

# KENWOOD

MICRO HI-FI COMPONENT SYSTEM

# HM-982RW

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## INSTRUCTION MANUAL

KENWOOD CORPORATION



## 2 Before applying power





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

Units are designed for operation as follows.

Europe and U.K. .... AC 230 V only

### Safety precautions

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

	<b>CAUTION</b> RISK OF ELECTRIC SHOCK DO NOT OPEN		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.
	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.		
	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.		

### The marking of products using lasers

**CLASS 1  
LASER PRODUCT**

The marking is located on the rear panel and says this product has been classified as Class 1. It means that there is no danger of hazardous radiation outside the product

**CAUTION  
INVISIBLE LASER RADIATION  
WHEN OPEN. AVOID EXPOSURE  
TO BEAM.**

Inside this laser product, a laser diode classified as Class 3B laser radiation is contained as alerted by the internal caution label shown above. To avoid exposure to laser beams, do not open the cover.

## Special features

### **Integrated stereo system incorporating CD player + CD recorder + Cassette deck**

In addition to recording and playback of CD-R (Recordable) and CD-RW (Rewritable), recording from a cassette tape to CD-R/RW as well as simultaneous, twin recording from CD to CD-R/RW and tape are also available.

### **CD → CD-R/RW high-speed (2x-speed) dubbing**

A convenient feature enabling dubbing from CD to CD-R/RW with simple operation and short period.

### **Low standby power consumption**

The power consumption during standby is no more than 2 W.

### **CD-TEXT data display**

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.  
Some CDs conforming to CD-TEXT may not display text information.


### **R.D.S. (Radio Data System)**

The RDS data included in FM broadcasts can be used to search for the intended broadcasting contents and for automatic reception from standby.



### **Sampling rate converter built in**

The unit incorporates a sampling rate converter to handle different kinds of digital sources (32kHz, 44.1kHz, 48kHz).

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Caution : Read the pages marked  carefully to ensure safe operation.

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## Unpacking

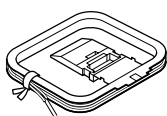
Unpack the unit carefully and make sure that all the accessories are present.

If any accessories are missing, or if the unit is damaged or fails to operate, notify your dealer immediately. If the unit was shipped to you directly, notify your shipper immediately. Kenwood recommends that you retain the original carton and packing materials in case you need to move or ship the unit in the future.

Keep this manual handy for future reference.

### Accessories

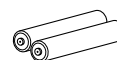
AM loop antenna (1)



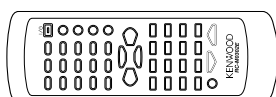
FM indoor antenna (1)



Batteries (R6/AA) (2)



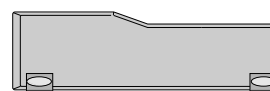
Remote control unit (1)



Speaker cords (2)

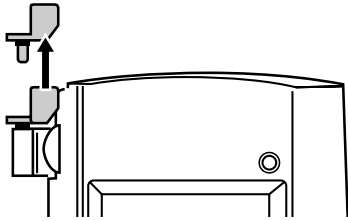


Front door (1)

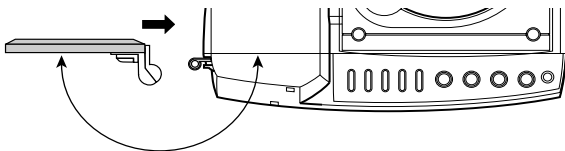


## Attaching the front door

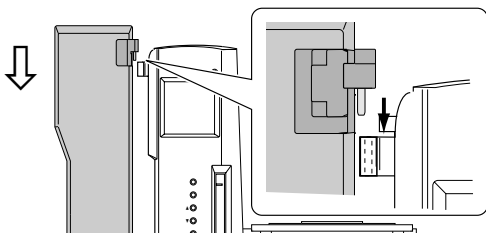
- ❶ Remove the protection cap from the bearing section.



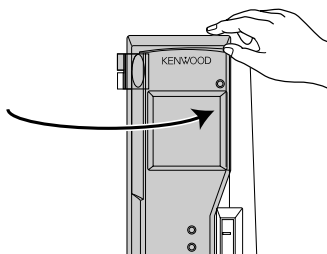
- ❷ Fit the front door between two bearings by positioning the door at a position where it is opened by more than 180° as shown below.



180° or more



- ❸ Close the front door with a hand.

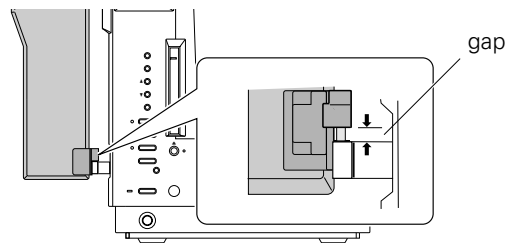


### CAUTION

When you use the system without attaching the front door, be sure to leave the protection cap attached. If the system is used without the front panel and protection cap, you may be injured by contacting the metallic parts around the front door bearing.

- Be sure to retain the removed protection cap.

- If the front door is not fully opened, a clearance is produced at the lower bearing section, making it impossible to close the front door.



- Be sure to close and open the front door with hand.
- When detaching the front door, open the front door by more than 180° and lift it to disengage from the bearings.



When the system main unit and speakers are arranged side by side, leave a certain space between the main unit and left speaker so that the opening and closing of the front door is not hindered.

The CD recorder allows digital audio signals to be recorded on music CD-R and CD-RW discs without compressing the digital signals, providing high quality equivalent to commercially-available CD (Compact Discs).

## CD-R and CD-RW

The difference between the CD-R and CD-RW discs are as follows.

### CD-R (Compact Disc - Recordable)

A CD-R allows digital signals to be recorded additionally after previous recordings until the recordable time of the disc is fulfilled, but the signals once recorded cannot be erased. Also, once the disc is finalized (→ 70), the disc can be played on other CD players\* as well as on this system, but additional recording becomes no longer possible.

\* ..... Playback may be impossible with certain equipment.

### CD-RW (Compact Disc - Rewritable)

A CD-RW allows digital signals to be recorded additional after previous recordings until the recordable time of the disc is fulfilled, and the signals recorded can be erased and re-written, thereby making possible repeated recording on a disc. Additional recording on a CD-RW is also impossible once it has been finalized (→ 70), but a finalized disc can be returned to a non-finalized disc (→ 71). This means that even a finalized CD-RW can accept additional recording when it is unfinalized. However, a finalized CD-RW cannot be played on ordinary CD players. It can be played back only on equipment which is compatible with CD-RW.

## CD-R/RW which can be recorded and played on this system

### Recordable discs

This system can record signals only on CD-R/RW discs designed for music. The music CD-R/RW discs carry the markings as shown below. Note that the system cannot record signals on CD-R/RW discs for use with personal computers.

CD-R for music



CD-RW for music



CD-R for PC



CD-RW for PC



These markings carry characters "DIGITAL AUDIO".

This system may not be able to record signals on certain music CD-R/RW discs depending on the disc characteristics. KENWOOD has confirmed the normal operation of the system with the CD-R/RW discs of the following manufacturers (as of October 2000).

#### CD-R

- TDK CORPORATION
- HITACHI MAXELL, LTD.
- MITSUBISHI CHEMICAL CORPORATION
- MITSUI CHEMICALS, INC.
- SONY CORPORATION
- TAIYOYUDEN CO., LTD.

#### CD-RW

- TDK CORPORATION
- MITSUBISHI CHEMICAL CORPORATION
- RICOH CO., LTD.

### Non-recordable signals

This system cannot record and play digital signals other than audio signals.

Other data than audio signals, such as the CD-ROM signal, cannot be played and recorded with this system. When a disc containing variety of data formats, such as a CD Graphic or CD-TEXT is used, the system cannot record or play data other than audio data.

The system can neither record or play compressed digital audio signals such as those recorded with Dolby Digital (AC-3) or MPEG.

### Recording and playback of discs recorded on other CD recorders

Some of CD-R/RW discs recorded on other CD recorders than this system (including CD-R/RW drives of PC) may not be recorded or played by this system due to differences in the disc characteristics and recording characteristics (pickup, etc.).

## Finalization (FINALIZE)

Finalization is the final processing of a CD-R/RW to make it playable on the CD player\*1 of this system and other CD-R/RW compatible players.

### Status after finalization

CD-R ..... The finalized disc can be played on the CD player of this system as well as other CD players\*2. As the disc becomes identical to ordinary CD, additional recording is not available any more.

CD-RW ..... The finalized disc can be played on the CD player of this system as well as other CD-RW compatible players\*3. Additional recording and erasure are basically impossible like the CD-R, but the disc can be returned to the status before finalization when it is unfinalized (→71).

	Before Finalization		After Finalization	
	CD-R	CD-RW	CD-R	CD-RW
Playback on CD player of this system	Impossible	Impossible	Possible	Possible
Display when the disc is loaded	NoDisc	NoDisc		
Playback on CD recorder of this system	Possible	Possible	Possible	Possible
Display when the disc is loaded	CD-R	CD-RW	CD	FINALIZED CD-RW
Additional recording (up to recordable limit)	Possible	Possible	Impossible	Impossible*4
Skip information registration →51	Possible	Possible	Impossible	Impossible*4
Erasure →72	Impossible	Possible	Impossible	Impossible*4

\*1 .. The CD player of this system is compatible with playback of CD-R/RW discs.

\*2 .. As the CD-R disc has lower reflectance than other music CDs, it may sometimes be unable to be played on certain ordinary CD players. Playback may also become impossible due to disc properties, dirt, scratch, stained pickup, condensation, etc. The CD-R disc may also be unable to be played on certain DVD players due to difference in the pickup wavelength.

\*3 .. Playback may be impossible with certain equipment.

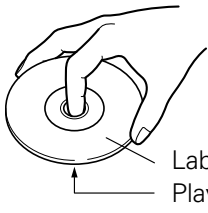
\*4 .. This becomes possible once the disc is unfinalized.

### Maximum number of tracks recordable in a disc

A CD-R/RW can accept recording of up to 99 tracks. More than 99 tracks cannot be recorded even when the disc still has a remaining capacity. The minimum recording time per track is 4 seconds.



## Disc handling precautions



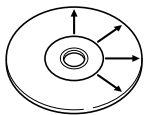
### Handling

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



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

Sticky paste



### 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 player and store it in its case.

## Discs which can be played with this unit

CD (12 cm, 8 cm), and the audio part of CDV, CD-G, and CD-EXTRA.

Use discs with IEC standard compliance, which is indicated by the  marking. For the CD-R/RW discs, see "Notes on the CD recorder" .

## Never play a cracked or warped disc

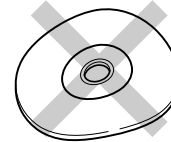
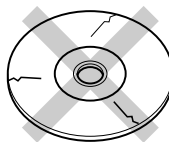
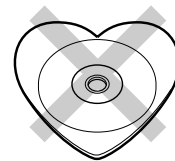
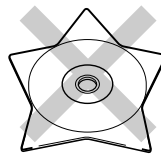
During playback, the disc rotates at high speed in the player. Therefore, to avoid danger, never use a cracked or deformed disc or a disc repaired with tape or adhesive agent. Please do not use discs which are not round because they may cause a malfunction.

## Disc accessories

The disc 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.

**To prevent failure, do not use a disc on which a label or paper sheet is attached.**

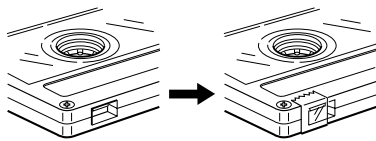
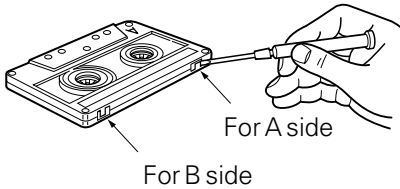
**Do not attempt to insert a disc with peculiar shape (star shaped, heart shaped, etc.), crack or important warp or a stabilizer marketed for disc protection. Otherwise malfunction may result.**



## 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.

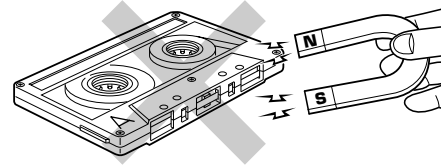


### To re-record

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

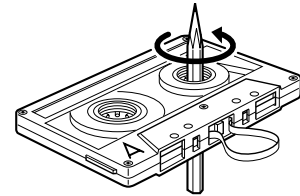
### To store cassette tapes

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. Note on long tapes

Do not use a cassette with more than 90-minute recording time, for the tape used with such a cassette is very thin and tends to cause troubles such as entanglement around the pinch roller or cutting of tape.

### 2. Endless tapes

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

## 1. Connection of the System Accessories

Connect the antenna as shown in the figure.  
Do not plug the power cord into a wall AC outlet until the connection has been completed.

### 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". - 82



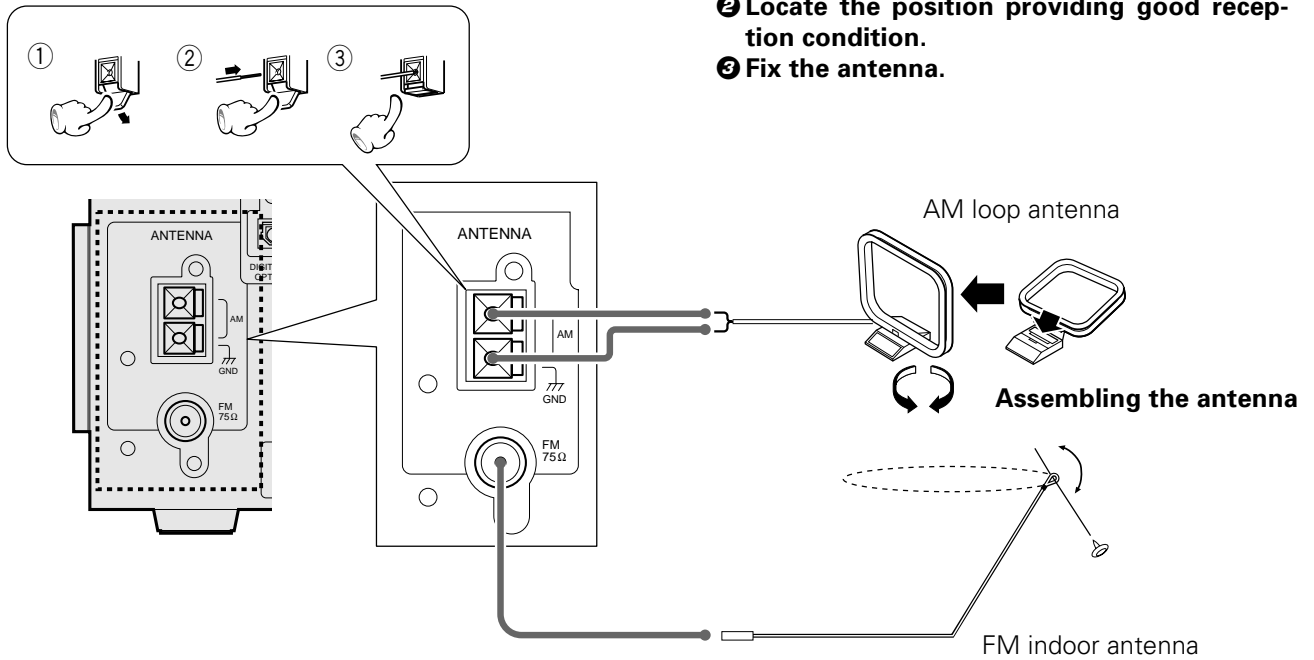
### Connection of the Accessory Antenna

#### 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.

#### FM indoor antenna

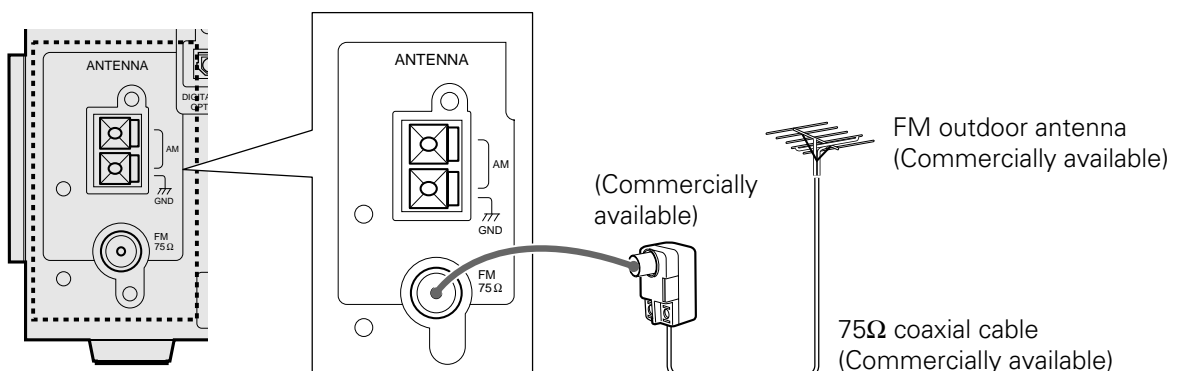
The accessory antenna is for temporary indoor use only. For stable signal reception we recommend using an outdoor antenna.



