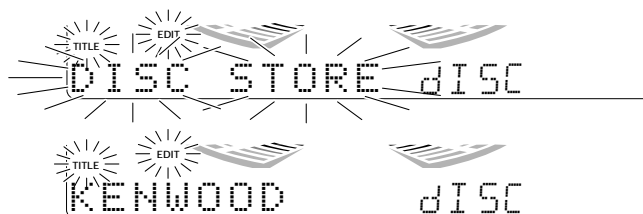
All characters of a title can be changed by repeating steps ➊ to ➐.

**3** Execute title change or deletion.

- ➑ Enter the title in memory.



- ➒ Complete the operation.



The title scrolls.

## Moving several tracks at a time (QUICK MOVE)

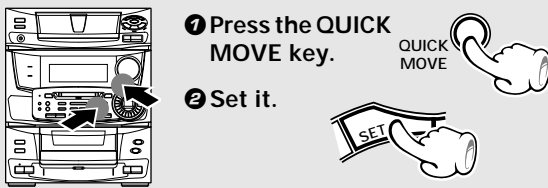
Use the following procedure to change the current order of tracks by selecting a desired order and moving the tracks together.

20 continuous tracks within the specified range can be reordered at a time.

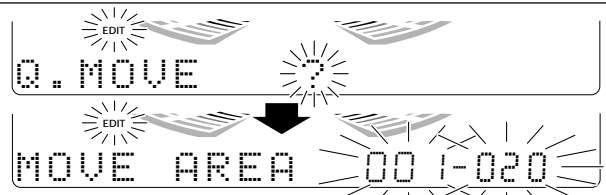
The names in brackets in the explanations are the names of the remote control keys.

Please execute operation in stopped condition.

### 1 Press the QUICK MOVE key.

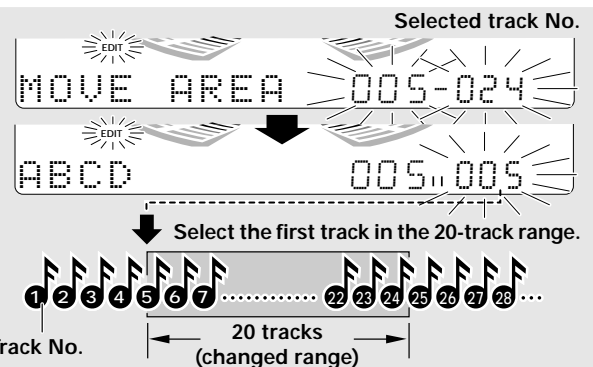
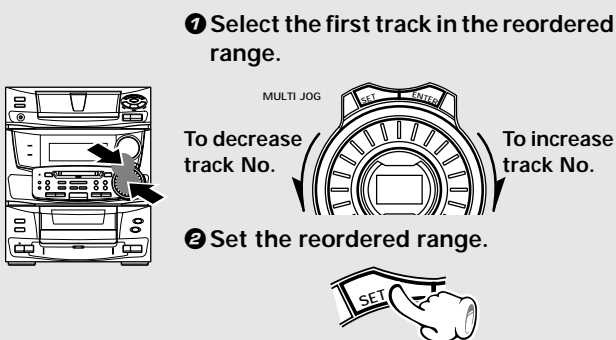


To abort operation, press the QUICK MOVE key again.

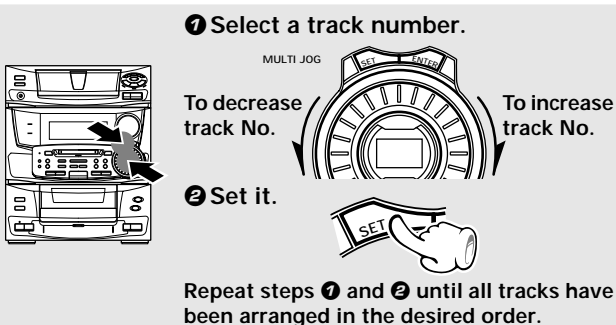


•Editing is ended when no action is taken for 8 seconds.

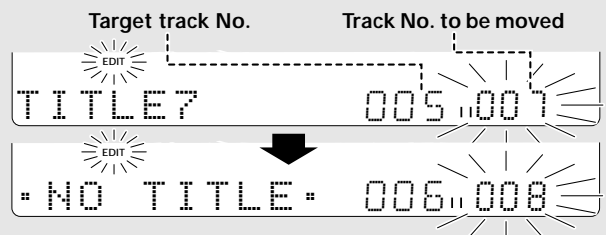
### 2 Select the range of tracks to be reordered.



### 3 Select tracks numbers in the desired order.

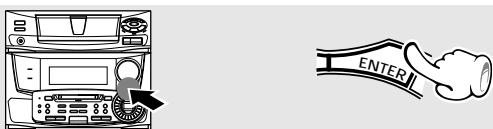


Moving the present track No. 7 to track No. 5



•Pressing the ◀▶ key allows to check the current order of tracks.

### 4 Execute the track move operation.



COMPLETE !

### 5 After editing, eject and remove the mini disc.

"WRITING" displayed during the minidisc ejection operation indicates that the data associated with recording or editing is being written on the disc. Do not apply vibration or shock to the unit while this message is displayed.

•It takes a while until the execution completes.  
•You can suspend track reordering by pressing the eject (▲) key or the ON/STANDBY(I/⏻) key while "COMPLETE" is flashing.

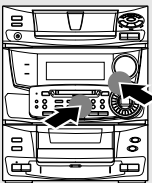
# Moving a single track (TRACK MOVE)

This procedure shows you how to select and move (insert) a track to the track number you desire. The surrounding tracks are renumbered automatically. Repeating this procedure lets you arrange the tracks in the order you desire.

“WRITING” displayed during the mini disc ejection operation indicates that the data associated with recording or editing is being written on the disc. Do not apply vibration or shock to the unit while this message is displayed.


Please execute operation in stopped condition.

## 1 Select “MOVE”.




**1** Select “MOVE”.

TRACK EDIT

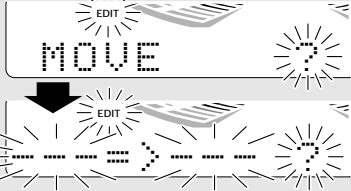


**2** Set it.



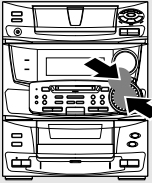
Each press switches the operation.

- ① MOVE ?
- ② COMBINE ?
- ③ ALL ERASE ?
- ④ Editing cancelled



●Editing is aborted if no operation has been performed for 8 seconds.

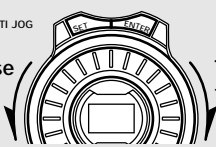
## 2 Select the track to be moved.




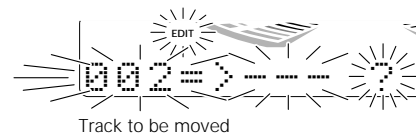
**1** Select a track number.

MULTI JOG

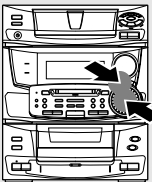
To decrease track No.      To increase track No.



**2** Set it.


## 3 Select the moving destination track.




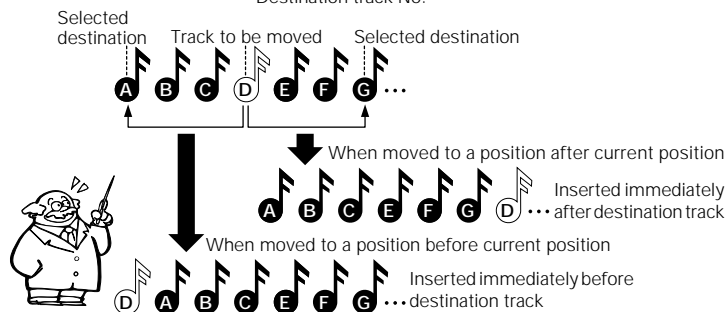
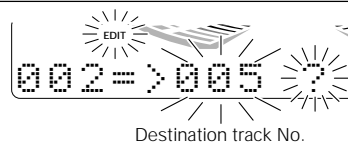
**1** Select a track number.

MULTI JOG



To decrease track No.      To increase track No.



**2** Set it.

## 4 Execute the track move operation.

COMPLETE !

## 5 After editing, eject and remove the mini disc.

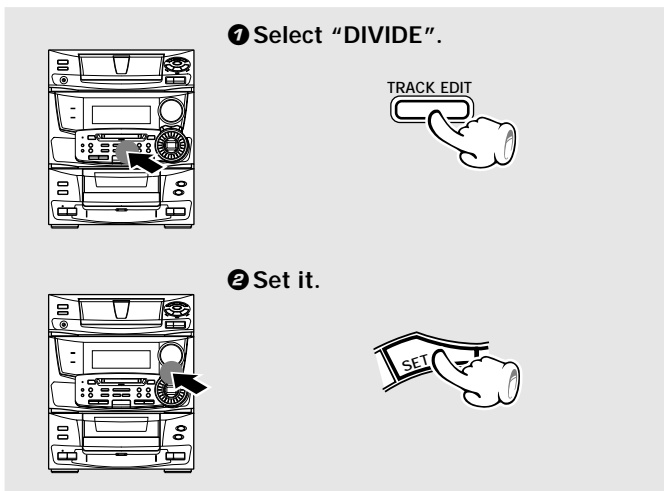
## Dividing a track (TRACK DIVIDE)

Use the following procedure to divide a track into two by inserting a track number in its middle. For example, by inserting an additional track number before the passage you are specially fond of, it is easy to skip to there when you play the disc later. Note that the track numbers of the tracks located after the divided track are automatically incremented.