### In case of bad reception

#### FM outdoor antenna (Commercially Available Parts)

Lead the 75Ω coaxial cable connected to the FM outdoor antenna into the room and connect it to the FM 75Ω terminal.



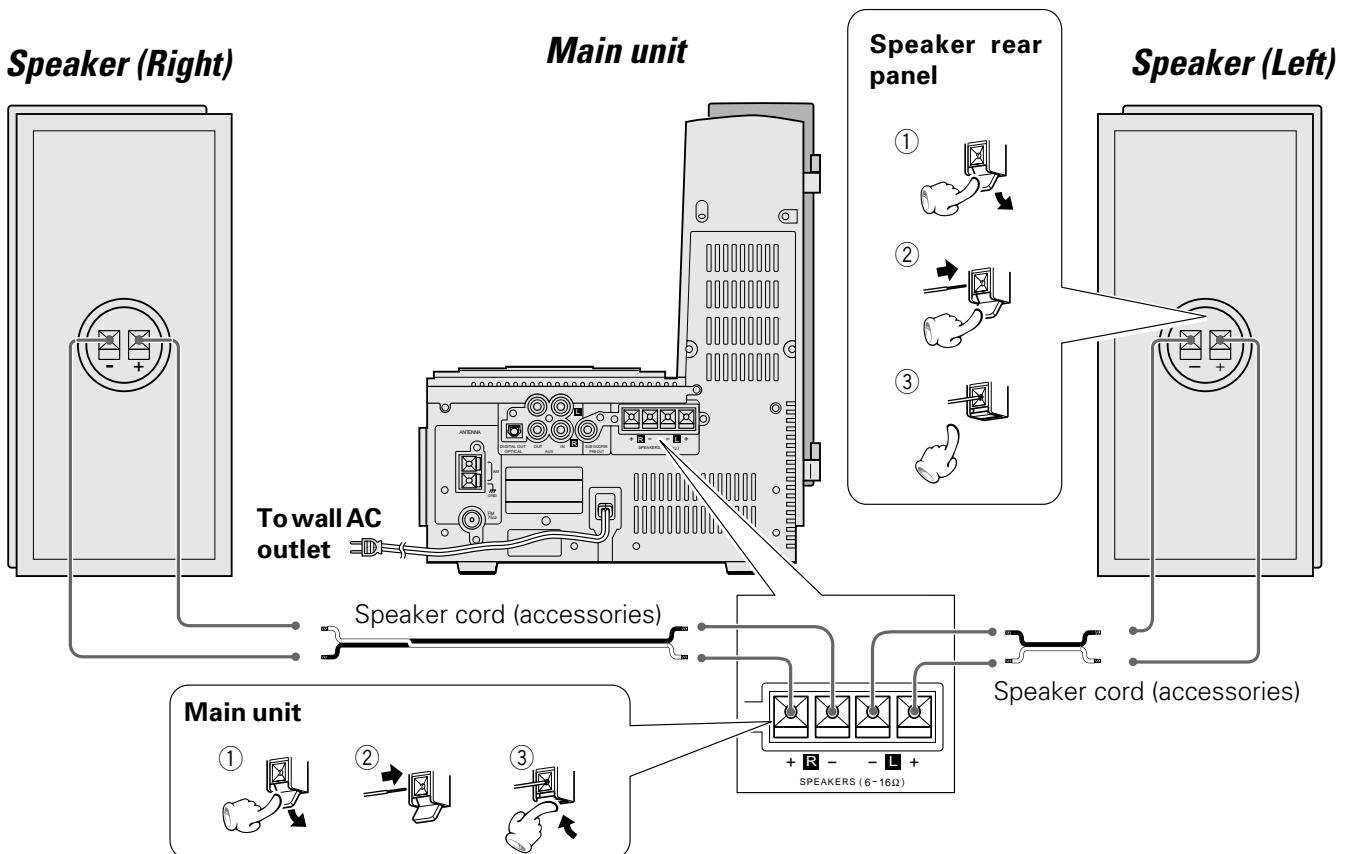
## Connection of speakers

Each speaker is destined either for the left or right. Respect this and connect them as shown below.

- Never short-circuit the + and – speaker cords.  
The protection circuit will operate and no sound will be put out.
- The + and – polarity are inverted, the sound will be unnatural with unclear localization of musical instruments.



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.



## Installation

Do not install the system in a place subject to vibrations.  
Do not install the unit on the back, on the left or right side or upside down.

### CAUTION

Be sure to adhere followings. Or proper ventilation will be blocked causing damage or fire hazard.

- Do not place any objects impairing heat radiation onto the top of unit.
- Leave a space around the unit (from the largest outside dimension including projection) equal or greater than, shown below.

Top panel : 50 cm

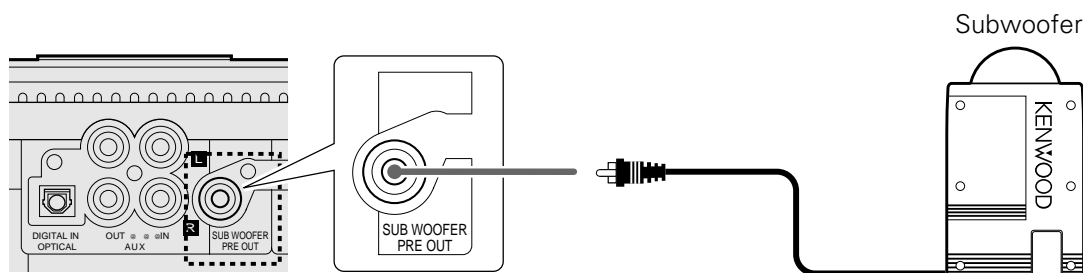
Back panel : 10 cm

## 2. Connection of Other Accessories (Commercially Available Parts)

When connections are to be made, make sure that the power plug is not plugged into a wall AC outlet. Connect the equipment as shown in the figures.

### Connection of Subwoofer (optional)

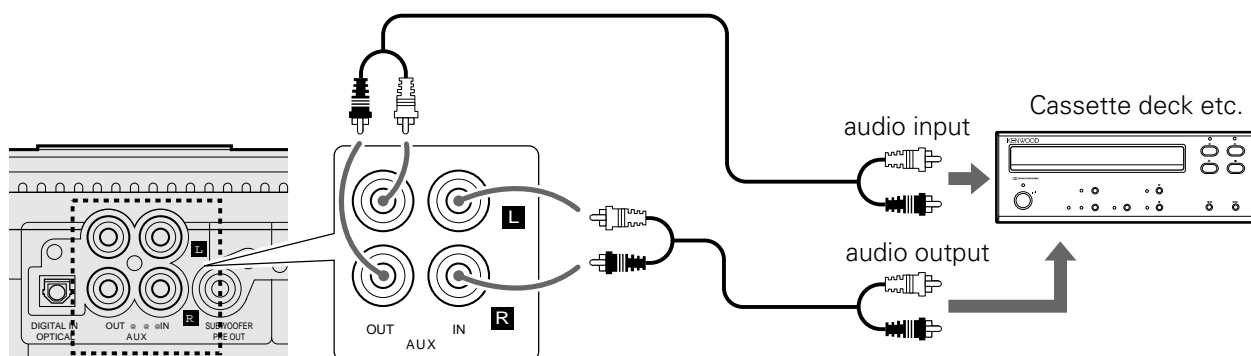
Extremely low frequency sound is played back powerfully.



### Connection of external source component

#### Analog signal connection

The **AUX (OUT/IN)** input jacks on the rear panel can be used to connect a cassette deck, etc.

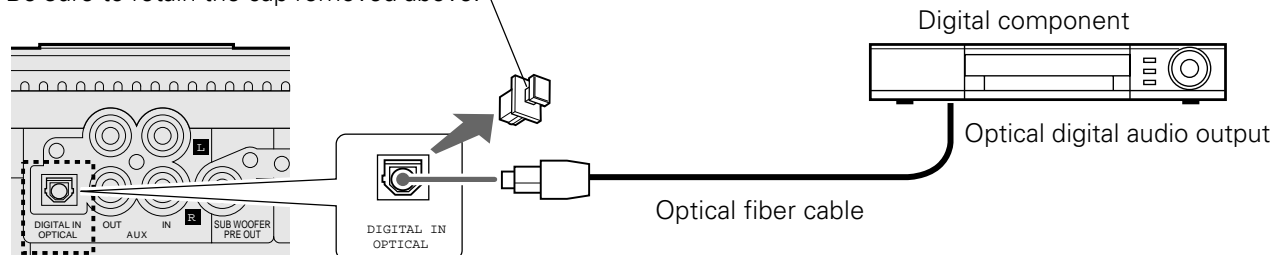


#### Digital signal connection

The **OPTICAL** digital input jack on the rear panel can be used to connect a digital component.

For the digital signals which can be recorded and played on this system, see **"Sampling frequency"**. → 81

Be sure to retain the cap removed above.

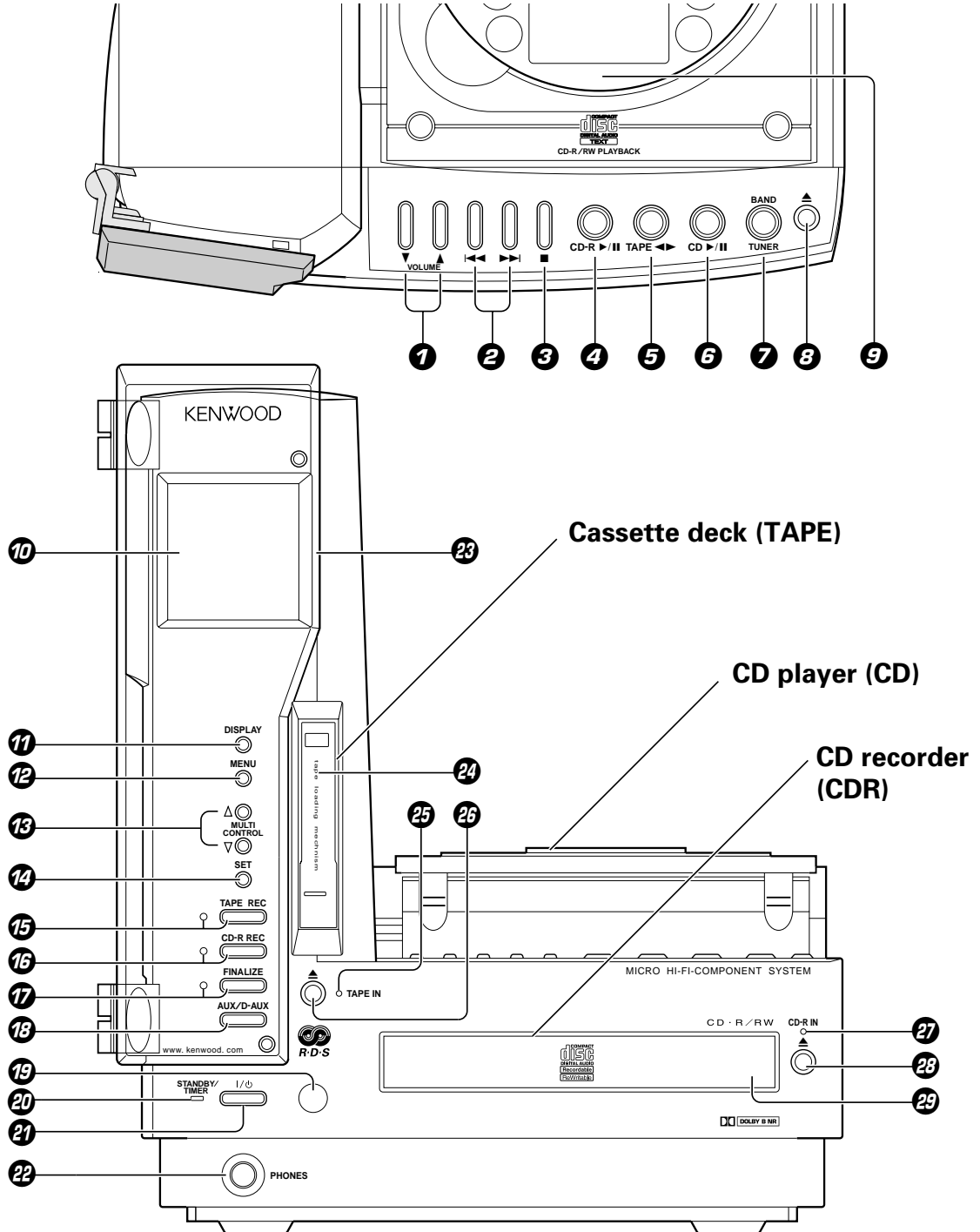


The source connected to the **DIGITAL IN OPTICAL** jack cannot be recorded onto tape. To record an external source on tape, connect the source component's output to the **AUX IN** jacks and select the **"AUX"** input source.



1. In case an associated system component is connected, also read the instruction manual of the component.
2. Insert the optical-fiber cable straight into the connector until it clicks.
3. Be sure to attach the protection cap when the connector is not used.
4. Never bend or bundle the optical-fiber cable.

## Main unit



## Standby mode

While the standby indicator of the unit is lit, a small amount of current is flowing into the unit's internal circuitry to back up the memory. This condition is referred to as the standby mode of the unit. While the unit is in the standby mode, it can be turned ON from the remote control unit.

**1 VOLUME keys**

Press to adjust the listening volume. → 22 → 23

**2 ◀▶ keys**

During **CD, CDR** playback:  
Press to skip CD, CD-R/RW tracks → 25 → 27

During **TAPE** playback:  
Press to fast forward or fast reverse the tape. → 29

During tuner reception:  
Press to select a radio station. → 30

**3 ■ (stop) key**

When power is OFF (standby) :  
Press to display the time of the day for 5 seconds. → 19

During **CD, CDR, TAPE** playback :  
Press to stop playback. → 25 → 27 → 29

During **CD, TAPE** recording :  
Press to stop recording. → 38 → 41

During tuner reception :  
Press to stop auto tuning. → 32

**4 CD-R ▶/II key**

When power is ON:  
Press to select the **CDR** input. → 26

When power is OFF (standby):  
Press to turn the system power ON and start playback on the CD recorder. → 22

When **CDR** input is selected:  
Press to start playback or let it pause. → 26

**5 TAPE ◀▶ key**

When power is ON:  
Press to select the **TAPE** input. → 28

When power is OFF (standby):  
Press to turn the system power ON and start TAPE playback. → 22

When **TAPE** input is selected:  
Press during playback to change the tape transport direction. → 28

**6 CD ▶/II key**

When power is ON:  
Press to select the **CD** input. → 24

When power is OFF (standby):  
Press to turn the system power ON and start playback on the CD player. → 22

When **CD** input is selected:  
Press to start playback or let it pause. → 24

**7 TUNER/BAND key**

When power is ON:  
Press to select the **TUNER** input. → 30

When power is OFF (standby):  
Press to turn the system power ON and start radio reception on the tuner. → 22

During tuner reception :  
Press to switch the radio band. → 30

**8 CD player cover open key (▲)**

Press to open a CD player cover. → 24 → 25

**9 CD player cover**

**10 Character data display**

→ 18

**11 DISPLAY key**

The indications contents of the display are switched. → 39 → 42

**12 MENU key**

Press to switch on/off the setting selection modes . → 18 → 19 → 20

**13 MULTI CONTROL keys**

Those keys is used in setting selection, timer reservation and clock adjustment operations. → 18 → 19 → 20 → 23 → 75

**14 SET key**

Press to set or enter a menu item. → 18 → 19 → 20

**15 TAPE REC key/indicator**

Key  
Press to start recording on tape. → 41

Indicator  
Lights during tape recording and blinks during record-pause. → 41

**16 CD-R REC key/indicator**

Key  
Press to start recording on CD-R/RW. → 38

This key is also used in finalizing a CD-R/RW.

Indicator  
Lights during CD-R/RW recording and blinks during record-pause. → 38

**17 FINALIZE key/indicator**

Key  
Press to start finalizing a CD-R/RW. → 70

Indicator  
Blinks during finalization. → 70

**18 AUX/D-AUX key**

Press when playing or recording the input source connected to the AUX or Digital AUX input. → 22 → 74

**19 Remote sensor**

→ 17

**20 STANDBY/TIMER indicator**

When power is ON :Goes off

When power is OFF (standby) :Lights in red. → 14

During timer standby :Lights in green.

→ 19 → 75

**21 I / ⏻ key**

Press to switch the power ON and OFF (standby). → 22 → 75

**22 PHONES jack**

Plug headphones with a stereo mini-plug (optional). → 23

**23 Front door**

→ 6

**24 Tape insertion slot**

**25 TAPE IN indicator**

Lights when a tape is loaded. → 28 → 40

**26 ▲ (TAPE eject) key**

This key is pressed to remove tape. → 29

**27 CD-R IN indicator**

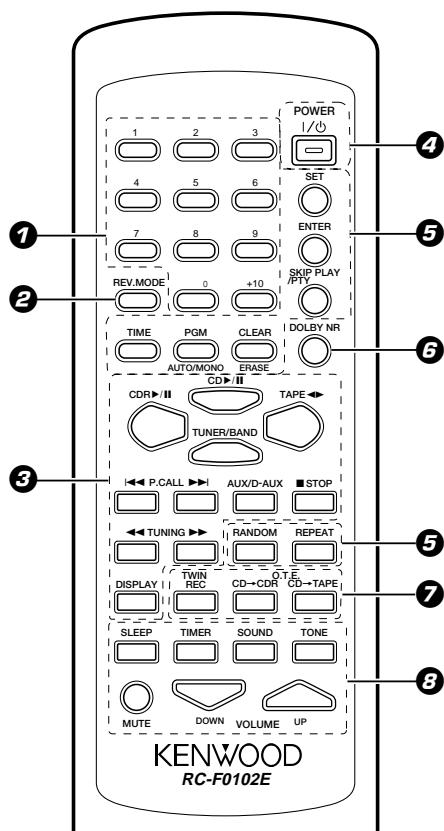
Lights when a disc is loaded and ready for playback or recording. → 26 → 36

**28 CD recorder tray open/close (▲) key**

This key is pressed to remove discs. → 26 → 27

**29 CD recorder tray**

## Remote control unit



Infrared ray system  
Model : RC-F0102E

### ① Numeric keys

- When **CD, CDR** input is selected :  
Press to enter numbers. → 25 → 27
- When **TUNER** input is selected :  
Press when presetting and recalling a preset radio station. → 30 → 32

### ② REV. MODE key

- Press to switch the reverse mode. → 29

### ③ Basic operation keys

**CD ►/|| (play/pause) key** → 22 → 24 → 25

**CD ►/|| (play/pause) key** → 22 → 26 → 27

**TAPE ◀▶ key** → 22 → 28

#### TUNER/BAND key

- Press to select the **TUNER** input. → 22
- This key is also used to switch the broadcast bands. → 30

#### ◀◀, ▶▶ keys

- During **CD, CDR** playback :  
Press to skip CD tracks → 25 → 27
- When **TAPE** input is selected :  
Press to fast forward or fast reverse the tape → 29
- During tuner reception :  
Press to select a radio station. → 30

#### AUX/D-AUX key

- Press when playing or recording the input source connected to the AUX or Digital AUX input. → 22 → 74

### ■ STOP key

- When power is OFF (standby) :  
Press to display the time of the day for 5 seconds. → 19
- During **CD, CDR, TAPE** playback :  
Press to stop playback. → 25 → 27 → 29
- During **CD, TAPE** recording :  
Press to stop recording. → 38 → 41
- During tuner reception :  
Press to stop auto tuning. → 32

### ◀◀, ▶▶ keys

- During **CD, CDR** playback :  
Press to fast forward or fast reverse the disc. → 25 → 27
- When **TAPE** input is selected :  
Press to fast forward or fast reverse the tape. → 29
- During tuner reception :  
Press to select radio stations. → 32

### DISPLAY key

- The indications contents of the display are switched. → 39 → 42
- 22 → 75

### ④ POWER (I / ⏻) key

### ⑤ Keys related to CD,CDR

#### SET key

- When **CD** input is selected:  
Press to set or enter a program. → 47 → 48

#### ENTER key

- When **CDR** input is selected  
Press to unfinalize or erase a CD-RW. → 71 → 72 → 73
- During tuner reception:  
Press to enter a manual preset station. → 32

#### SKIP PLAY/PTY key

- When **CD, CDR** input is selected.  
SKIP PLAY mode (on/off) is switched. → 52
- When **TUNER** input is selected.  
Used at the time of program type detection. → 34

#### TIME key

- When **CD, CDR** input is selected:  
Press to switch the time information displayed during CD playback. → 25 → 27
- When **TUNER** input is selected:  
Press to change the radio station name display or frequency display. → 33

#### PGM (AUTO/MONO) key

- When **CD** input is selected:  
Press when selecting program playback. → 47 → 48
- When **TUNER** input is selected:  
Press to switch the tuning mode of the tuner. → 32

#### CLEAR (ERASE) key

- When **CD** input is selected:  
This key is used to clear the program. → 48
- When **CDR** input is selected:  
This key is used to return a finalized CD-RW to the rewritable condition (unfinalization). → 71
- This key is also used to erase a single track or all tracks in a CD-RW in the rewritable condition. → 72 → 73



**RANDOM key**

Press to play the tracks in a CD in a random order. → 50

**REPEAT key**

Press for repeat playback of a CD, CD-R/RW. → 49

**6 DOLBY NR key**

Dolby NR mode (on/off) is switched. → 29

**7 Keys related to CDR, TAPE**

**TWIN REC key**

Press during CD playback to record the track being played on a CD-R/RW and tape simultaneously.

Press during CD stop mode to record all the tracks in the disc on a CD-R/RW and tape simultaneously.

→ 67 → 69

**CD→CDR O.T.E. key**

Press during CD playback to record the track being played on a CD-R/RW with one-touch operation.

Press during CD stop mode to record all the tracks in the disc on a CD-R/RW with one-touch operation.

→ 56 → 58 → 61 → 62

**CD→TAPE O.T.E. key**

Press during CD playback to record the track being played on a tape with one-touch operation.

Press during CD stop mode to record all the tracks in the disc on a tape with one-touch operation. → 64 → 65

**8 Keys related to timer and sound**

**SLEEP key**

Press to set the sleep timer. → 79

**TIMER key**

Press to execute or cancel a timer program. → 75

**SOUND key**

Press to select **S.DIRECT**, **N.B.1**, **N.B.2** or **TONE**. → 23

**TONE key**

This key is used to adjust the response of low, medium and high frequencies. → 23

**MUTE key**

Press to mute sound temporarily. → 23

**VOLUME keys**

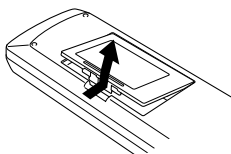
Press to adjust the listening volume or tone. → 22 → 23

Press to select the PTY SEARCH. → 34

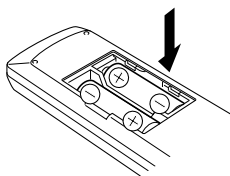
## Operation of remote control unit

### Loading batteries

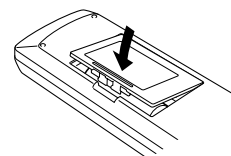
**1 Remove the cover.**



**2 Insert batteries.**



**3 Close the cover.**

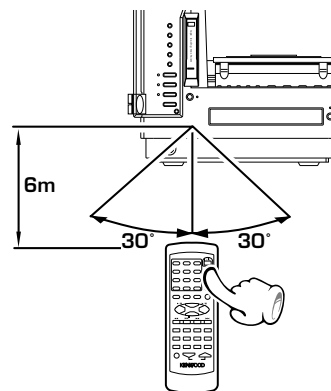


- Insert two R6 ("AA"-size) batteries following the polarity indications.

### Operation

Plug the power cord into a power outlet and press the **POWER(I / ⏻)** key on the remote control unit to switch the power ON. Then press the key of the function you want to control.

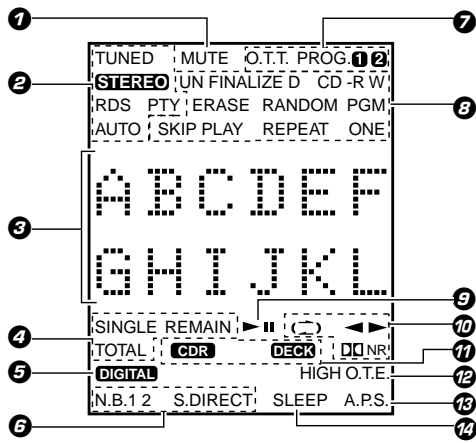
- When pressing more than one remote control keys successively, press the keys securely by leaving an interval of 1 second or more between keys.



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.

# Display

Preparation section



- ① MUTE indicator
- ② Tuner related indicators
- ③ Character information display (input display, play time, title display, etc.)
- ④ CD and CDR play/record time information display
- ⑤ DIGITAL indicator
- ⑥ Tone related indicators (N.B.1, N.B.2, S.DIRECT)
- ⑦ TIMER-related indicators (O.T.T., PROG.1, PROG.2)
- ⑧ CD/CDR-related display
- ⑨ ►(Play)/II(Pause) indicator
- ⑩ TAPE related indicators
- ⑪ Recording indicators (CDR, DECK)
- ⑫ HIGH O.T.E. indicator
- ⑬ A.P.S. (Auto Power Save) indicator
- ⑭ SLEEP indicator

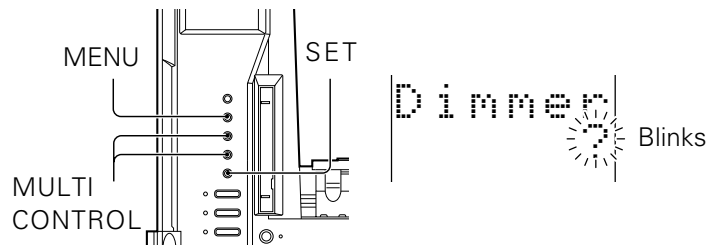


The "DIGITAL" indicator lights when the Rec Input for recording from the CD player to the CD recorder is set (→ 43) to select the digital output of the CD player.

## Display brightness adjustment (Dimmer)

The brightness of the display can be switched as desired.

- ① Press the MENU key.
- ② Press the MULTI CONTROL keys to select "Dimmer ?", then press the SET key.
- ③ Select "Low" or "High" by pressing the MULTI CONTROL keys, then press the SET key.

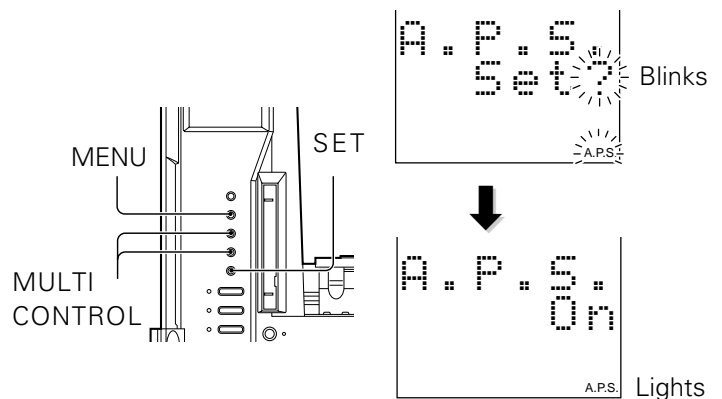


## Auto Power Save (A.P.S.)

When the power has been left ON for more than 30 minutes while the unit has been doing neither recording or playback in this period, the A.P.S. function switches the power OFF (standby) automatically. A.P.S. can be switched On or Off with the following operation.

- ① Press the MENU key.
- ② Press the MULTI CONTROL keys to select "A.P.S. Set ?", then press the SET key.
- ③ Select "On" or "Off" by pressing the MULTI CONTROL keys, then press the SET key.

- If the current source is TUNER or D-AUX, AUX, A.P.S. is activated when the volume is "0".
- The display shows "A.P.S." while it is On.



# Clock adjustment

This unit incorporates a clock function. Be sure to adjust the correct time before using the timer function.

If there is a power failure or the power cord is unplugged then plugged in again while the power is set to off (STANDBY mode) after a timer is activated, the STANDBY/TIMER indicator blinks in green. In this case, adjust the clock again.

## Switching the power ON

### 1 Activate the clock adjustment mode.

Press and hold for more than 2 sec.



- The time display starts to blink.



### 2 Enter the hour.

1 Adjust the figure of hours by pressing the MULTI CONTROL keys.

To advance the time



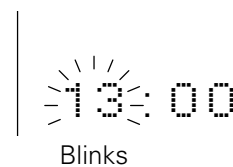
To put back the time



2 Press the SET key.



#### 1 Setting the hour



Example for adjusting at 1:30PM

- Press the **SET** key. The hour is entered and the minute display starts to blink.
- The clock shows the time of the day in the 24-hour system.