### 1 Play the track to be divided.

• This operation is also possible during play-pause.

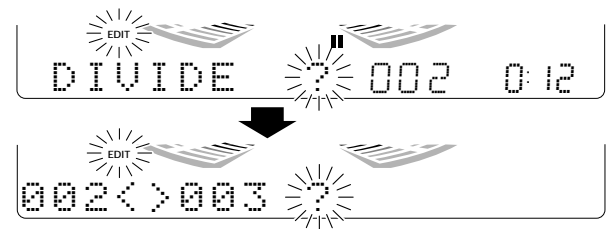
### 2 Press the TRACK EDIT key at the desired position.



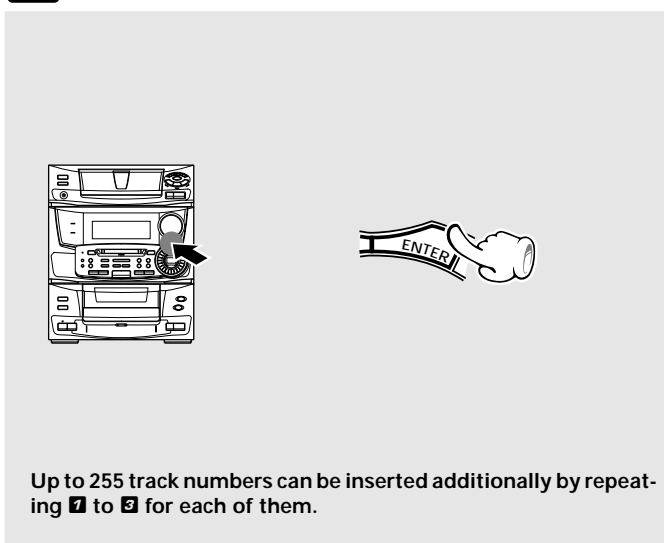
Each press switches the operation.

- ① DIVIDE ?
- ② COMBINE ?
- ③ ERASE ?
- ④ Editing cancelled

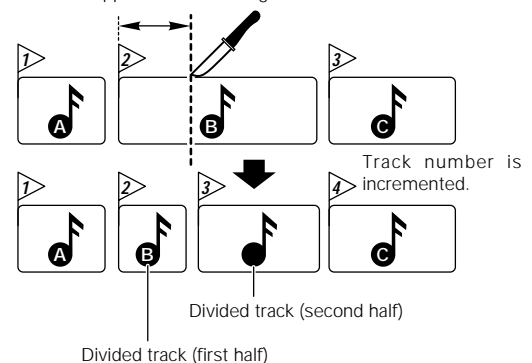
• Editing is aborted if no operation has been performed for 8 seconds.



### 3 Execute the track divide operation.



Should be approx. 2 sec. or longer.



- There is no blank space left between the two tracks.
- When the track to be split has a title, the two tracks will have the same title.

"WRITING" displayed during the mini disc ejection operation indicates that the data associated with recording or editing is being written on the disc. Do not apply vibration or shock to the unit while this message is displayed.

### 4 After editing, eject and remove the mini disc.



# Combining two tracks (TRACK COMBINE)

Use the following procedure to combine two tracks into one by deleting a track number. This operation allows to connect several tracks or a piece of music divided into several parts. After this operation, the track numbers of tracks located after the combined tracks are decreased automatically.

"COMBINE" cannot be selected if the track being played is the first track on the disc.

## 1 Select "COMBINE".

**1** Select "COMBINE".



**TRACK EDIT**

Go to step **2** within 8 seconds.

**2** Set it.



If you combine tracks during playback, go to step **2**.

•To combine two tracks during playback, press the **TRACK EDIT** key while the second track is being played.

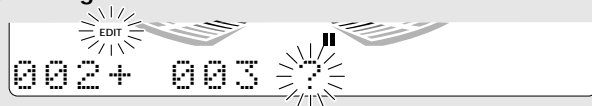
Each press switches the operation.  
When pressed in stop mode:

- ① MOVE ?
- ② COMBINE ?
- ③ ALL ERASE ?
- ④ Editing cancelled



When pressed in play mode:

- ① DIVIDE ?
- ② COMBINE ?
- ③ ERASE ?
- ④ Editing cancelled

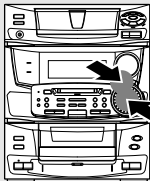


## 2 Select the track to be combined.


**1** Select the track number.

MULTI JOG

To decrease track No.      To increase track No.



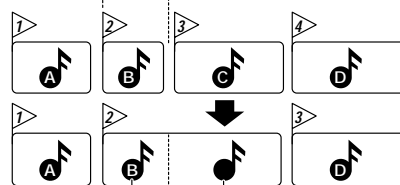
**2** Set it.



Connecting tracks 2 and 3.



Should be approx. 2 sec. or longer.



Track No. and title of the first track are left.

Track No. and title of the second track are cleared.

Track No. is adjusted.

## 3 Execute the track combine operation.



**ENTER**

COMPLETE !

## 4 After editing, eject and remove the mini disc.

"WRITING" displayed during the mini disc ejection operation indicates that the data associated with recording or editing is being written on the disc. Do not apply vibration or shock to the unit while this message is displayed.

## Erasing a single track (TRACK ERASE) or erasing all tracks on a disc (ALL ERASE)

### TRACK ERASE

During playback, it is possible to erase only the track being played. The track numbers of the tracks after the erased track will be adjusted.

Be careful in using this operation because a track cannot be recovered once it has been erased.

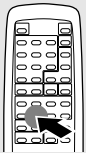
### ALL ERASE

During stop, all tracks can be erased. Be careful in using this operation because the tracks cannot be recovered once the entire minidisc has been erased.

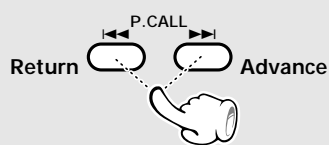
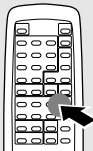
## 1 Make the preparations.

### To erase one track (TRACK ERASE)

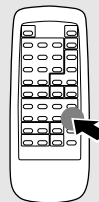
① Start playback.



② Select the track to be erased.



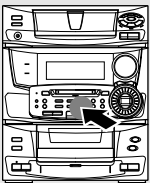
### To erase all tracks (ALL ERASE)



Enter stop status.

## 2 Select the ERASE mode.

Select "ERASE".

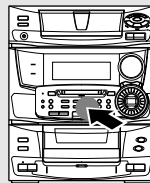


Each press switches the operation.

- ① DIVIDE ?
- ② COMBINE ?
- ③ ERASE ?
- ④ Editing cancelled



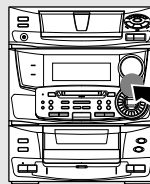
① Select "ALL ERASE".



Each press switches the operation.

- ① MOVE ?
- ② COMBINE ?
- ③ ALL ERASE ?
- ④ Editing cancelled

② Set it.

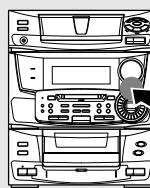


## 3 Execute the erase operation.



COMPLETE !

● The track is erased (together with the track title).



COMPLETE !

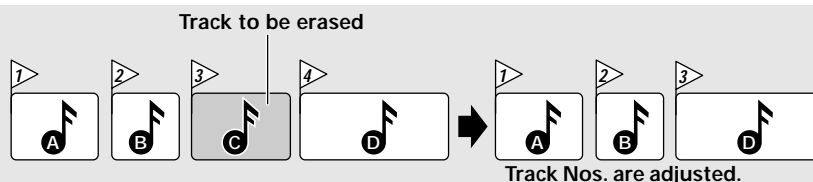
BLANK DISC

● All tracks on a disc are erased (together with the disc title).

**4** After editing, eject and remove the mini disc.

“WRITING” displayed during the mini disc ejection operation indicates that the data associated with recording or editing is being written on the disc. Do not apply vibration or shock to the unit while this message is displayed.

**Image of erasing one track (TRACK ERASE)**



**Erasing a part of a track**

- ① Turn the part to be erased into one track by using the TRACK DIVIDE function.
- ② Erase it by using the TRACK ERASE function.

Use the following procedure to erase the desired part of a track.

- ①** Turn the part to be erased into one track.

Use the TRACK DIVIDE function to turn the part you want to erase into one track.