### 3 Enter the minute.

1 Adjust the figure of minute by pressing the MULTI CONTROL keys.

To advance the time



To put back the time



2 Press the SET key.



#### 1 Setting the minute



- If you pressed the **SET** key by mistake, press the **MENU** key and restart from the beginning.
- To adjust correct time, press the **SET** key at the same moment as a time announcement.

### When power is OFF (standby) :

Pressing the ■ (stop) key on the main unit or the ■ STOP key on the remote displays the time for 5 seconds.

## Operation in menu mode

① Press the MENU key.



② Select the item to be set.



③ Press the SET key.



Set other items by repeating ② and ③ for each.

- When no button is pressed for about 20 seconds during menu operation, the menu will be canceled.
- To cancel a setting in the menu mode in the middle, press the **MENU** key again.
- The menu mode cannot be activated during recording.

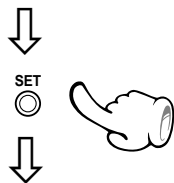
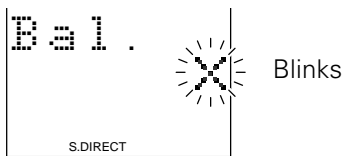
Each press changes the displayed item.

"O.T.E. Mode ?" .....	→	56	→	64		
"O.T.E. Speed ?" .....	→	56				
"Rec Input ?"						
(Only when the <b>CD</b> input is selected) .....	→	43				
"T.Mark ?"						
(Only when the <b>TAPE, TUNER, AUX</b> input is selected)						
.....	→	44				
"Auto Memory ?"						
(Only when the <b>TUNER</b> input is selected) .....	→	31				
"Skip Play ?"						
(Only when the <b>CD, CDR</b> input is selected) .....	→	52				
"Skip Track ?"						
(Only when the <b>CDR</b> input is selected) .....	→	51				
"AUX Input ?"						
(Only when the <b>AUX</b> input is selected)						
.....	→	39	→	42	→	74
"Rec Gain ?"						
(Only when the <b>AUX</b> input is selected) ....	→	39	→	42		
"Bal. ?" (Balance) .....	→	23				
"Dimmer ?" .....	→	18				
"A.P.S. Set ?" .....	→	18				
"Timer Set ?" .....	→	75	→	76		
"TAPE RVS. ?" .....	→	29				

## Display in menu mode (Display "X")

During menu mode operation in certain status, some items may be impossible to be set even when they are displayed. In such a case, blinking marking "X" is displayed at the bottom right of the display. When this occurs, press the SET key to display the cause, status, etc.

Example: During balance adjustment

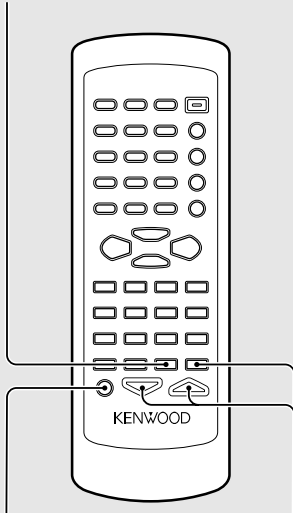


- When blinking "?" is displayed, the item can be selected and set.

- The "Bal." adjustment is not available while "S.DIRECT" is selected.



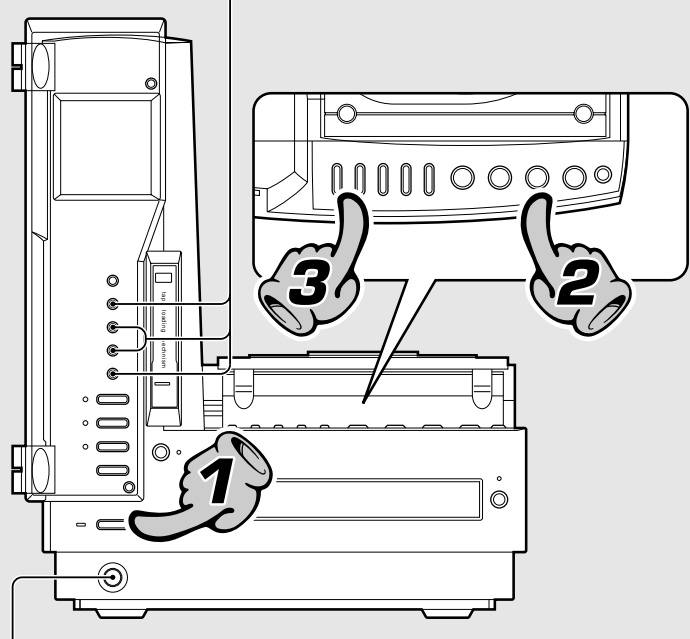
**Bass and treble compensation**



Muting the sound temporarily

Tone adjustment

**Balance adjustment**



Listening through headphones



Press the I/O key.

**1. Switching the power ON (OFF).**

When the I/O key is pressed while the power is ON, the power will be switched OFF.

- To protect the internal circuitry, the sound is muted for about 5 seconds after the power is switched ON.
- Pressing the CD ►/II, CD-R ►/II, TAPE ◀, TUNER/BAND or AUX/D-AUX key on the main unit switches the power ON, selects the corresponding source component and starts playback (or reception) on it. (One-Touch Operation function)
- When you press the I/O key to switch the power off (STANDBY mode), it may sometimes take long time until the power is switched off. This is not malfunction; please wait a while.

When CD has been selected.



**2. Selecting the desired output.**

- TUNER (Broadcasts) → 30
- CD (CD player) → 24
- CDR (CD recorder) → 26
- TAPE (Cassette deck) → 28
- AUX (Auxiliary analog source) → 74
- D-AUX (Auxiliary digital source) → 74

When CD has been selected.



- When CD ►/II, CD-R ►/II or TAPE ◀ is pressed, playback will start when a disc or tape already has been inserted.



**3. Volume adjustment.**

- The same function is also available using the VOLUME keys on the remote control.
- The display shows a reference value (0~40).

Volume display



## Muting the sound temporarily (MUTE)

Remote control unit only



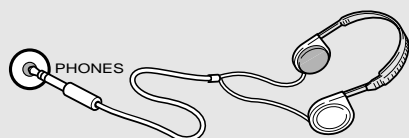
Blinks



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

## Listening through headphones

1 Insert the headphone plug into the PHONES jack.



- Headphones with a stereo mini plug can be connected.
- The sounds from all speakers are cut off.

2 Adjust the volume with the VOLUME keys.

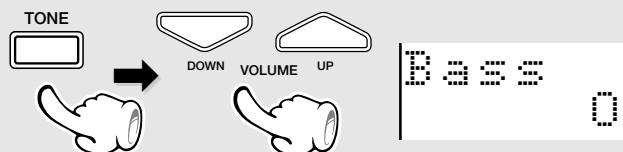
## Tone adjustment (TONE)

Remote control unit only

The low frequencies (Bass), medium frequencies (Mid) and high frequencies (Treble) can be adjusted separately.

After this adjustment, the N.B. effect will be disabled.

1 Press the TONE key to select "Bass". Adjust the level using the VOLUME keys.



2 Press the TONE key again while "Bass" is displayed to select "Mid". Adjust the level using the VOLUME keys.

3 Press the TONE key again while "Mid" is displayed to select "Treble". Adjust the level using the VOLUME keys.

4 Press the TONE key once more.

- The **Bass**, **Mid** and **Treble** can be adjusted independently in the range from -4 to +4.

## Bass and treble compensation (N.B.: Natural Bass circuit)

Remote control unit only



N.B.1

Lights

Each press switch the modes as follows.

"S.DIRECT" ..... The source signal from a CD or TAPE can be reproduced with high fidelity to the original sound by bypassing the tone control circuitry in the main unit.

Goes off ..... The source signal is processed by the tone control circuitry before being output from the main unit.

"N.B.1" ..... The lowest and highest frequencies are enhanced according to the current volume level.

"N.B.2" ..... Only the lowest frequencies are enhanced.

## Balance adjustment (Bal.)

The balance of volumes from the left and right speakers can be adjusted as follows.

1 Press the MENU key.



2 Press the MULTI CONTROL keys to select "Bal. ?" (Balance), then press the SET key.

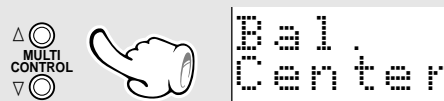


- This adjustment is not available while "S.DIRECT" is selected. "X" is displayed to indicate this.

"Display in menu mode (Display "X")"



3 Adjust the left and right speaker balance by pressing the MULTI CONTROL keys.

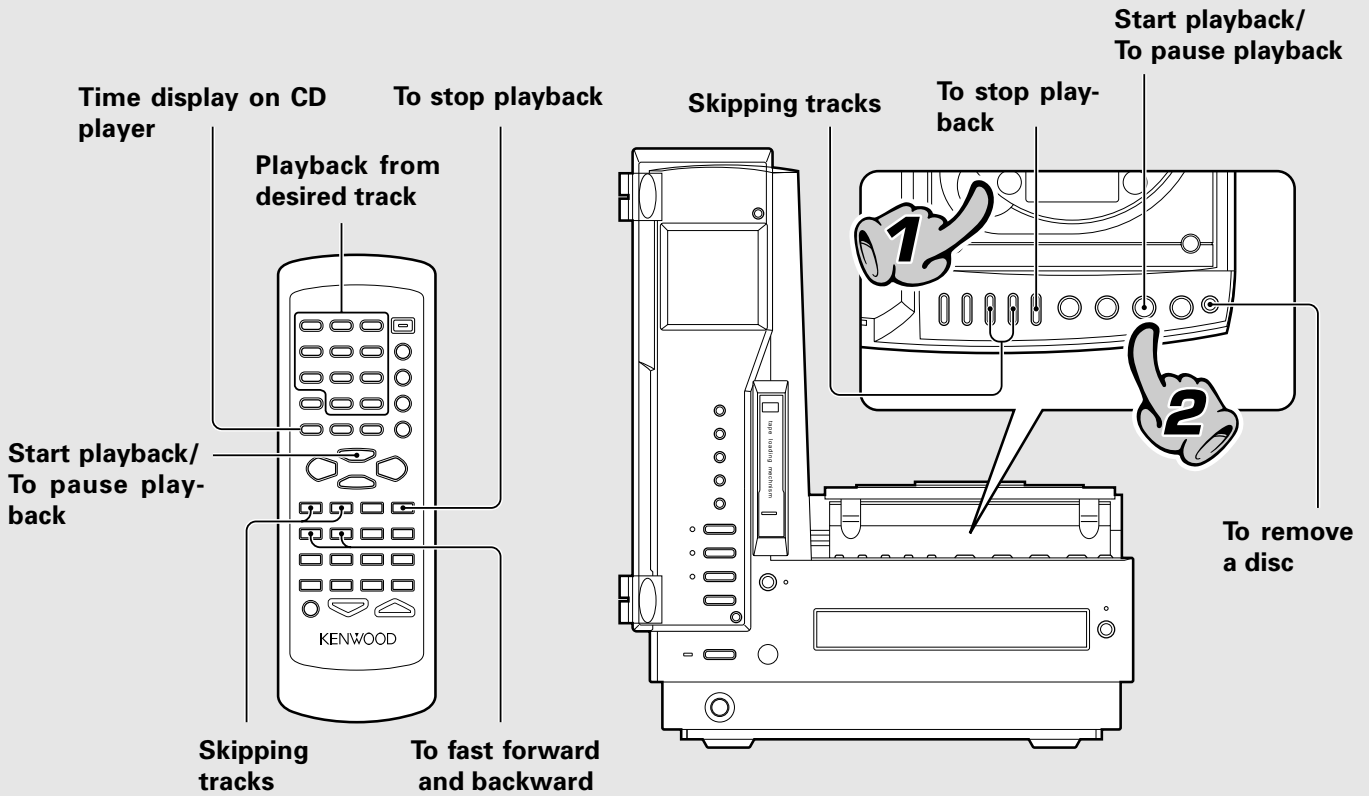


- Press the Δ (up) key to shift the balance toward the Right channel or press the ▽ (down) key to shift it toward the Left channel. "Center" is displayed when the balance is set to the center.

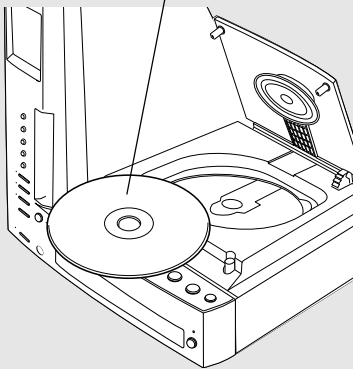
4 Press the SET key.



**Playback on CD player** (Playback on CD recorder - )



The label must be on top.



Do not touch the played surface.

**1. Load a disc.**

- ① Press the CD player cover open () key.
- ② Place a disc.
- ③ Close the CD player cover with your hand.

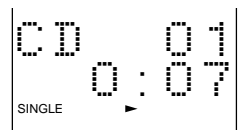
- "CD Reading" is displayed for a few seconds (when the input is CD).
- No adapter is necessary to play an 8 cm CD.
- The CD player can play back finalized CD-R/RW discs but cannot play discs containing other signals than audio signals. It may sometimes be incapable of playing a CD-R/RW disc recorded with other equipment than this system or a PC.

**2. Start playback.** (The "CD" input is selected automatically.)



Track No. being played  
(Upper line)

Elapsed track playing time  
(Lower line)





### To pause playback



- Each press pauses and plays the CD alternately.

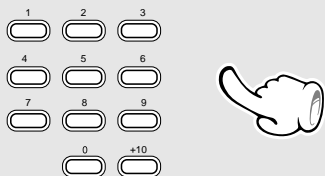
### To stop playback



### Playback from desired track

Remote control unit only

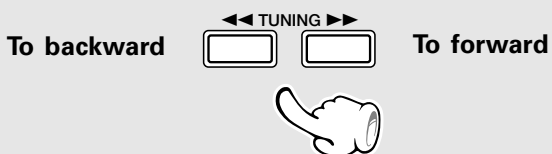
Select the desired track No.



Press the numeric keys as shown below....  
 To enter track No. 12 ... +10, 2  
 To select track No. 20 .. +10, +10, 0

### To fast forward and backward

Remote control unit only



- Playback starts from the position where the key is released.
- Audio is not output during the fast forward or fast backward operation during pause.

### To remove a disc



### CD TEXT function

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. Some CDs conforming to CD-TEXT may not display text information. The number of characters that can be displayed is about 1000. "Text Full" is displayed if there are more characters.

### Skipping tracks

To skip backward



To skip forward



- The track in the direction of the key pressed is skipped, and the selected track will be played from the beginning.
- When the ◀◀ key is pressed once during playback, the track being played will be played from the beginning.
- To skip further to the previous track, press the ◀◀ key quickly.
- Tracks can be skipped by pressing the ◀◀ or ▶▶ key even in stop mode. In this case, playback starts automatically after skipping.