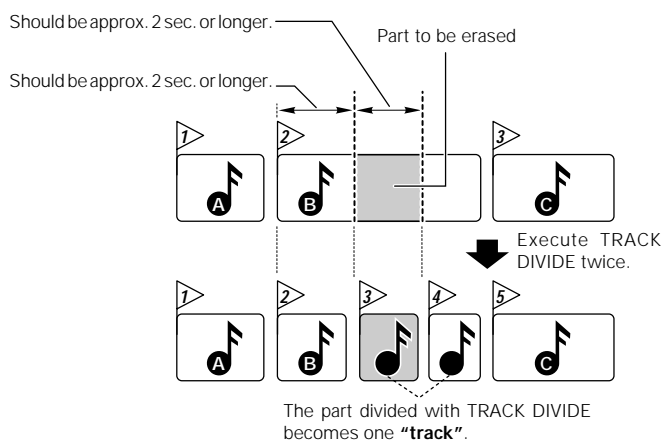


- ②** Erase the part to be erased.

Use the TRACK ERASE function to erase the “track” (part you want to erase) made in step ①.

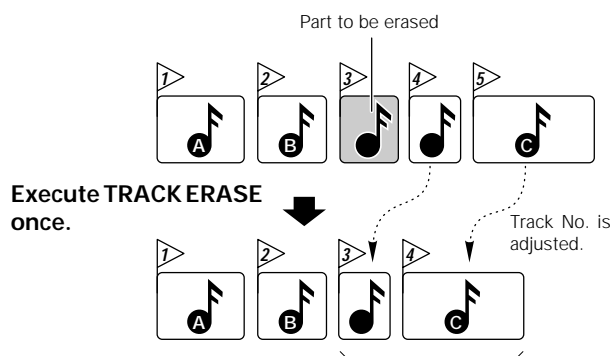


- ③** After editing, eject and remove the mini disc.



**TRACK DIVIDE** → 64

- If it is required to erase only the first or second half of a track, only one TRACK DIVIDE operation is enough.



**Execute TRACK ERASE once.**

The space left after erasing is filled by subsequent tracks which move along.

**TRACK ERASE** → 66

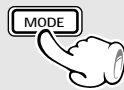
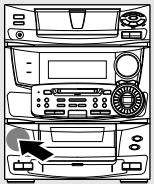
This unit permits selection of equalizer and sound field playback. Please select the equalizer as desired according to the music genre. Select the sound field mode according to the desired atmosphere.

## Adjustment of balance and input level

Balance ..... Adjusts the balance of left and right volume.

Input level ..... This adjusts the input level for the external equipment (video deck etc.) connected to the AUX input terminal. Adjust so that the volume becomes approximately the same as from a CD or an MD.

### 1 Select what to adjust.



Return to volume adjustment is made when no input is made for 5 sec. or more.

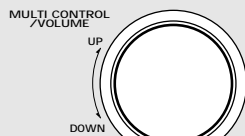
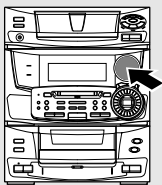
Each press switches the modes as follows.

- ① BALANCE : Left and right volume balance
- ② INPUT : Input level from the external equipment connected to the AUX terminal
- ③ VOLUME : Normal volume adjustment
- ④ Normal displayed

● "INPUT" is displayed only with AUX.

### 2 Adjust.

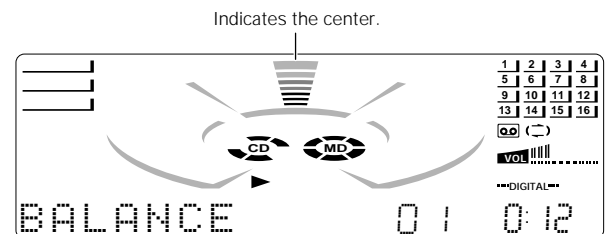
BALANCE adjustment :



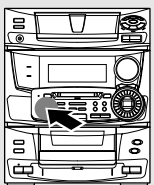
The right volume is decreased.

The left volume is decreased.

At the time of BALANCE adjustment



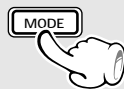
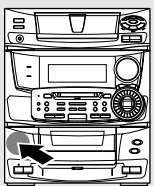
Input level adjustment :



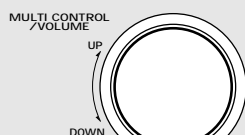
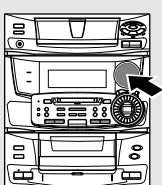
- ① Select AUX (external input).



- ② Play the connected equipment.
- ③ Select INPUT.



- ④ Adjust the input level.



The level decreases.

The level increases.

At the time of input level adjustment

- The AUX key on the remote control unit also can be used for operation.

AUX

INPUT -2

Set level (display for about 5 sec)

- Adjustment is possible over the range from -6 to +3.



Adjust the input level while "INPUT" is displayed.

# Listening with the desired sound (equalizer function)

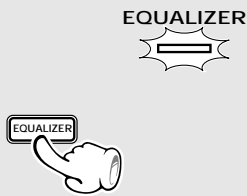
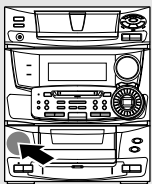
In addition to the three kinds of equalizer patterns which have been preset at the factory for use as reference, an equalizer pattern created manually by user can be stored in memory and recalled anytime.

Recording with applied equalizer effect is not possible.

## Selection of the equalizer pattern

The equalizer patterns can be selected according to the genre of music played.

- ① Play the desired music.
- ② Select the desired equalizer pattern.



### Called equalizer pattern

- ① ROCK ..... Rock
- ② CLASSIC ..... Classic
- ③ POP ..... Popular
- ④ MANUAL ..... 70
- ⑤ EQ. OFF ..... Equalizer OFF

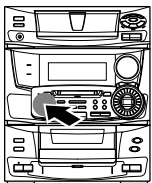
ROCK \_\_\_\_\_

Example when "ROCK" is selected



### In regard to the DISPLAY/DEMO key

The operation (display) of the spectrum analyzer of the display section can be switched three ways. (The key is used for demonstration ON/OFF when the power is OFF.)

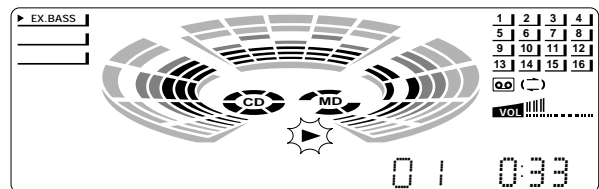
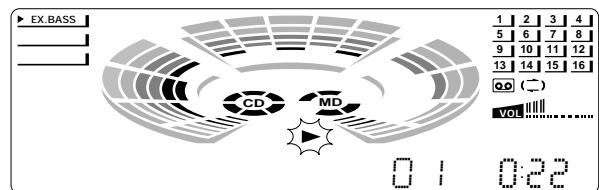
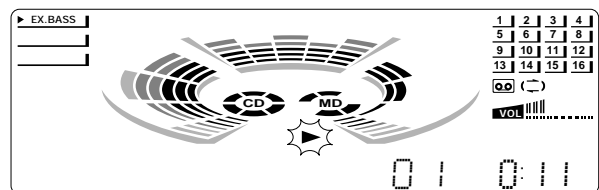


Each press switches the modes as follows.

- ① NORMAL (Operation in radial condition)
- ② SHOWER (Operation in reverse radial condition)
- ③ REVERSE (Reversed display for the peak part of ①)
- ④ Operation mode indication (rotation of the not lit part)

● Depending on the INPUT SELECT setting, the unit will not enter into mode ④.

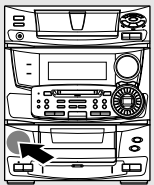
### Spectrum analyzer display image



## Creation and memorizing of an equalizer pattern

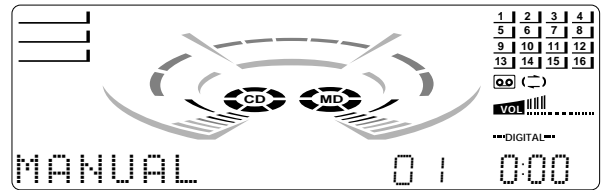
A desired equalizer pattern can be created and memorized.

① "MANUAL" will be displayed.



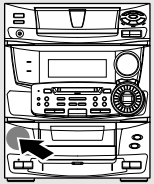
Continue to step ② within 3 seconds.

- ① ROCK
- ② CLASSIC
- ③ POP
- ④ MANUAL (Equalizer pattern editing)
- ⑤ EQ. OFF



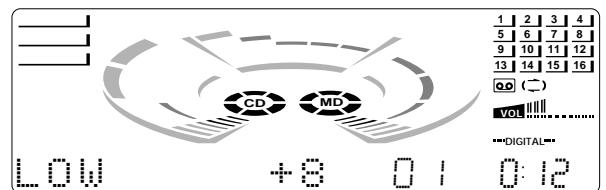
② Adjust the equalizer pattern.

① Select the frequency band.



Each press switches the modes as follows.

- ① LOW ..... Low range (bass, bass drum, etc.)
- ② MID ..... Medium range (vocals, guitar, etc.)
- ③ HIGH ..... High range (cymbals etc.)

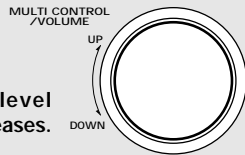
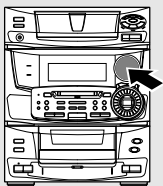


Set item

Set level

② Adjust the level.

The level increases.



The level decreases.

LOW, MID, and HIGH each can be adjusted by repeating ① and ②.

- The individual frequency bands can be adjusted in the range from -8 to +8.

③ Memorize the setting.



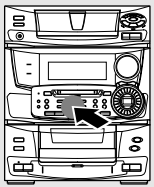
# Enjoying Sound Field Effects

Recording with applied 3D surround effect is not possible.

## Experiencing 3D surround

This is a system producing a three-dimensional sound space. The feeling of depth, the width of the sound field, etc. are improved clearly, and the listening area also is widened.

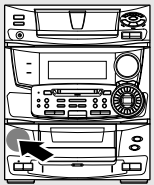
① Switch on 3D surround.



ON/OFF is switched each time the key is pressed.



② Adjust the effect strength (level).  
"LEVEL" will be displayed.

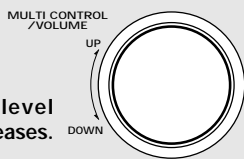
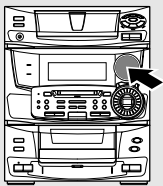


Adjust the strength of the effect.

Each press switches the modes as follows.

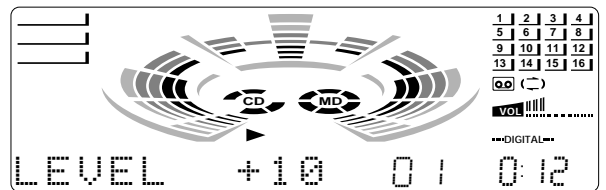
- ① BALANCE
- ② LEVEL
- ③ INPUT
- ④ VOLUME
- ⑤ Normal displayed

● "INPUT" is displayed only with AUX.



The level decreases.

The level increases.



Level display

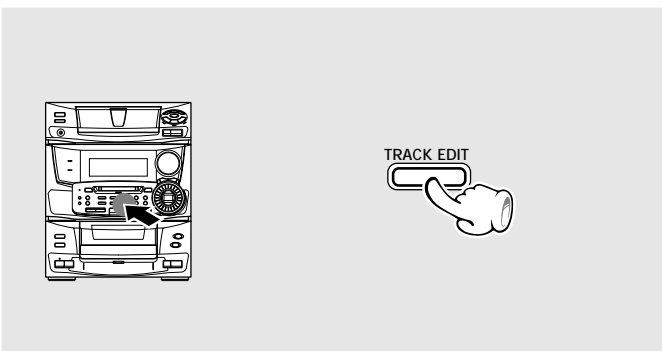
- Adjustment is possible in the range from -10 to +10.
- Please set as desired according to the titles being played back etc.

When the AC cord is connected to a receptacle, the clock display starts to flash. Set the correct time following the instructions.

Time display is made only when the unit is switched off.  
(At the time of power ON, display is made on the liquid crystal display in the MULTI JOG dial.)

Ensure that the unit is OFF.

## 1 Activate the clock adjustment mode.

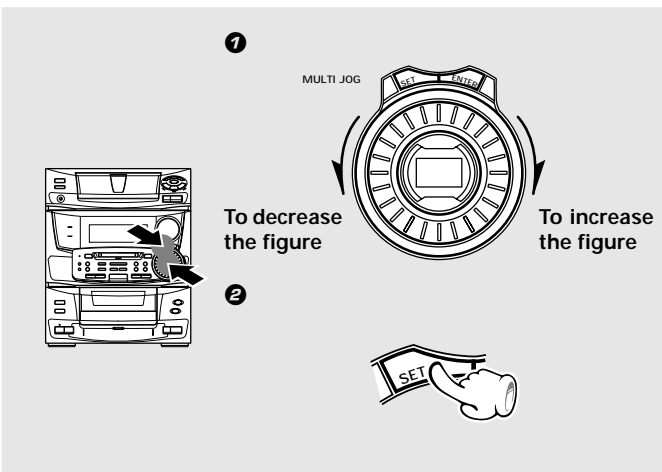


Example: Adjustment to 8:45



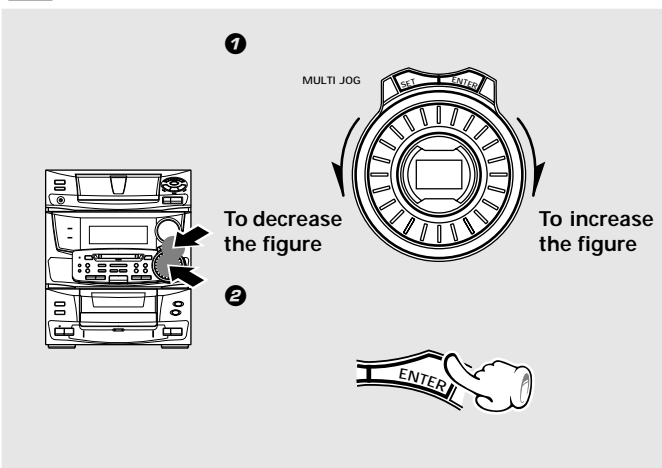
- The time display starts to blink.

## 2 Enter the figure of hour.



- The time of the day is represented in 12-hour AM/PM method.
- Press the **ENTER** key. The hour is entered and the minute display starts to blink.

## 3 Enter the figure of minute.



- If you make a mistake, restart from the beginning.
- To adjust correct time, press the **ENTER** key at the same moment as a time announcement.
- The time display flashes when a power failure has occurred or when the power plug has been pulled and inserted again. In such a case, set the clock again.



## Operate easy To use Timer (O.T.T.)

Playback of the selected input source starts at the specified time, and the unit is switched off after one hour. This timer operates only once directly after setting.

### Sleep timer (SLEEP)

The unit is turned OFF automatically after the specified period has elapsed.

### Timer playback, timer recording (PROG.1, PROG.2)

With each of the two timer programs, a selected source can be played (or radio broadcast can be recorded) in the previously set time period.

### AI timer playback (PROG.1, PROG.2)

The volume increases gradually after start of timer playback.



The MD operates on the basis of the information read from the disk into memory.

Before timer setting with the MD, leave the unit ON for 10 min. or more to make the memory backup function effective. → 81

## Operate easy To use Timer (O.T.T.)

Timer playback is possible simply by setting the time. The source selected last before the unit was switched off will be played. One hour after start of timer playback, the unit will be switched off automatically.

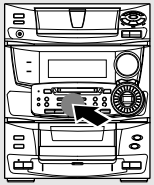


The program timer does not operate until the end of operation of the O.T.T. timer.

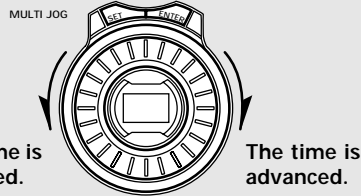
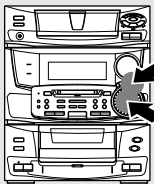
1 Select the source to be played.

2 Switch OFF the unit supply.

3 Press the 3D/O.T.T. key.



4 Set the ON time.



The time is returned.

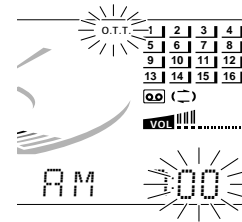
The time is advanced.

5 Press the ENTER key.



Each press switches the modes as follows.

- ▶ ① "O.T.T." lit ..... The timer is used.
- ▶ ② "O.T.T." not lit ..... The timer is not used.



ON time display

● The ON time can be set in steps of 5 minutes.

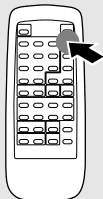
### To cancel

Press the 3D/O.T.T. key twice while the unit is OFF.

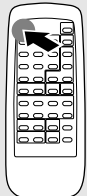
## Sleep timer (SLEEP)

Set the number of minutes after which the unit is to be turned OFF.

1 Turn the unit ON.

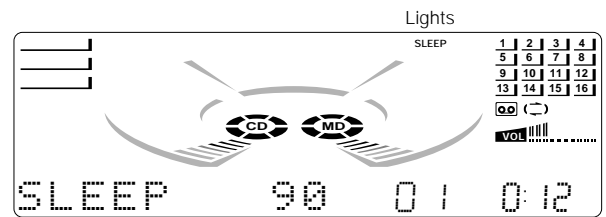


2 Set the time.



- The unit is turned OFF automatically after the set time has elapsed.
- Each press decreases the time by 10 minutes. The maximum time that can be set is 90 minutes.

90→80→70...30→20→10→Cancel→90→80...



Duration for sleep timer

### To cancel

Turn the unit OFF or press the SLEEP key until the sleep time is cancelled.