### Time display on CD player

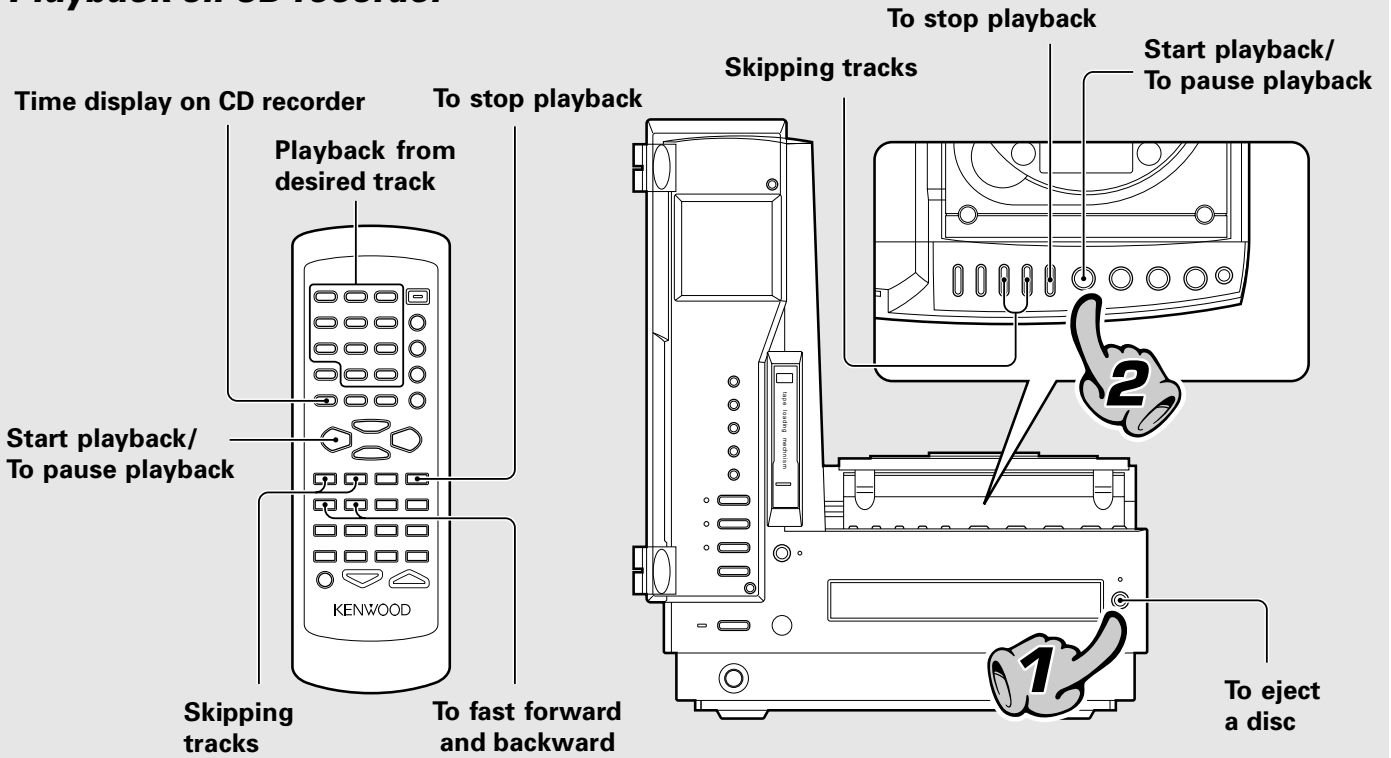
Remote control unit only

Each press of the TIME key switches the displayed information items one after another.

▶ Elapsed time of track being played .....	CD 02 0:07 SINGLE
Remaining time of track being played .....	CD 02 4:53 SINGLE REMAIN
Elapsed time of entire disc .....	CD 02 5:07 TOTAL
Remaining time on entire disc .....	CD 02 54:53 TOTAL REMAIN
CD TEXT data display (Compatible disc only) .....	CD 02 SATISF

- When the total playing time of the tracks programmed for program playback reaches 256 minutes or more, the display shows "--:--" and the time display becomes unavailable.
- When a non-CD-TEXT disc is played, the CD text information display shows "-----".

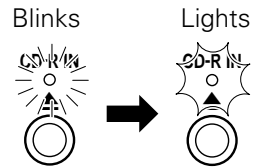
# Playback on CD recorder



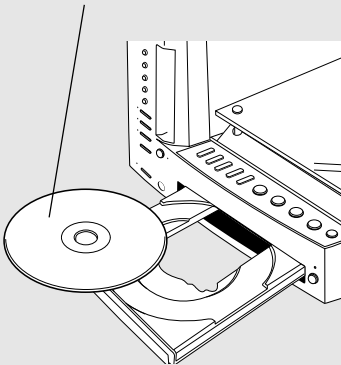
Basic section

## 1. Load a disc.

- ① Press CD recorder tray open/close (▲) key.
- ② Place a disc.
- ③ Press CD recorder tray open/close (▲) key.



The label must be on top.



Do not touch the played surface.

The CD-R IN indicator blinks first, then it lights steadily when the disc has been identified (now the disc is ready for playback).

- No adapter is necessary to play an 8 cm CD.
- The CD recorder can play back commercially-available music CDs. Although it can play CD-R/RW discs which have not been finalized, it cannot play discs containing other signals than audio signals. It may sometimes be incapable of playing a CD-R/RW disc recorded with other equipment than this system or a PC.
- If the **CD-R IN** indicator blinks after the tray has been closed, the disc cannot be ejected.

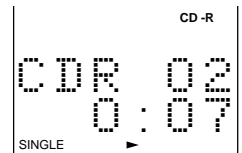
When a non-used disc or a disc which has not been unfinalized is loaded in the CD recorder, the CD-R IN indicator may sometimes blink for a while.  
"OPC (Optimum Power Control)"

## 2. Start playback. (The "CDR" input is selected automatically.)



Track No. being played  
(Upper line)

Elapsed track playing time  
(Lower line)



### Start playback / To pause playback



- Each press pauses and plays the CD alternately.

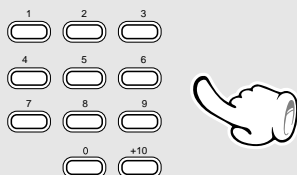
### To stop playback



### Playback from desired track

Remote control unit only

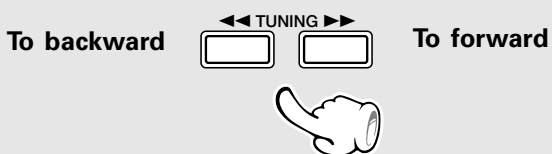
Select the desired track No.



- Press the numeric keys as shown below....
- To enter track No. 12 ... +10, 2
- To select track No. 20 .. +10, +10, 0

### To fast forward and backward

Remote control unit only



- Playback starts from the position where the key is released.
- These operations cannot be started in pause mode.

### To eject a disc



### CD TEXT function

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. Some CDs conforming to CD-TEXT may not display text information. The number of characters that can be displayed is up to 23 per title. "XXX<<<<" is displayed if a title has more characters.

### Skipping tracks

To skip backward



To skip forward



- The track in the direction of the button pressed is skipped, and the selected track will be played from the beginning.
- When the <<< key is pressed once during playback, the track being played will be played from the beginning.
- To skip further to the previous track, press the <<< key quickly.
- Tracks can be skipped by pressing the <<< or >>> key even in stop mode. In this case, playback starts automatically after skipping.

### Time display on CD recorder

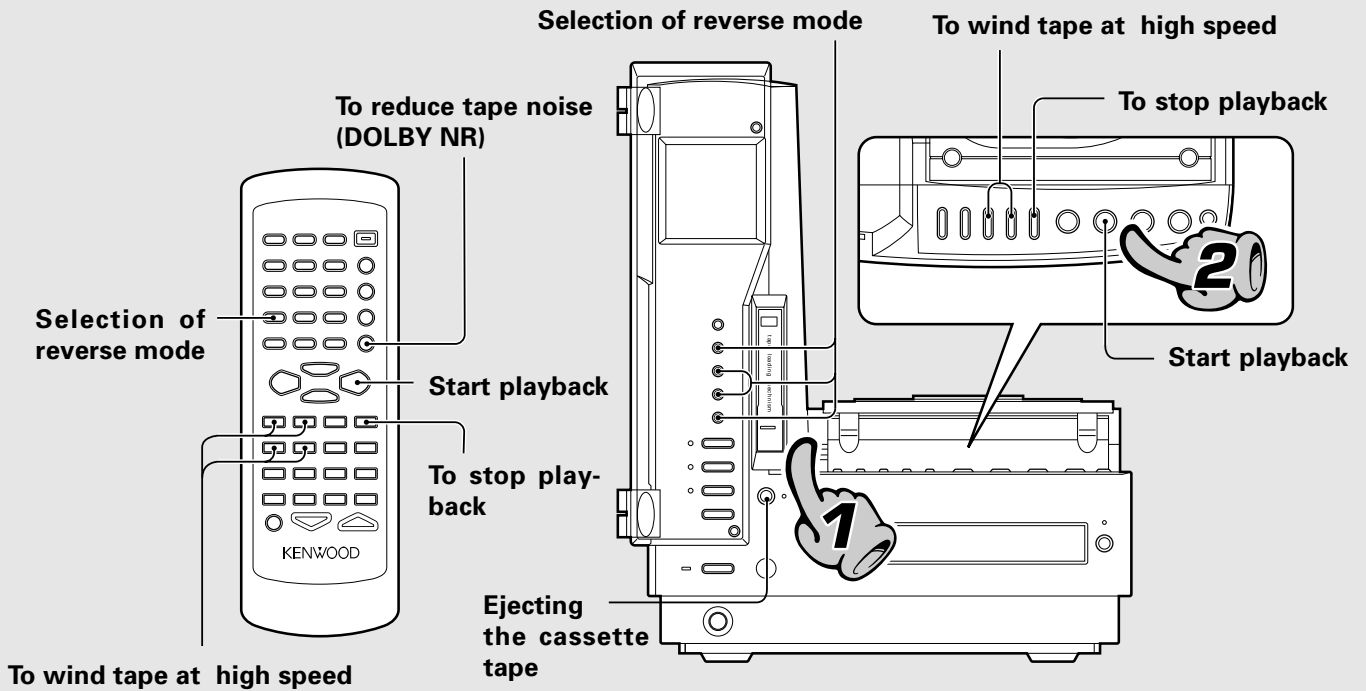
Remote control unit only

Each press of the TIME key switches the displayed information items one after another.

▶ Elapsed time of track being played .....	CDR 02 0:07 SINGLE ▶
Remaining time of track being played .....	CDR 02 4:53 SINGLE REMAIN ▶
Elapsed time of entire disc .....	CDR 02 5:07 TOTAL ▶
Remaining play time of entire disc .....	CDR 02 54:53 TOTAL REMAIN ▶
Remaining recordable time of entire disc (Displayed only with non-finalized CD-R/RW) .....	CDR 02 14:00 REMAIN ▶
CD TEXT data display (Compatible disc only) .....	CDR 02 TELL M ▶

- When a non-CD-TEXT disc is played, the CD text information display shows "-----".

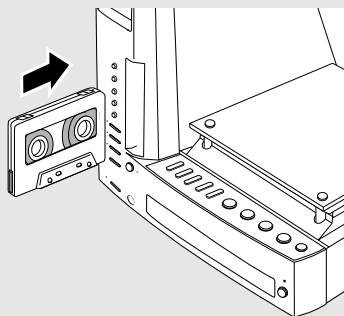
Do not use a cassette tape with more than 90-minute recording time, for the tape used with such a cassette is very thin and tends to cause troubles such as entanglement around the pinch roller or cutting of tape.



## 1. Insert a cassette tape.

- The cassette deck can play back Normal (TYPE I), High-position (TYPE II) and Metal (TYPE IV) tapes.
- Remove tape slack before loading.

Insert the cassette tape straight into the insertion slot. Just push lightly and the cassette will be pulled automatically inside, and TAPE IN indicator lights.



In the direction of the arrow

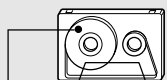
The cassette tape cannot be loaded or ejected while the unit is in standby mode. Do not force load a cassette tape in standby mode, otherwise malfunction will result.

## 2. Start playback. (The "TAPE" input is selected automatically.)

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



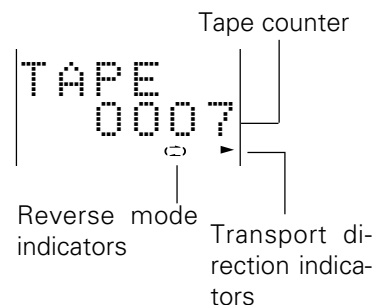
Direction of insertion into main unit →



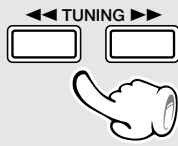
To play (record) this side, play (record) tape by setting the tape transport direction to "▶".  
To play (record) the other side, play (record) tape by setting the tape transport direction to "◀".

### Transport direction indicators

Indicates the tape transport direction during playback or recording by lighting of ◀ or ▶. This direction is the direction stored in memory when the tape was last stopped.



### To wind tape at high speed



Transport direction indicators		Fast reverse	Fast forward
Indicator	Tape transport direction		
▶	 Direction of insertion into main unit →	 ( ◀◀)    (▶▶ )	 (▶▶ )    ( ◀◀)
◀	 Direction of insertion into main unit →	 (▶▶ )    ( ◀◀)	 ( ◀◀)    (▶▶ )

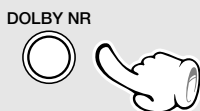
- If you are operating the main unit, press the ◀◀, ▶▶ key.
- Press the ■ STOP key to stop fast winding.
- The same function is also available using the ◀◀, ▶▶ key on the remote control unit.

### To reduce tape noise (DOLBY NR)

Remote control unit only

The Dolby Noise Reduction system reduces inherent noise to tape playback.

Set the Dolby NR according to the Dolby NR used when recording each cassette tape.



Each press switch the modes as follows.

- ▶ "NR" lit ..... Dolby NR is used.
- ▶ "NR" goes off ..... Dolby NR is deactivated.

### To stop playback



### Ejecting the cassette tape



### Selection of reverse mode (TAPE RVS.)

- 1 Press the MENU key.
- 2 Select "TAPE RVS. ?".
- 3 Select.



- 1 REVERSE (↔)
 

Both sides are played back (recorded), and then the tape stops.
- 2 ENDLESS (↔↔)
 

Both sides are played back endlessly. (The tape stops after recording onto both sides.)
- 3 ONE WAY (↔)
 

Only one side is played back (recorded), and then the tape stops. (The initial setting is "REVERSE".)

- 4 Set it.