## Timer programming

Two 24-hour timer systems (PROG.1, PROG.2) (which can be used every day) are available.

In each of PROG.1 and PROG.2, the timer data including the operating period and played contents can be set and selected to be activated or not as required.

- Timer reservation is possible for the two types PROG.1 and PROG. 2 at the same time.
- Please make reservations with an interval of at least one minute, so that the operation times of PROG. 1 and PROG. 2 do not overlap.



The MD operates on the basis of the information read from the disk into memory.

Before timer setting with the MD, leave the power ON for 10 min. or more to make the memory backup function effective. → 81

Connect the related equipment under reference to "System connection". → 6

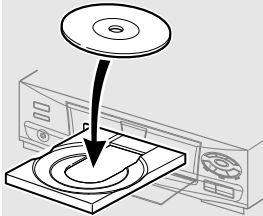
### 1 Make preparations for the play (recording).

#### To listen to radio

The station should be pre-set prior to the above. → 29

#### To listen to CD

Insert a disc. (Program playback is not possible.)



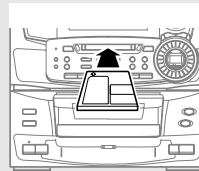
Select the disc (1, 2, 3) to be played.

#### Playing the auxiliary input source

Make timer setting of the component connected to the AUX or DIGITAL IN (OPTICAL) input jacks.

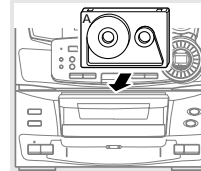
#### To listen to MD

Load a disc.



#### To listen to tape

Set a tape into.



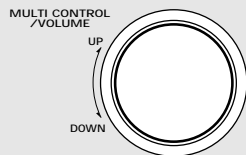
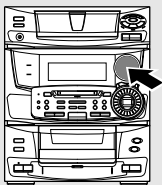
#### For recording

Make preparations for recording.

MD → 30

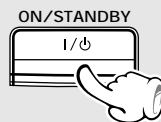
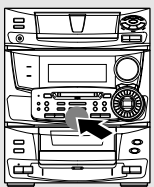
TAPE → 34

### 2 Adjust the listening volume.

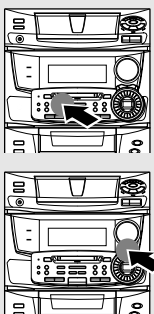


- When the power is switched on by the timer for recording, MUTE automatically becomes ON.

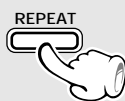
### 3 Set the ON/STANDBY key to STANDBY position.



### 4 Select a program No.



①



②



Press during display of the program contents.



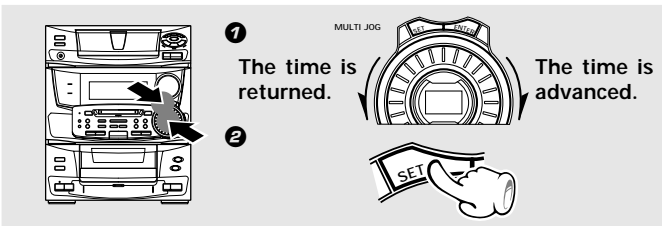
Each press of the key switches the program numbers as follows.

- ① PROG.1 ..... Program 1
- ② PROG.2 ..... Program 2
- ③ Normal operation



- The selected program No. lights.
- If a program No. under which a timer program has already been reserved, it is replaced by the new timer program.

## 5 Enter the ON time.

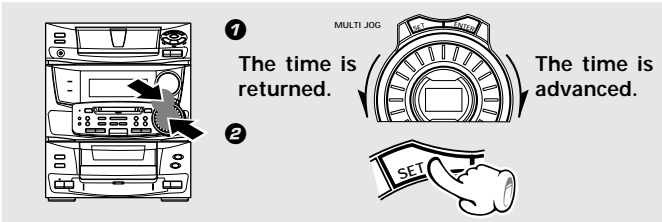


- After entering the figure of "hour" with the procedure in 1 and 2, enter the figure of "minute" using the same procedure.

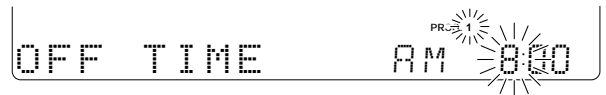


- If you make a mistake, restart from step 2.

## 6 Enter the OFF time.



- After entering the figure of "hour" with the procedure in 1 and 2, enter the figure of "minute" using the same procedure.

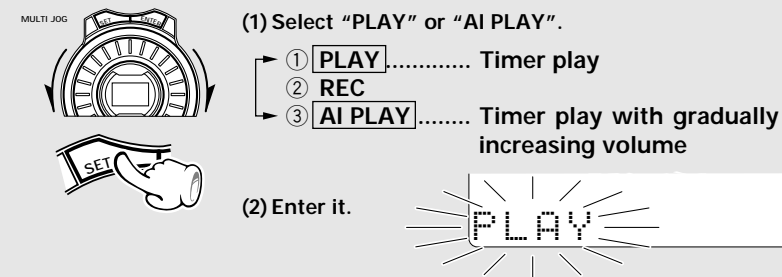


- If you make a mistake, restart from step 2.

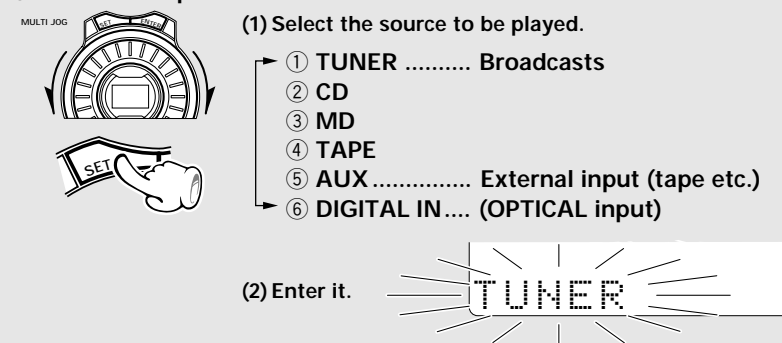
## 7 Make the desired reservation.

### For timer playback or AI timer playback

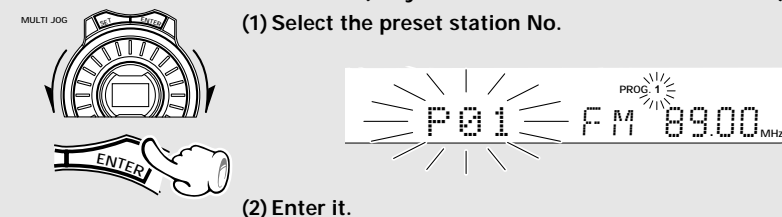
#### 1 Select the mode.



#### 2 Select the input source.

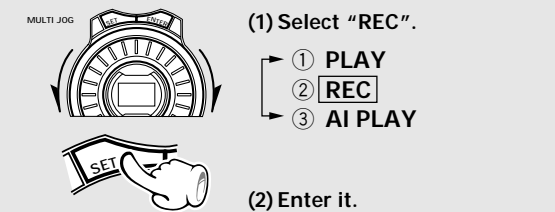


#### 3 Select the broadcast station (only when TUNER is selected above).

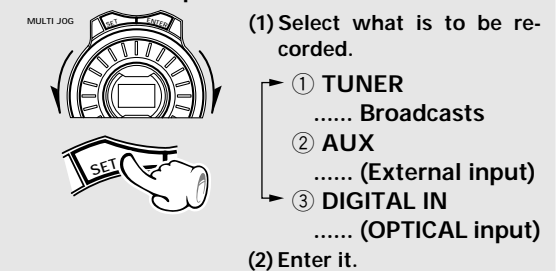


### For timer recording

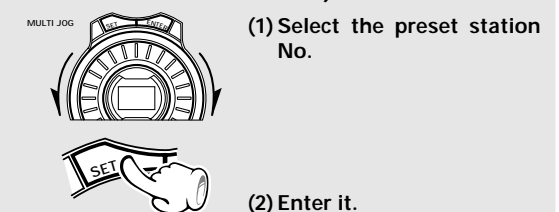
#### 1 Select the mode.



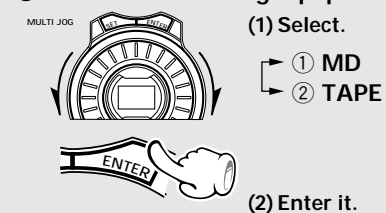
#### 2 Select the input source.



#### 3 Select the broadcast station (only when TUNER is selected above).

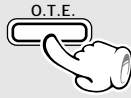
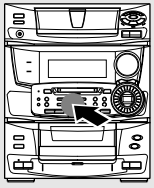


#### 4 Select the recording equipment.



The procedure is continued on the next page.

## 8 Select the timer program No. to be used.



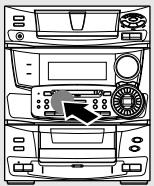
Each press of the key switches the program numbers as follows.

- ① PROG.1 ..... Execution of program 1 only.
- ② PROG.2 ..... Execution of program 2 only.
- ③ PROG.1, 2 ..... Execution of programs 1 and 2.
- ④ Timer OFF

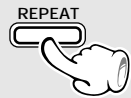
- The selected program No. lights.
- The timer will not function unless a program No. is selected.

Ensure that the unit is OFF.

### Check the reservation content.



Select the program number to be checked.



Each press of the key switches the program numbers as follows.

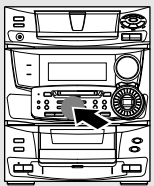
- ① PROG.1 ..... Display of program 1
- ② PROG.2 ..... Display of program 2
- ③ Normal mode

- The reserved contents will be displayed for 3 seconds per item. After this, the previous display content appears again.

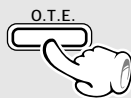
### To change the reserved contents

Restart the procedure of "Timer programming" from the beginning.

### When timer operation is not required



Press so that all PROG. indicators are OFF.

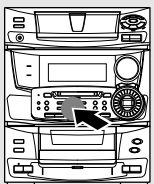


Each press of the key switches the program numbers as follows.

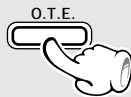
- ① PROG.1 ..... Program 1 operates.
- ② PROG.2 ..... Program 2 operates.
- ③ PROG.1, 2 ..... Programs 1 and 2 operate.
- ④ Not lit ..... No program operates.

- The reservation contents are held in memory.

### To set the same timer program again



Press so that the desired PROG. indicators lights.



Each press of the key switches the program numbers as follows.

- ① PROG.1 ..... Program 1 operates.
- ② PROG.2 ..... Program 2 operates.
- ③ PROG.1, 2 ..... Programs 1 and 2 operate.
- ④ Not lit ..... No program operates.

- Also prepare the disc or MD and adjust the listening volume.

## Maintenance

### Maintenance of the Set

When the front panel, the case, etc. becomes dirty, wipe with a soft, dry cloth. Do not use thinner, alcohol, etc., as these can cause discoloration.

### In regard to contact cleaners

Do not use contact cleaners because it could cause a malfunction. Be specially careful not to use contact cleaners containing oil, for they may deform the plastic component.

## Reference

### Caution on condensation

Condensation (of dew) may occur inside the unit when there is a great difference in temperature between this unit and the outside. This unit may not function properly if condensation occurs. In this case, leave the unit for a few hours with the power left ON, and restart the operation after the condensation has dried up.

Be specially cautious against condensation in a following circumstance:

When this unit is carried from a place to another across a large difference in temperature, when the humidity in the room where this unit is installed increases, etc.

### Memory backup function

Stored contents which are cleared immediately when power plug is unplugged from power outlet	Clock display
Stored contents which are cleared in at least a day after power plug is unplugged from power outlet	<b>Amplifier section</b> ON/STANDBY status (ON or STANDBY) Input selection Volume control value Balance setting Equalizer user memory 3D surround level <b>Tuner section</b> Receiving band Frequency Preset stations Program timer setting contents
Memory contents which are lost after at least one day with power OFF or the power plug pulled from the outlet.	<b>MD recorder section</b>

### Note related to transportation and movement

Before transporting or moving this unit, carry out the following operations.

1. Press the ▲ key and remove all CDs and MDs.
2. Press the ►/|| key of the MD.



MD NO DISC

3. Press the ►/|| key of the CD.
4. Wait for some time and verify that the display becomes as shown in the figure.



CD NO DISC

5. Wait a few seconds and turn the unit OFF.

### WARNING NOTICE:

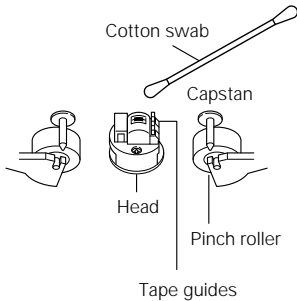
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# Maintenance

## Cleaning the head section



### Cleaning the heads and peripheral components

For maintaining the best condition of the deck and for longer service life, always keep the heads (recording / playback / erase), capstan and pinch roller clean. To clean them, perform the following:

1. Open the cassette holder.
2. Using a cotton swab dipped in alcohol, clean the head (recording / playback / erase), capstan and pinch roller carefully.

### Demagnetizing the head

When the recording / playback head is magnetized, the sound quality will deteriorate. In such a case, demagnetize the head using a commercially available demagnetizer (head eraser).

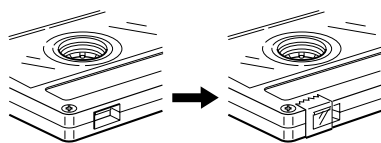
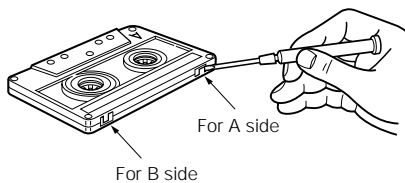


There are precisely aligned parts around the heads, including the tape guides. When cleaning, pay special attention so as not to apply shock to them.

## Notes on cassette tape

### Safety tab (accidental erasure prevention tab)

After an important recording has been finished, break the safety tab, to prevent the recorded contents from being erased or recorded on accidentally.

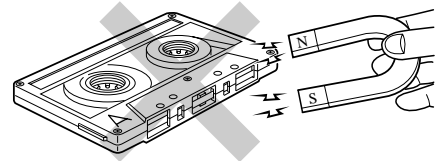


To re-record

Apply tape only to the position where the tab has been removed.

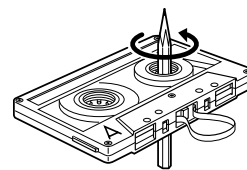
### To store cassette tapes

Do not store the tapes in a place which is subject to direct sunlight, or near equipment that generates heat. Keep the cassette tapes away from any magnetic field.



### When there is slack in the tape

In such a case, insert a pencil into the reel hole and wind the reel hub to remove the slack.



### 1. Longer tape than 110 minutes cassette tape

Since longer tape than 110 minutes cassette tape is very thin, the tape could adhere to the pinch roller or be easily broken. It is recommended that these tapes not be used with this unit to prevent possible damage.

### 2. Endless tapes

Do not use an endless tape, as this could damage the mechanism of the unit.

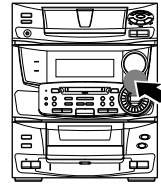
What seems to be a malfunction is not always so. Before calling for service, check the following table according to the symptom of your trouble.

### Operation to reset

The microcomputer may fall into malfunction (impossibility to operate, erroneous display, etc.) when the power cord is unplugged while unit is ON or due to an external factor. In this case, execute the following procedure to reset the microcomputer and return it to normal condition.

- Please note that resetting the microcomputer clears the contents stored in and it returns to condition when it left the factory.

Unplug the power cord from the power outlet then, while holding the ENTER key depressed, plug the power cord again.



### Amplifier section/Speakers

Symptom	Cause	Remedy
Sound is not produced.	<ul style="list-style-type: none"> <li>● The speaker cords are disconnected.</li> <li>● The volume control is set to the minimum position.</li> <li>● The <b>MUTE</b> key of remote control unit is switched ON.</li> <li>● The headphone plug is inserted into the jack.</li> </ul>	<ul style="list-style-type: none"> <li>● Connect properly referring to "System connections". →  </li> <li>● Adjust to an required volume.</li> <li>● Switch <b>MUTE</b> OFF.</li> <li>● Unplug the headphone plug.</li> </ul>
"-- -- -- --" blinks and no sound is put out.	<ul style="list-style-type: none"> <li>● The speaker cords are short-circuited.</li> </ul>	<ul style="list-style-type: none"> <li>● Turn the unit OFF, remove the short-circuit and turn the unit ON again.</li> </ul>
No sound from the headphones.	<ul style="list-style-type: none"> <li>● Imperfect insertion.</li> </ul>	<ul style="list-style-type: none"> <li>● Insert correctly. → </li> </ul>
Sound is not produced from the left or right speakers.	<ul style="list-style-type: none"> <li>● The speaker cords are disconnected.</li> <li>● The <b>BALANCE</b> is set completely to the left or right channel.</li> </ul>	<ul style="list-style-type: none"> <li>● Connect properly referring to "System connection". → </li> <li>● Adjust the optimum left and right balance. → </li> </ul>