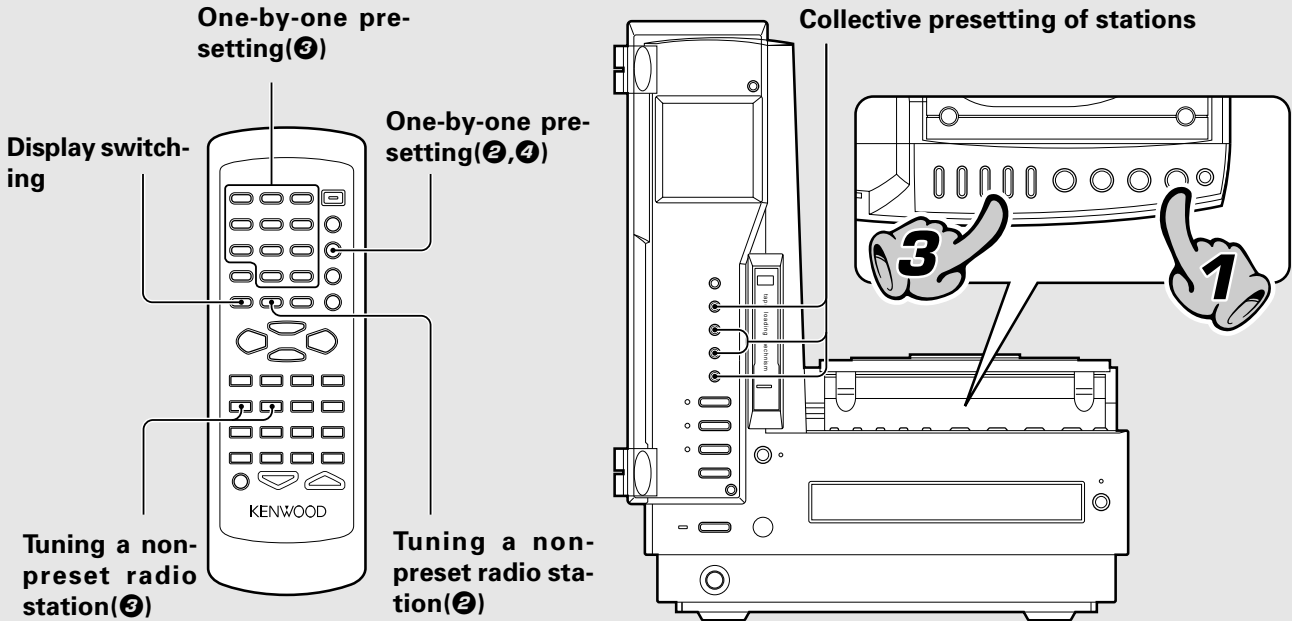
When you are operating the remote, press the REV.MODE key to change the reverse mode.



- When playback with the tape reverse mode of "↔" (REVERSE) is started in tape transport direction "▶", playback ends after having played only the side where it was started.
- When recording with the tape reverse mode of "↔" (REVERSE) is started in tape transport direction "▶", recording ends after having recorded only the side where it was started.
- When recording with the tape reverse mode of "↔↔" (ENDLESS) is started in tape transport direction "▶", recording ends after having recorded only the side where it was started.

### 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 reset the tape counter to "0000", eject the cassette tape temporarily. This will reset the counter.



### 1. Select the tuner input.

Each press of the TUNER/BAND key switches the band as follows.



### 2. Preset a radio station in memory.

#### Collective presetting of stations (Auto Memory)

Follow the procedure in "Collective presetting of stations (Auto Memory)" to preset automatically the tunable radio stations in your area. → 31

- Once stations are stored by auto presetting, the present procedure is not required from the next time, unless you move of house or re-execute presetting of all tunable stations.

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

→ 32

A station can also be tuned even when it is not preset. For details, read "Tuning a non-preset radio station (Auto tuning, Manual tuning)" → 32



### 3. Tuning (Preset Call)

If radio stations have already been stored with auto presetting or manual presetting, select a station using the  $\leftarrow\leftarrow, \rightarrow\rightarrow$  key.

Press  $\rightarrow\rightarrow$  for the order of  
1→2→3 ... 38→39→40→1...

Press  $\leftarrow\leftarrow$  for the order of  
40→39→38 ... 3→2→1→40...

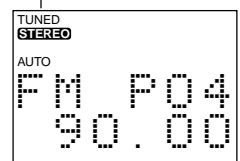
- To select a preset station from the remote, use the  $\leftarrow\leftarrow, \rightarrow\rightarrow$  key or numeric keys.

Press the numeric keys as shown below...

To select preset No. 12 .... +10, 2

To select preset No. 20 .... +10, +10, 0

"TUNED" indicator lights up when a station is received.



## Collective presetting of stations (Auto Memory)

❶ Press the TUNER/BAND key to select the TUNER input.




❷ Press the MENU key.

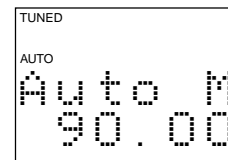


❸ Press the MULTI CONTROL keys to select "Auto Memory ?", then press the SET key.



### Up to 40 stations can be memorized.

- Do not perform any other operation during Auto Memory operation.
- The station name is not displayed if the tuned frequency does not have the station name setting or when the "TUNED" indicator is not lit.
- When auto preset completes, the first station preset by it will be displayed.
- The previously preset frequencies are overwritten.
- For use of the RDS function, stations must be memorized by RDS auto presetting.
- RDS stations are given priority during auto presetting. If there is memory left after presetting, the receiver continues presetting regular FM stations.
- For memorizing of stations other than RDS stations (FM, AM), memorize the stations according to chapter "One-by-one presetting (Manual preset)". →  32



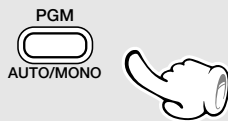
## Tuning a non-preset radio station (Auto tuning, Manual tuning)

- 1 Press the TUNER/BAND key to select "FM" or "AM".



- 2 Press the PGM key to select auto tuning or manual tuning.

Normally, use the "AUTO" (Auto tuning) mode.



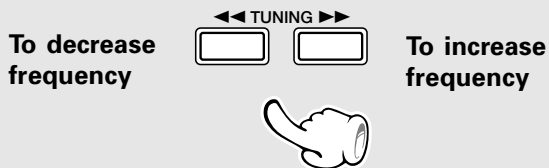
- 3 Press the <<,>> key to receive a station.

**Auto tuning mode :**

Each press receives a new station.

**Manual tuning mode :**

Press repeatedly until the desired station is received.



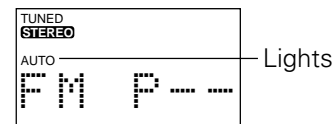
- Use the manual tuning mode when reception is noisy due to weak reception. (In the manual mode, stereo broadcasts are received in monaural.)

Each press of the key alternates these tuning modes.

Auto tuning ..... "AUTO" lit

Manual tuning ..... "AUTO" goes off

### Auto tuning mode



- To stop auto tuning in the middle, press the ■ STOP key on the remote or press the ■ (stop) key on the main unit.

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

- 1 Perform the procedure in "Tuning a non-preset radio station" to receive the station you want to preset.

- 2 Press the ENTER key during reception.

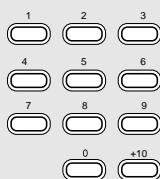


- 3 Select the desired preset number between 1 and 40 using the numeric keys on the remote control unit.

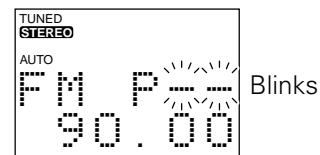
Press the numeric keys as shown below....

To enter preset No. 12 ..... +10, 2

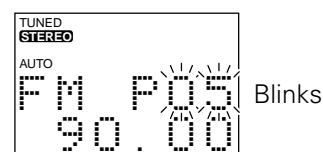
To select preset No. 20 .... +10, +10, 0



- 4 Press the ENTER key.



- Repeat steps 1~4 to preset other stations.
- If several stations are preset under the same number, the previous memory is replaced with the latest memory contents.



The preset operation is canceled when no key has been pressed for more than 20 seconds during operation.



RDS is a system that transmits useful information (in the form of digital data) for FM broadcasts along 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.

For reception of RDS stations, the RDS auto presetting function must be used to preset the stations.



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

#### **PS (Program Service Name) Display : (See below.)**

When an RDS broadcast is received, the station name is automatically displayed.

#### **PTY (Program Type Identification) Search : → 34**

The tuner automatically searches for a station which is currently broadcasting a specified program type (genre).

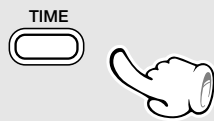


The "RDS" indicator lights up when an RDS broadcast (signal) is received.

### ***To switch the display contents***

Press the TIME key.

Pressing the TIME key changes the display contents.

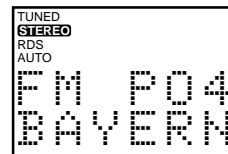


#### **Display mode priority ranking**

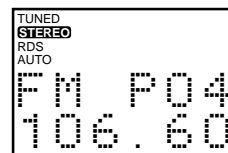
##### **PS (Program Service Name) Display :**

When an RDS broadcast is received, the station name is automatically displayed.

If no PS data was sent, "No PS" is displayed.



##### **Frequency Display :**



The frequency of the current station is displayed.

## 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.

Under certain receiving conditions, it may take more than 1 minute to complete the search.

For reception of RDS stations, the RDS auto presetting function must be used to preset the stations.



**Set the reception band to FM.**

### 1 Activate the PTY search mode.

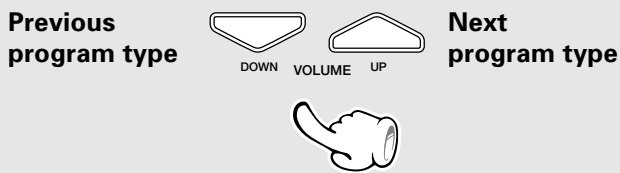
Press the PTY key.



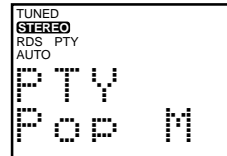
### 2 Select the program type you desire.

Use the program type table on the right for your convenience.

To select using the VOLUME keys



The VOLUME keys let you select from all 29 program types in the order shown at right. Press the key and release it when the desired type is displayed.



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.

Program type table

	Program Type Name	Display
(▽) DOWN ↑ ↓ (△) UP	Pop Music	<b>Pop M</b>
	Rock Music	<b>Rock M</b>
	Easy Listening Music	<b>Easy M</b>
	Light Classical	<b>Light M</b>
	Serious Classical	<b>Classics</b>
	Other Music	<b>Other M</b>
	News	<b>News</b>
	Current Affairs	<b>Affairs</b>
	Information	<b>Info</b>
	Sport	<b>Sport</b>
	Education	<b>Educate</b>
	Drama	<b>Drama</b>
	Culture	<b>Culture</b>
	Science	<b>Science</b>
	Varied	<b>Varied</b>
	Weather	<b>Weather</b>
	Finance	<b>Finance</b>
	Children's programs	<b>Children</b>
	Social Affairs	<b>Social</b>
	Religion	<b>Religion</b>
	Phone In	<b>Phone In</b>
	Travel	<b>Travel</b>
	Leisure	<b>Leisure</b>
	Jazz Music	<b>Jazz</b>
	Country Music	<b>Country</b>
	National Music	<b>Nation M</b>
	Oldies Music	<b>Oldies</b>
	Folk Music	<b>Folk M</b>
	Documentary	<b>Document</b>

**3 Start the search.**

Press the "PTY" key.



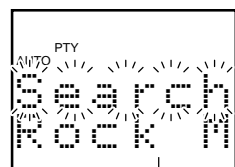
**To select another program type**

Repeat steps **1**, **2** and **3**.

- No sound is heard while "Search" is blinking.
- If the desired program type cannot be found, "NoProg" is displayed, then after several seconds the display returns to the original display.
- If the desired program type is found, that program is received. The program type display changes temporarily to the frequency display, and then to the station name display.

**EXAMPLE: Searching for a Rock Music broadcast.**

Display while searching

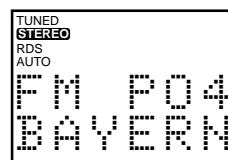


Blinks

Program type name display

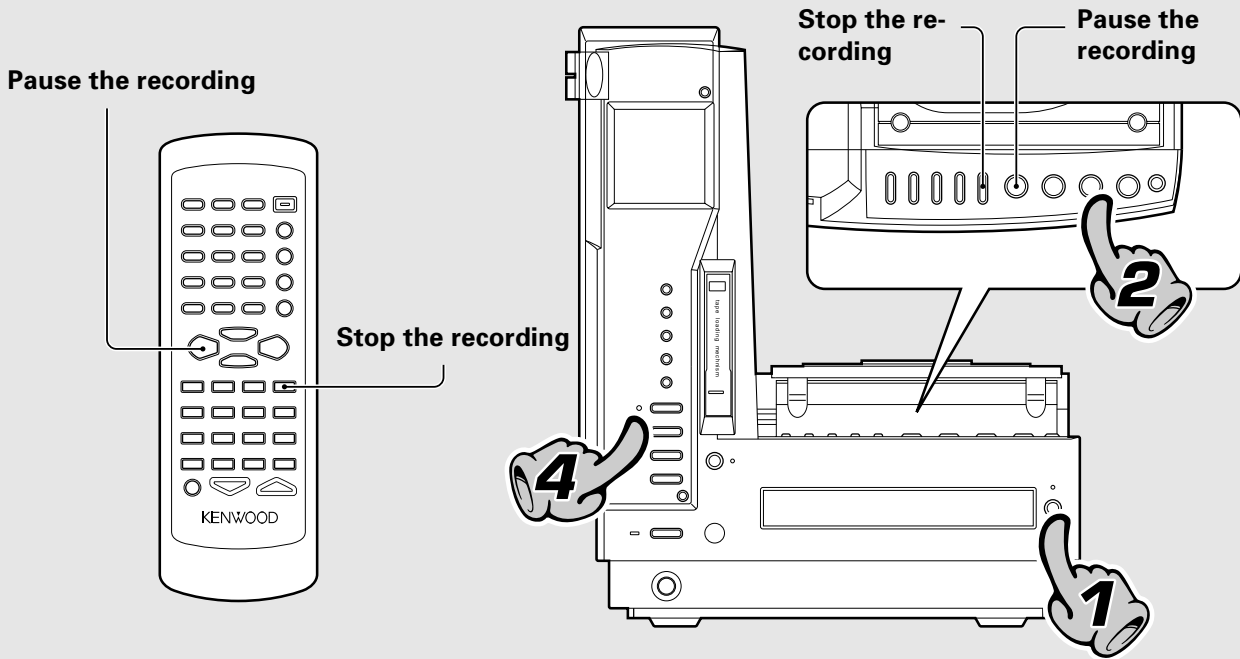
- When the PTY is received, the PTY name lights and the "Rock M" lights up.

Display when a station is received.



Station name display

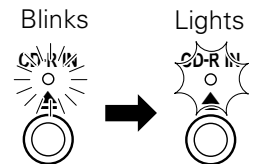
Even when the CD contains the recording of text data, it is not copied onto the CD-R/RW.



## 1. Load a disc.

(Loading a CD-R/RW in the CD recorder)

- ① Press CD recorder tray open/close (▲) key.
- ② Place a recordable CD-R or CD-RW disc.
- ③ Press CD recorder tray open/close (▲) key.

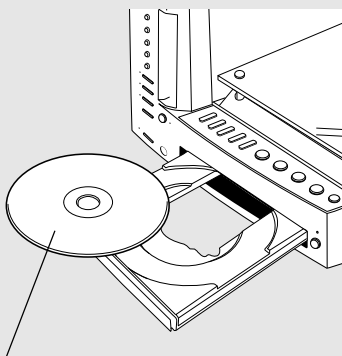


- Ensure that the CD-R/RW has no scratch or dirt on the recording surface.
- If the CD-R/RW has previously been recorded, the end of the last track is searched automatically to start recording from there.

The CD-R IN indicator blinks first, then it lights steadily when the disc has been identified (now the disc is ready for recording).

- To record audio from a CD, load the source music CD in the CD player and load the CD-R/RW in the CD recorder.
- If the **CD-R IN** indicator blinks after the tray has been closed, the disc cannot be ejected.
- When "**FINALIZED CD-RW**" is displayed, additional recording to the disc is possible after unfinalizing it. → 71

When a non-used disc or a disc which has not been unfinalized is loaded in the CD recorder, the CD-R IN indicator may sometimes blink for a while. "OPC (Optimum Power Control)" → 37



The label must be on top.

Do not touch the played surface

When CD has been selected.



## 2. Select the source to be recorded.

**TUNER (Broadcasts)** : Press the TUNER/BAND key

**CD** : Press the CD ►/II key

**TAPE** : Press the TAPE ◀► key

**AUX (Auxiliary analog source)**

: Press the AUX/D-AUX key repeatedly until "AUX" is displayed.

**D-AUX (Auxiliary digital source)**

: Press the AUX/D-AUX key repeatedly until "D-AUX" is displayed.

- When **CD ►/II**, **TAPE ◀►** is pressed, playback will start when a disc or tape already has been inserted. Press the ■ **STOP** key to stop it.
- Digital signal recording is not available unless the selected source is "CD" or "D-AUX". Note that, even with these sources, digital signal recording may be prohibited by the SCMS. → 81
- If "Unlock" is displayed when the "D-AUX" source is selected, please see "Displayed message list". → 85



The selected recording source is displayed.

## 3. Make the preparations for recording.

**TUNER (Broadcasts)** : Select a station

**CD** : Enter pause mode at the beginning of the track to be recorded.

**TAPE** : Enter stop mode at the beginning of the track to be recorded.

**AUX (Auxiliary analog source)**

: Make preparation for tuning or playback. → 74

**D-AUX (Auxiliary digital source)**

: Make preparation for tuning or playback. → 74

- The setting of the recording input can be changed as desired. See "Changing the recording input setting". → 43
- The input level can be varied only when the "AUX" (auxiliary analog source) input is selected. Adjust the input level from the auxiliary source as required if it is too small or too large. (AUX Input, Rec Gain) → 39

**When recording audio from a tape to CD-R/RW, track numbers may not be marked correctly depending on the recording condition of the tape. "Changing the recording input setting".** → 43

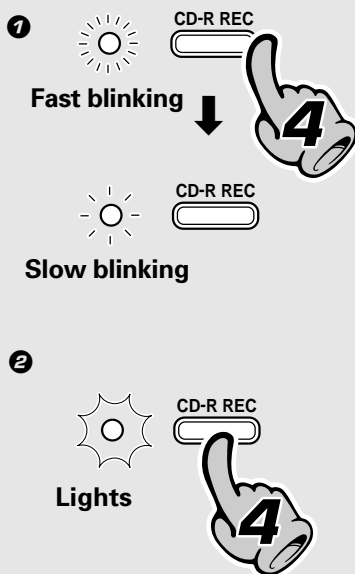
Continued on next page

### OPC (Optimum Power Control)

When a non-used disc or unfinalized disc is loaded in the CD recorder, the **CD-R IN** indicator may blink for a while. This indicates that the **OPC** processing is being executed.

The **OPC** processing performs test writing in the disc in order to calculate the optimum laser irradiation intensity and time for the disc. With this system, the CD recorder stores the discs subjected to **OPC** processing so that, when one of such discs is loaded, it can record signals on it without **OPC** processing. The CD recorder stores the history of **OPC** processing of up to 24 discs. As a result, if the number of processed discs exceed 24, the CD recorder may apply **OPC** processing to a disc which has been subjected to it. If the power cord is unplugged from the power outlet or a power failure occurs during **OPC** processing, the disc data may be destroyed and the disc may become unusable.

When the "CDR" input is selected, "OPC" is displayed (for up to 2 minutes) during **OPC** processing.



During digital-to-digital recording, the CD recorder may encounter a track with which digital-to-digital recording is prohibited. In this case, "SCMS" (→ 81) is displayed and recording pauses temporarily, but playback of the source continues and recording restarts whenever a track with which digital-to-digital recording is permitted is encountered. However, if "SCMS" is displayed with the first track to be recorded, the track as well as the subsequent tracks will not be recorded.

#### 4. Start recording.

##### 1 Press the CD-R REC key.

(The CD recorder enters record-pause mode.)

- When the **CD-R REC** key is pressed, the **CD-R REC** indicator starts fast blinking, then it changes to slow blinking to indicate record-pause mode.

##### 2 When the CD-R indicator starts slow blinking, press the CD-R REC key again (this starts actual recording).

- The fast blinking of the **CD-R REC** indicator indicates that recording is being prepared. Press the **CD-R REC** key after the blinking speed becomes slow.
- In digital signal recording from the CD player of this system or from auxiliary digital source, recording will not start until the operation in step 3 below is performed.

##### 3 Play (or tune) the input source to be recorded.

- "**CDR**" is displayed and the **CD-R REC** indicator starts to light steadily.
- If you also want to record the signal on tape, press the **TAPE REC** key in step 4.
- "**CDR Writing**" is displayed when the recording completes.
- It is possible to skip tracks which failed to be recorded during playback. This function can be registered in each disc (before it is finalized). → 51
- Only the CD-RW discs can be erased. "**Erase of CD-RW recording**" → 72 → 73
- To play the recorded disc on the CD player of this system or another CD player, it is required to finalize the disc. "**Finalizing a CD-R/RW (FINALIZE)**" → 70

When a message is displayed: → 85

Display "CDR Writing" indicates that recorded data is being written in the CD-R/RW. Do not apply vibrations or impact during recording and "CDR Writing" display. If the power cord is unplugged from the power outlet or a power failure occurs during recording, the disc data may be destroyed and the disc may become unusable.

#### Pause the recording



- In record-pause mode, press the same key again to resume recording from the same position. Note that the track number increments at this time.
- The "**CDR**" display blinks and the **CD-R REC** indicator also blinks.
- The same function is also available using the **CD-R ►/II** key on the remote control unit.

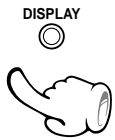
#### Stop the recording



- If the key is pressed during recording from a CD, the CD playback also stops.
- If the key is pressed during recording from a TAPE, the TAPE playback also stops.
- The same function is also available using the **■ STOP** key on the remote control unit.

## Switching the time display during recording

- ❶ Press the **DISPLAY** key to switch the display to the information on the recorder side.



Playback side (CD player, etc.)

Recorder side (CD recorder)

Recorder side (Cassette deck)  
(Displayed only in simultaneous twin recording)

- The display can also be switched with the **DISPLAY** key on the remote.

- ❷ Press the **TIME** key to switch the time display contents.

Remaining recordable time

```

CDR 02
13:07
REMAIN
CDR
  
```

Elapsed time of track being recorded

```

CDR 02
1:53
SINGLE
CDR
  
```

## Adjusting the input level from the auxiliary analog source (AUX Input, Rec Gain)

If the audio output level of the auxiliary analog source such as a cassette deck is too low or too high, recording at the optimum level may not be available. In this case, perform the following adjustment before recording.

### Adjusting the input level from the auxiliary analog source (AUX Input)

Adjust so that the audio from the auxiliary analog source sounds at the identical level to the audio from the internal source such as the CD.

- ❶ Press the **AUX/D-AUX** key repeatedly until "AUX" is displayed.
- ❷ Press the **MENU** key.
- ❸ Press the **MULTI CONTROL** keys to select "AUX Input ?", then press the **SET** key.
- ❹ Press a **MULTI CONTROL** keys to adjust the recording level (between -5 and +2).
- ❺ Press the **SET** key to set the selection.

- If the input level from the auxiliary analog source is still too low or the recorded audio level is too low even after the input level is maximized (to +2) by this adjustment, perform the recording input level adjustment operation (**Rec Gain**) described below.

```

AUX
Input?
  
```

Blinks

```

AUX 10
  
```

Level value

### Adjusting the recording level of the input from the auxiliary analog source (Rec Gain)

- ❶ Press the **AUX/D-AUX** key repeatedly until "AUX" is displayed.
- ❷ Press the **MENU** key.
- ❸ Press the **MULTI CONTROL** keys to select "Rec Gain ?", then press the **SET** key.
- ❹ Press a **MULTI CONTROL** keys to select "High".
- ❺ Press the **SET** key to set the selection.

```

Rec
Gain?
  
```

Blinks

```

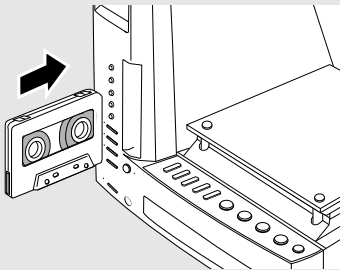
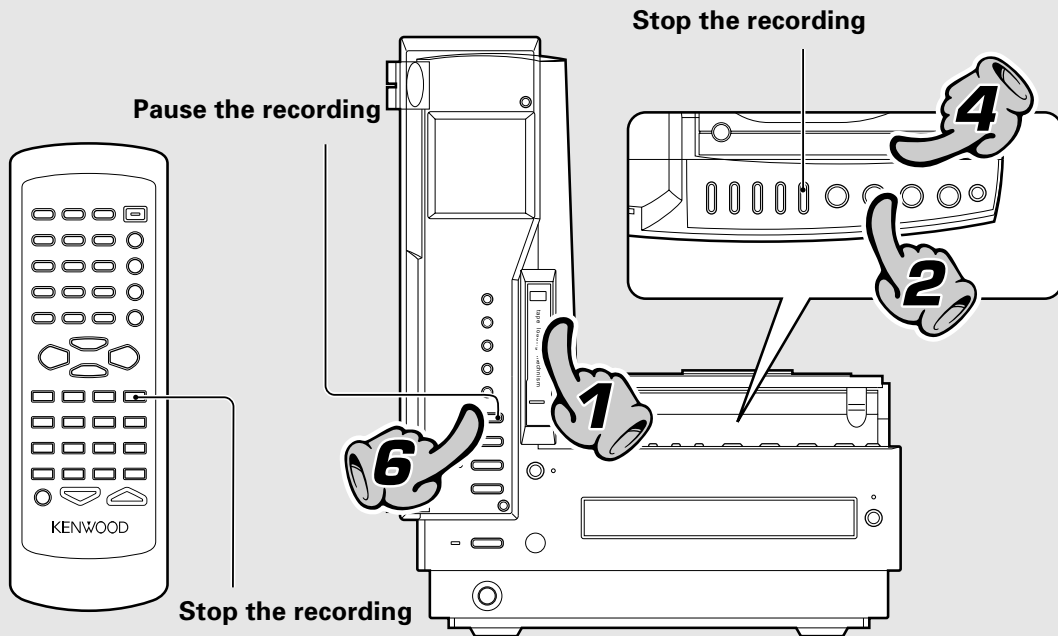
R. Gain
High
  
```

- When this is set to "High", the sound may sometimes be distorted due to too high recording level.



This system can record signals on Normal (TYPE I) and High (TYPE II) position tapes. Remember that the Metal (TYPE IV) tapes cannot be used with this system.

Do not use a cassette tape with more than 90-minute recording time, for the tape used with such a cassette is very thin and tends to cause troubles such as entanglement around the pinch roller or cutting of tape.



In the direction of the arrow

### 1. Load a tape in deck.

- Remove tape slack before loading. → 10

Insert the cassette tape straight into the insertion slot. Just push lightly and the cassette will be pulled automatically inside, and TAPE IN indicator lights.

The cassette tape cannot be loaded or ejected while the unit is in standby mode. Do not force load a cassette tape in standby mode, otherwise malfunction will result.

### 2. Select the tape transport direction.

To reverse the transport direction



- 1 Press the TAPE ◀▶ key.
- 2 Press the TAPE ◀▶ key again.
- 3 Press the ■ STOP key to stop it.

- When recording is started, the tape is transported in the direction selected in this step. "Transport direction indicators" → 28
- Wind the tape to the position where recording is to be started. "To wind tape at high speed" → 29

### 3. Set the recording condition.

- 1 Select the reverse mode. → 29
- 2 Select the Dolby NR mode. → 29



When CD has been selected.



The source connected to the DIGITAL IN OPTICAL jack cannot be recorded onto tape. To record an external source on tape, connect the source component's output to the AUX IN jacks and select the "AUX" input source.

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

TUNER (Broadcasts) : Press the TUNER/BAND key

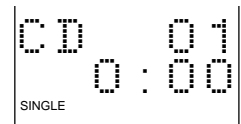
CD (CD player) : Press the CD ►/II key

CDR (CD recorder) : Press the CD-R ►/II key

AUX (Auxiliary analog source)

: Press the AUX/D-AUX key repeatedly until "AUX" is displayed.

- When CD ►/II, CD-R ►/II is pressed, playback will start when a disc already has been inserted. Press the ■ STOP key to stop it.



The selected recording source is displayed.

#### 5. Make the preparations for recording.

TUNER (Broadcasts) : Select a station

CD : Enter pause mode at the beginning of the track to be recorded.

CDR : Enter pause mode at the beginning of the track to be recorded.

AUX (Auxiliary analog source)

: Make preparation for tuning or playback. → 74

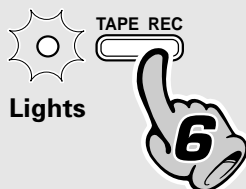
- The input level can be varied only when the "AUX" (auxiliary analog source) input is selected. Adjust the input level from the auxiliary source as required if it is too small or too large. (AUX Input, Rec Gain) → 42

#### 6. Start recording.

① When the preparation is complete, press the TAPE REC key. (this starts actual recording)

② Play (or tune) the music source to be recorded.

- If you want to also record the input on a CD-R/RW at the same time, press the CD-R REC key in step ①, wait until the blinking rate of the CD-R REC indicator slows down, then press the CD-R REC key again.
- "DECK" is displayed and the TAPE REC indicator starts to light steadily.
- Recording stops automatically when the tape side(s) to be recorded have been fully recorded.



#### Pause the recording (Main unit only)



- Press the TAPE REC key during recording. It stops after leaving a non-recorded blank of 4 seconds. (Press the key again to resume recording.)
- The "DECK" display blinks and the TAPE REC indicator also blinks.

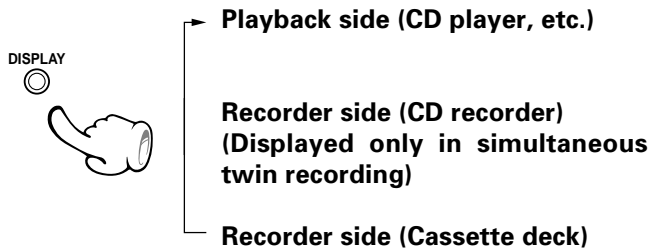
#### Stop the recording



- If the key is pressed during recording from a CD, the CD playback also stops.
- If the key is pressed during recording from CDR, the CDR playback also stops.
- The same function is also available using the ■ STOP key on the remote control unit.

## Switching the time display during recording

Press the DISPLAY key to switch the display to the information on the recorder side.



Recorder side (Cassette deck)

TAPE  
0007  
DECK

- The display can also be switched with the **DISPLAY** key on the remote.

## Adjusting the input level from the auxiliary analog source (AUX Input, Rec Gain)

If the audio output level of the auxiliary analog source such as a cassette deck is too low or too high, recording at the optimum level may not be available. In this case, perform the following adjustment before recording.

### Adjusting the input level from the auxiliary analog source (AUX Input)

Adjust so that the audio from the auxiliary analog source sounds at the identical level to the audio from the internal source such as the CD.