### Tuner section

Symptom	Cause	Remedy
The clock display blinks without changing the figures.	<ul style="list-style-type: none"> <li>● There was a power failure.</li> <li>● The power cord was unplugged from the outlet.</li> </ul>	<ul style="list-style-type: none"> <li>● Adjust the present time again. → </li> <li>● Adjust the present time again.</li> </ul>
Timer operation is not possible.	<ul style="list-style-type: none"> <li>● The present time has not been adjusted or there was a power failure.</li> <li>● The timer ON time and OFF time have not been set.</li> <li>● The timer execution was not set up.</li> </ul>	<ul style="list-style-type: none"> <li>● Adjust the present time referring to "Clock adjustment". → </li> <li>● Set the timer ON time and OFF time.</li> <li>● Press the <b>O.T.E.</b> key to set up the execution.</li> </ul>
Radio stations cannot be received.	<ul style="list-style-type: none"> <li>● The antennas have not been connected.</li> <li>● A proper broadcasting band has not been selected.</li> <li>● The frequency of the station to be received is not tuned.</li> </ul>	<ul style="list-style-type: none"> <li>● Connect antennas. →  </li> <li>● Select a band.</li> <li>● Tune to the frequency of the desired station.</li> </ul>
Noise interferes.	<ul style="list-style-type: none"> <li>● Car ignition noise.</li> <li>● Influence of an electric appliance.</li> <li>● A TV set is installed near the system.</li> </ul>	<ul style="list-style-type: none"> <li>● Install the outdoor antenna in an apart position from the road.</li> <li>● Switch the suspected electric appliance OFF.</li> <li>● Install the TV or the system at an increased distance between them.</li> </ul>
A station has been preset but it cannot be received by pressing the P.CALL key.	<ul style="list-style-type: none"> <li>● The frequency of the preset station is not tunable.</li> <li>● The preset memory has been cleared because the power cord has been unplugged for a long period.</li> </ul>	<ul style="list-style-type: none"> <li>● Preset stations with tunable frequencies. → </li> <li>● Preset stations again.</li> </ul>

## Symptoms related to MD standard





Symptom	Cause
"DISC FULL" is displayed while the disc still has a remaining recordable time.	<ul style="list-style-type: none"> <li>More than 255 tracks (track No. 256 or more) cannot be recorded. (There may be also cases in which recording is impossible while the track number is less than 256.) In such a case, the REMAIN time display shows "0:00".</li> </ul>
The possible recording time does not increase even when a short track is erased.	<ul style="list-style-type: none"> <li>When the remaining time of the entire disc is less than 12 sec, the remaining time indication on the display becomes "0:00". When the total time of the deleted tracks exceeds 12 sec, the display changes to the recordable time.</li> <li>When a short track is deleted on a repeatedly edited disc, the remaining time may not increase.</li> </ul>
Tracks can not be connected.	<ul style="list-style-type: none"> <li>Connection of the track resulting from edit processing may not be possible.</li> </ul>
The time which has been recorded on the MD and the remaining time do not add up to the maximum recording time (60 or 74 min.).	<ul style="list-style-type: none"> <li>As recording is executed with 2 sec. as the minimum unit, the display time may not coincide.</li> </ul>
When search is performed in a track which has been compiled by editing, the sound is sometimes interrupted.	<ul style="list-style-type: none"> <li>This derives from the restriction in the MD system standard and not a malfunction.</li> </ul>
The track numbers are not assigned correctly.	<ul style="list-style-type: none"> <li>Depending on the contents of the recorded source (CD etc.), the track numbers may not be assigned correctly.</li> </ul>
"READING" is displayed for an abnormally long time.	<ul style="list-style-type: none"> <li>When a new recordable MD (with nothing recorded) is inserted, "READING" is displayed longer than usual.</li> </ul>
The time display becomes inaccurate with a monaurally recorded disc.	<ul style="list-style-type: none"> <li>Monaural recording and stereo recording are executed according to different formats. This is not a malfunction.</li> </ul>
Input of 1792 title characters is not possible.	<ul style="list-style-type: none"> <li>The title recording area is used in units of 7 characters, so that input of 1792 characters may not be possible.</li> </ul>

## MD recorder section (other symptoms)

Symptom	Cause	Remedy
Sound is not output even when the play key is pressed.	<ul style="list-style-type: none"> <li>The cords are connected erroneously.</li> <li>No disc has been loaded.</li> <li>A non-recorded disc has been loaded.</li> </ul>	<ul style="list-style-type: none"> <li>Connect the cords in accordance with "System connections". →  6</li> <li>Load a disc.</li> <li>Load a prerecorded disc or playback-only disc.</li> </ul>
Recording is not possible	<ul style="list-style-type: none"> <li>The disc is write-protected.</li> <li>An attempt is made to record digital signal from a source while its digital copy has been prohibited by SCMS.</li> <li>The recording level is too low.</li> <li>A playback-only disc has been loaded.</li> <li>The disc does not have a recordable area.</li> <li>The input selector is set to MD.</li> </ul>	<ul style="list-style-type: none"> <li>Change the position of the write protect tab to the write position or use a recordable disc. →  5</li> <li>Recording is not possible.</li> <li>Readjust the recording level.</li> <li>Use a recordable disc.</li> <li>Use another disc.</li> <li>Set the input selector to the source to be recorded. →  30</li> </ul>
Sound is distorted.	<ul style="list-style-type: none"> <li>The recording level has not been adjusted.</li> <li>A disc in which distorted sound has been recorded is played.</li> </ul>	<ul style="list-style-type: none"> <li>Read "Recording on MD (Analog Recording)".</li> <li>Record again.</li> </ul>
Noise is noticeable.	<ul style="list-style-type: none"> <li>An external noise is induced.</li> </ul>	<ul style="list-style-type: none"> <li>Install the unit at a position apart from an electric appliance or TV set.</li> </ul>
The display goes out for a moment after the unit has been turned ON.	<ul style="list-style-type: none"> <li>Switching is operated too quickly.</li> </ul>	<ul style="list-style-type: none"> <li>This is not a malfunction.</li> </ul>



**MD recorder section (Displayed messages and actions to be taken against them)**

Displayed Message	Meaning	Action
<b>NO DISC</b>	●No disc is placed on the tray.	●Load a disc.
<b>CAN'T COPY</b>	●An attempt is made to record digital signal from a source while its digital copy has been prohibited by SCMS.	●Switch to analog recording. →  32
<b>DISC FULL</b>	●There is no recordable area on the disc. ●An attempt is made to record a 256th track.	●Use another recordable disc. ●More than 256 tracks cannot be recorded per disc.
<b>TITLE FULL</b>	●An attempt is made to assign a title with more characters than usable.	●Refer to "Total number of title characters". →  61
<b>BLANK DISC</b>	●The disc does not contain any recordings.	●When playback is required, use a recorded disc.
<b>NO TRACKS</b>	●The disc does not contain any tracks but has a disc title.	●The disc can be used for recording without any problem.
<b>READING</b>	●The TOC *1 data of the disc is being read.	●This is a normal operation.
<b>WRITING</b>	●The data related to editing or recording is being written in the disc.	●This is a normal operation.
<b>DISC ERROR</b>	●The contents of UTOC *2 are abnormal.	●Perform " <b>ALL ERASE</b> " operation. If this is not possible, use another disc. →  66
<b>CAN'T EDIT</b>	●An attempt is made to perform editing beyond the restrictions, for example to erase a track which is too short.	●Perform editing following the restrictions.
<b>?(blinking)</b>	●This is a message for confirming if editing can really be executed.	●Press the <b>ENTER</b> key to execute editing.
<b>PROTECTED</b>	●The minidisc is write-protected.	●Cancel the write protection. →  5
<b>PLAY ONLY</b>	●The minidisc is only for playback.	●Insert a minidisc for recording.
<b>UNIT ERROR</b>	●This indicates some trouble.	●Return to normal condition is made by switching the unit off and then on again.





\*1 All minidisks contain a Table of Contents (TOC) in addition to sound signals. The TOC is similar to the table of contents in a book and contains information, such as track numbers, track length, and character information, that cannot be rewritten.

\*2 In addition to the TOC, minidisks also contain a special User's Table of Contents (UTOC) that contains track number, track length, and character information, that can be rewritten.

**Memory Backup for the MD Recorder Section**

The memory contents are held for approximately one day with the power plug pulled from the receptacle. In case of long power failures or long times with the plug pulled from the receptacle, the information in regard to recording or editing (recorded when the minidisc is removed) may be erased or destroyed before recording on the minidisc. Once the information has disappeared, it can not be recovered. After recording or editing, always remove the minidisc to record the recording or editing information.



**CD player section**

Symptom	Cause	Remedy
A CD is placed in the player but it cannot be played.	<ul style="list-style-type: none"> <li>● The disc is placed upside down.</li> <li>● The disc position is displaced.</li> <li>● The disc is extremely dirty.</li> <li>● The disc is scratched.</li> <li>● Dew is condensed on the optics lens.</li> </ul>	<ul style="list-style-type: none"> <li>● Place the disc properly, with the label side facing upward.</li> <li>● Place the disc properly.</li> <li>● Clean the disc referring to "Disc handling precautions". →  5</li> <li>● Try another disc.</li> <li>● Refer to "Caution on condensation" and remove the condensation by evaporation. →  77</li> </ul>
Sound is not produced.	<ul style="list-style-type: none"> <li>● The disc has not been placed.</li> <li>● The player is not put to the play mode.</li> <li>● The disc is extremely dirty.</li> <li>● The disc is scratched.</li> </ul>	<ul style="list-style-type: none"> <li>● Place a disc in the CD player.</li> <li>● Press the ►/   key.</li> <li>● Clean the disc referring to "Disc handling precautions". →  5</li> <li>● Try another disc.</li> </ul>
Sound skips.	<ul style="list-style-type: none"> <li>● The disc is dirty.</li> <li>● The disc is scratched.</li> <li>● The player is subject to vibration.</li> </ul>	<ul style="list-style-type: none"> <li>● Clean the disc referring to "Disc handling precautions". →  5</li> <li>● Try another disc.</li> <li>● Install the unit in a place not subject to vibrations.</li> </ul>

















**CD player section (in regard to message display)**

Displayed Message	Meaning	Action
Err** (** indicates a number)	<ul style="list-style-type: none"> <li>● This indicates some trouble. The number differs according to the trouble contents.</li> </ul>	<ul style="list-style-type: none"> <li>● Return to normal condition is made by switching the unit off and then on again.</li> </ul>

**Remote control unit**

Symptom	Cause	Remedy
Remote control operation is not possible.	<ul style="list-style-type: none"> <li>● Batteries are exhausted.</li> <li>● The remote control is too far away from the system, the controlling angle is deviated or there is an obstacle in between.</li> <li>● There is no CD or MD set in the component to be played.</li> </ul>	<ul style="list-style-type: none"> <li>● Replace with new batteries. →  14</li> <li>● Operate the unit inside the remote control-able range. →  14</li> <li>● Set a CD or MD in the component to be played.</li> </ul>

## Cassette deck

Symptom	Cause	Remedy
Sound cannot be produced by pressing the play key or no operation occurs even when an operation key is pressed.	<ul style="list-style-type: none"> <li>● The head is dirty.</li> <li>● The tape is wound too tight due to irregular winding.</li> <li>● A nonrecorded tape is played.</li> </ul>	<ul style="list-style-type: none"> <li>● Clean the head referring to "Maintenance" . → </li> <li>● Try another tape.</li> <li>● Play a recorded tape.</li> </ul>
No operation occurs even when an operation key is pressed.	<ul style="list-style-type: none"> <li>● The cassette holder is not closed completely.</li> <li>● The operation key is pressed immediately after closing the cassette holder.</li> <li>● The operation key is pressed in less than 4 seconds after turning the power ON.</li> <li>● A tape is not inserted in the unit.</li> <li>● The tape is wound too tight due to irregular winding.</li> <li>● The tape is fully wound to one of the reels.</li> </ul>	<ul style="list-style-type: none"> <li>● Close the tray completely. → </li> <li>● Press operation keys in more than a few seconds after closing the cassette holder.</li> <li>● Press operation keys after waiting for more than 4 seconds.</li> <li>● Insert a tape. → </li> <li>● Try another tape.</li> <li>● Change the tape transport direction or reverse the tape insertion orientation. → </li> </ul>
The DPSS malfunctions.	<ul style="list-style-type: none"> <li>● The tape used is not suitable for DPSS, for example the spaces between tunes may be too short.</li> </ul>	<ul style="list-style-type: none"> <li>● Refer to "Searching for the desired music program (DPSS)" . → </li> </ul>
The cassette holders cannot be opened by pressing the  PUSH OPEN area.	<ul style="list-style-type: none"> <li>● The key is pressed during recording or playback.</li> <li>● The microcomputer is malfunctioning due to external noise.</li> </ul>	<ul style="list-style-type: none"> <li>● Press in stop mode.</li> <li>● Reset the microcomputer. → </li> </ul>
Sound is harsh or high frequencies are not reproduced.	<ul style="list-style-type: none"> <li>● The head is dirty.</li> <li>● The tape is stretched or shrunk.</li> </ul>	<ul style="list-style-type: none"> <li>● Clean the head referring to "Maintenance" . → </li> <li>● Try another tape.</li> </ul>
Sound is distorted.	<ul style="list-style-type: none"> <li>● The tape being played was recorded with distorted sound.</li> </ul>	<ul style="list-style-type: none"> <li>● Try another tape.</li> </ul>
Noise is noticeable.	<ul style="list-style-type: none"> <li>● The tape head is magnetized.</li> <li>● External noise is induced.</li> <li>● A tape recorded with Dolby NR ON is played with Dolby NR OFF.</li> </ul>	<ul style="list-style-type: none"> <li>● Demagnetize the head referring to "Maintenance" . → </li> <li>● Install the system at a distance from other electric appliances and TV.</li> <li>● Set the Dolby NR to on. → </li> </ul>
Sound vibrates.	<ul style="list-style-type: none"> <li>● The capstans or pinch rollers are dirty.</li> <li>● The tape is wound irregularly.</li> </ul>	<ul style="list-style-type: none"> <li>● Clean the head referring to "Maintenance" . → </li> <li>● Wind the tape again by fast forwarding, rewinding or playing from an end to the other. → </li> </ul>
Recording cannot be started by pressing the record key.	<ul style="list-style-type: none"> <li>● The recording protect tab of the cassette has been broken.</li> <li>● The cassette holder is not closed completely.</li> <li>● The <b>TAPE</b> input is selected.</li> <li>● The tape is fully wound to one of the reels.</li> </ul>	<ul style="list-style-type: none"> <li>● Use a cassette with an unbroken recording protect tab or block the hole. → </li> <li>● Close the holder completely. → </li> <li>● Select the source to be recorded with the input selector key. → </li> <li>● Change the tape transport direction of deck B or reverse the tape insertion orientation. → </li> </ul>

**Main unit (RXD-981MD)****[Amplifier section]**

Effective output power during STEREO operation  
 1 kHz, 10 % T.H.D., at 6  $\Omega$  ..... 100 W + 100 W  
 Rated power output (U.S.A. and Canada)

70 watts per channel minimum RMS, both channels driven, at 6  $\Omega$  from 40 Hz to 16 kHz with no more than 0.9 % total harmonic distortion.

**Rated output power during STEREO operation****Other countries**

1 kHz, 0.7 % T.H.D., at 6  $\Omega$  ..... 75 W + 75 W

**Signal to noise ratio**

AUX ..... 89 dB

**[Tuner section]****FM tuner section**

Tuning frequency range ..... 87.5 MHz ~ 108 MHz  
 (For Russia) ..... 65.0 MHz ~ 74.0 MHz

**Europe, U.K. and Russia****MW (AM) tuner section**

Tuning frequency range ..... 531 kHz ~ 1,602 kHz

**Other countries****AM tuner section****Tuning frequency range**

9 kHz step ..... 531 kHz ~ 1,602 kHz

10 kHz step ..... 530 kHz ~ 1,610 kHz

U.S.A. and Canada ..... 530 kHz ~ 1,700 kHz

**[MD recorder section]**

Laser ..... Semiconductor laser

Recording method ..... Field modulation overwrite method

D/A Conversion ..... 1 Bit

Wow & flutter ..... Less than unmeasurable limit

**[Cassette deck section]**

Track ..... 4-track, 2-channel stereo

Recording system ..... AC bias system  
 (Frequency: 105 kHz)

**Heads**

Playback / recording head ..... 1

Erasing head ..... 1

Motors ..... 1

Fast winding time ..... Approx. 100 seconds  
 (C-60 tape)

**[CD player section]**

Laser ..... Semiconductor laser

D/A Conversion ..... 1 Bit

Wow & flutter ..... Less than unmeasurable limit

**[General]**

Power consumption ..... 140 W

Dimensions ..... W : 270 mm (10-5/8")

H : 330 mm (13")

D : 356 mm (14")

**Weight (net)**

Europe, U.K., Russia, U.S.A. and Canada ..... 9.7 kg (21.4 lb)

Other countries ..... 9.6 kg (21.2 lb)

**Speakers (LS-N951) U.S.A. and Canada**

Enclosure ..... Bass-reflex type, magnetically shielded

**Speaker configuration**

Woofer ..... 160 mm, cone type

Tweeter ..... 50 mm, cone type

Super-tweeter ..... 25 mm, dome type

Impedance ..... 6  $\Omega$

Maximum input level ..... 60 W

Dimensions ..... W : 220 mm (8-11/16")

H : 330 mm (13")

D : 284 mm (11-3/16")

Weight (net) ..... 4.0 kg (8.8 lb)(1 piece)

**Speakers (LS-N651) Other countries**

Enclosure ..... Bass-reflex type, magnetically shielded

**Speaker configuration**

Woofer ..... 180 mm, cone type

Tweeter ..... 50 mm, cone type

Super-tweeter ..... 25 mm, dome type

Impedance ..... 6  $\Omega$

Maximum input level ..... 60 W

Dimensions ..... W : 220 mm (8-11/16")

H : 330 mm (13")

D : 316 mm (12-7/16")

Weight (net) ..... 4.1 kg (9.0 lb)(1 piece)



KENWOOD follows a policy of continuous advancements in development. For this reason specifications may be changed without notice.

- Sufficient performance may not be exhibited at extremely cold locations (where water freezes).

# KENWOOD

**For your records**

Record the serial number, found on the back of the unit, in the spaces designated on the warranty card, and in the space provided below. Refer to the model and serial numbers whenever you call upon your dealer for information or service on this product.

Model \_\_\_\_\_ Serial Number \_\_\_\_\_