- 1 Press the AUX/D-AUX key repeatedly until "AUX" is displayed.
- 2 Press the MENU key.
- 3 Press the MULTI CONTROL keys to select "AUX Input ?", then press the SET key.
- 4 Press a MULTI CONTROL keys to adjust the recording level (between -5 and +2).
- 5 Press the SET key to set the selection.

- If the input level from the auxiliary analog source is still too low or the recorded audio level is too low even after the input level is maximized (to +2) by this adjustment, perform the recording input level adjustment operation (**Rec Gain**) described below.

AUX  
Input? Blinks

AUX In  
0 Level value

### Adjusting the recording level of the input from the auxiliary analog source (Rec Gain)

- 1 Press the AUX/D-AUX key repeatedly until "AUX" is displayed.
- 2 Press the MENU key.
- 3 Press the MULTI CONTROL keys to select "Rec Gain ?", then press the SET key.
- 4 Press a MULTI CONTROL keys to select "High".
- 5 Press the SET key to set the selection.

Rec  
Gain? Blinks

R. Gain  
High

- When this is set to "High", the sound may sometimes be distorted due to too high recording level.

The input setting for recording on the CD recorder can be changed according to the input source as required. (The input setting cannot be changed for recording from "D-AUX".)

- Switching between digital-to-digital/analog-to-digital recording ... Rec Input
- Switching between automatic/manual track number marking during analog-to-digital recording ... T.Mark
- Adjusting the blank detection level for analog-to-digital recording with automatic track number marking ... Cut Lv.

Setting Item \ Input Source	CD	TAPE	TUNER	AUX	D-AUX
Rec Input (Digital/analog switching)	○	—*1	—*1	—*1	—*2
T.Mark (Auto/manual track number marking)	○*3	○	○	○	—*4
Cut Lv. (Blank detection level adjustment)	—*5	○	○	○	—*5

- ..... Setting possible      — ..... Setting impossible
- \*1 .... Fixed to analog-to-digital recording
- \*2 .... Fixed to digital-to-digital recording.
- \*3 .... Possible only in analog-to-digital recording.
- \*4 .... Fixed to Auto.
- \*5 .... Blank is not detected when recording digital input.

After selecting the input to the input source to be recorded, start setting from the appropriate step as described below.

- When recording from "CD" (Press the CD▶/|| key) ..... Go to step 1
- When recording from "TAPE" (Press the TAPE◀▶ key) ..... Go to step 2
- When recording from "TUNER" (Press the TUNER/BAND key) ..... Go to step 2
- When recording from "AUX" (Press the AUX/D-AUX key repeatedly until "AUX" is displayed.) .... Go to step 2

- When CD▶/|| or TAPE◀▶ is pressed and the disc or tape has already been loaded, playback will start immediately. To prevent this, press the ■ (stop) key immediately after pressing CD▶/|| or TAPE◀▶.

## 1 Selecting digital-to-digital or analog-to-digital recording (Rec Input) (Applicable only for recording from CD player)

1 Press the MENU key.



2 Press a MULTI CONTROL keys to select "Rec Input?" and press the SET key.



3 Press a MULTI CONTROL keys to select "Dig." (digital-to-digital recording) or "Ana." (analog-to-digital recording) and press the SET key.



When "Dig." is selected, the setting is complete.  
When "Ana." is selected, go to step 2-3

- Digital-to-digital recording from CD may sometimes be prohibited by the SCMS (←81). In this case, select "Ana."



Blinks

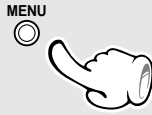
- The "DIGITAL" indicator lights when "Dig." is selected. The "DIGITAL" indicator does not light when "Ana." is selected.
- During digital-to-digital recording, the track number is incremented automatically by "1" according to digital data, so the blank is not detected. Note that, if the track number changes during fast forward or backward operation, the CD recorder may not be able to change the recorded track number correctly. Also, when the player CD is stopped, a no-sound track may sometimes be created.

Continued on next page

## 2 Selecting the track number marking method (T.Mark)

The track numbers are used in playback for locating the beginning of a song, programming, etc.

① Press the MENU key.



② Press a MULTI CONTROL keys to select "T. Mark" and press the SET key.



③ Press a MULTI CONTROL keys to select "Auto" or "Manual" and press the SET key.



T. Mark  
Auto

"Auto" ..... Track numbers are marked automatically during recording. (Default)

"Manual" ..... Track numbers are marked manually during recording.

When "Auto" is selected:

When the input source is "CD", the setting is complete.

When the input source is "TAPE", "TUNER" or "AUX", go to step ③.

When "Manual" is selected, the setting is complete.

### Auto:

Use this mode in usual recording.

#### In recording from CD :

The track number data recorded in the disc is also converted into analog signal so the track numbers are marked automatically at the same positions as the source CD based on the converted signal.

#### In recording from TAPE, TUNER or AUX:

Track numbers are automatically incremented by "1" every time the input signal drops below a certain level (which can be adjusted with "Cut Lv." in step ③) for more than 2 seconds and rises above the level again.

Note that, in recording from "TUNER", the track number may not be incremented correctly if the input signal does not drop below the level due to noise, etc. Also note that, when the input level continues to be lower than the certain level for more than 2 seconds in a pianissimo sections of classic music, etc., the track number may erroneously be incremented.

If the above occurs, use "Manual" for recording or adjust the detection threshold level with "Cut Lv."

### Manual:

Track numbers are not incremented automatically during recording, but they can be marked by the user (by pressing the SET key on the main unit\*). This mode is convenient in recording of live performance or music containing long pianissimo sections.

\* Due to the restriction by the CD standard, the track number cannot be marked to a track shorter than 4 seconds in CD-R/RW discs.

### 3 Setting the automatic blank detection level (Cut Lv.)

The automatic blank detection level during analog-to-digital recording can be set by the user. If you do not want to adjust it, simply press the SET key.

Even when the track number setting mode (T.Mark) is set to "Auto", the track numbers may not be incremented if the level of blanks in the recording source are high. In this case, increase the blank detection level.

On the contrary, if track numbers are incremented on other points than blanks, decrease the blank detection level.

#### 1 Adjust the automatic blank detection level using the MULTI CONTROL keys.



#### 2 Complete the setting mode.



- The blank detection level can be adjusted in the range from -2 to +2.
  - + ..... Increases the blank detection level.
  - ..... Decreases the blank detection level.

```

|Cut
|Lv.  -2|
  
```

- Even when the blank detection level is adjusted, there may be cases in which track number marking are not improved.

The system provides the following playback features in addition to normal playback.

**CD** and **CDR** in the description text refer to sources with which the feature in question can be used (registered).

**CD** .....CD player

**CDR** ..... CD recorder

## Listening in the desired sequence

### Program playback **CD**

Desired tracks in a disc can be programmed in the desired order and played back. (Max. 32 tracks)

→ 47

## Playing tracks repeatedly

### Repeated playback **CD** **CDR**

Desired track(s) or disc can be played repeatedly.

→ 49

## Playing tracks in a random order

### Random playback **CD**

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

→ 50

## Registering skipping of undesired tracks in CD-R/RW

### Registering skipping of tracks (SKIP TRACK) **CDR**

When there is a track you do not to play, for example a track which failed to be recorded, you can register it in the disc so that the track is skipped automatically in later playback (Skip Play).

→ 51

## Playing tracks by skipping registered tracks

### Skipping playback (SKIP PLAY) **CD** **CDR**

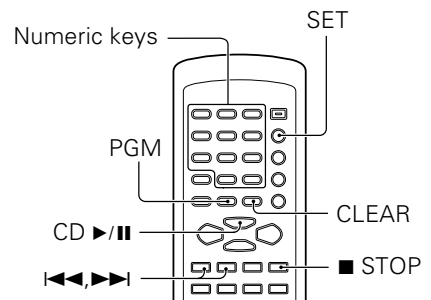
When a disc in which Skip Track is registered is played with Skip Play "On", Skip Play occurs whether the disc is played with the CD player or CD recorder.

→ 52

# Listening in the desired sequence (Program playback) CD

Desired tracks in a disc can be programmed in the desired order and played back. (Max. 32 tracks)

To make a CD-R/RW disc playable on a CD player, it is required to finalize the disc. → 70

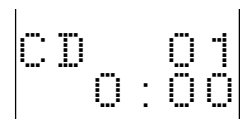


Select the "CD" input. → 24

**1** Check that the unit is in the stop mode.

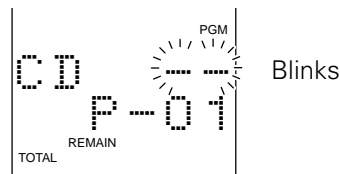
If it is in play mode

Press the **■ STOP** key.



**2** Light the "PGM" indicator.

Press the PGM key.



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

**1** Select a track number using numeric keys.

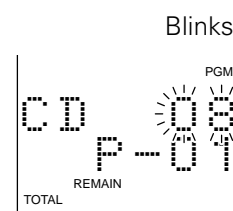
Go to step **2** within 20 sec.

Press the numeric keys as shown below....  
To enter track No. 12 ... +10, 2  
To select track No. 20 ... +10, +10, 0

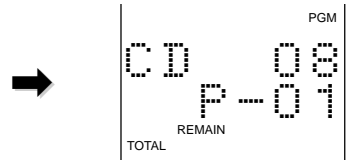
**2** Press the SET key.

**3** Repeat steps **1** and **2**.

**1** Track selection



**2** Programming



- After the adjustment, the time display appears again.
- The track can also be selected using the **◀◀** or **▶▶** key.
- Up to 32 tracks can be programmed. When "PGM Full" is displayed, no more tracks can be programmed.
- If you do not press the **SET** key before the track number display stops blinking, the track number entry is canceled.

**4** Start playback.

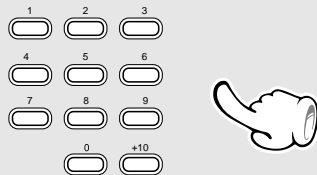
Press the **CD ▶/II** key.

- Tracks will be played in the order they were programmed (in order of **PGM-Nos.**).
- When the **◀◀** or **▶▶** 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 add a track to the program (Remote control unit only)

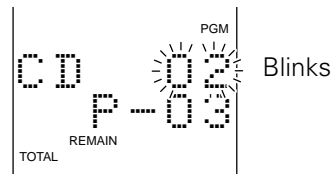
Press in stop mode

1 Select the track number to be added using the numeric keys.



Press the numeric keys as shown below...  
 To enter track No. 12 ..... +10, 2  
 To select track No. 20 .... +10, +10, 0

2 Press the SET key.



- The track can also be selected using the ◀◀ or ▶▶ key.
- Up to 32 tracks can be programmed. When "PGM Full" is displayed, no more tracks can be programmed.
- When a track No. is entered, the track will be added to the end of the existing program.

Application section

### To delete a programmed track (Remote control unit only)

Press the CLEAR key.

Press in stop mode



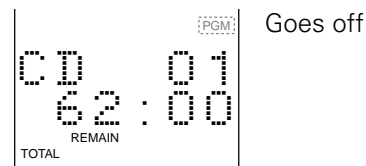
- Each press of the **CLEAR** key clears the last track in the program.



### To quit the program mode (Remote control unit only)

Press the PGM key.

Press in stop mode

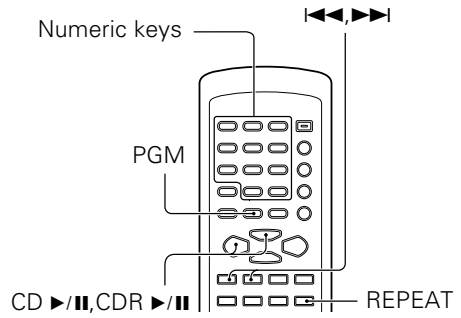


The set program mode is canceled when the power is turned off or press the ▲ key.



## Repeated playback CD CDR

Desired track(s) or disc can be played repeatedly.



To play a CD-R/RW disc with repeated playback, it is required to finalize the disc. → 70

Select the "CD" or "CDR" input. → 24 → 26

### To repeat a disc

- ❶ Confirm that the "PGM" indicator is not lit.
  - ❷ Press the REPEAT key repeatedly until "REPEAT" is displayed.
  - ❸ Press the >|| key.
- 

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

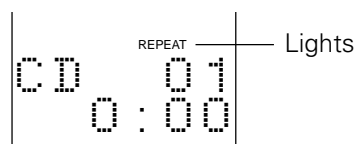
### To repeat a single track

- ❶ Confirm that the "PGM" indicator is not lit.
  - ❷ Select the track number to be repeated using the numeric keys or the << or >> key. The playback of the selected track will start.
- 

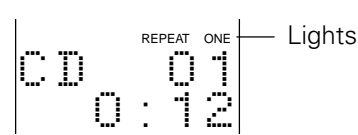
Press the numeric keys as shown below....  
 To enter track No. 12 ..... +10, 2  
 To select track No. 20 ..... +10, +10, 0

- ❸ During playback, press the REPEAT key repeatedly until "REPEAT ONE" is displayed.
- 

### ❷ "REPEAT"



### ❸ "REPEAT ONE"



### To repeat selected tracks CD

- ❶ Program the desired tracks by performing the procedure in "Listening in the desired sequence (Program playback)" until step ❸. → 47
- ❷ Press the REPEAT key repeatedly until "REPEAT" is displayed.
- ❸ Press the CD >|| key.

### To stop repeated playback

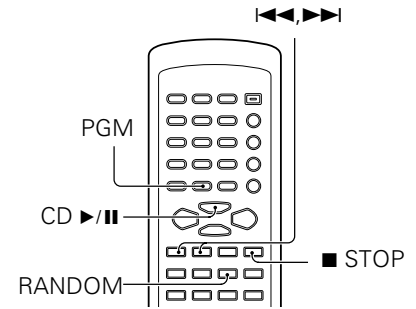
- Press the REPEAT key repeatedly until any repeat-related indicator disappears.
- Normal playback will continue even after the "REPEAT" indicators have turned off.

## Playing tracks in a random order

(Random playback) **CD**

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

To make a CD-R/RW disc playable on a CD player, it is required to finalize the disc. 



Select the "CD" input. 

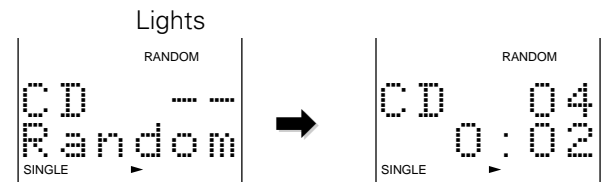
### 1 Confirm that the "PGM" indicator is not lit.



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

### 2 Start random playback.

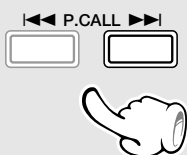
Press the **RANDOM** key.



- Playback stops after each track has been played once.
- When the **REPEAT** key is pressed to select "REPEAT", the random playback will be repeated.

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

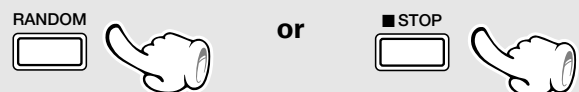
Press the **▶▶** key.



- Pressing the **◀◀** key once returns to the beginning of the track being played.

### To cancel random playback

Press the **RANDOM** or **■ STOP** key during random playback.

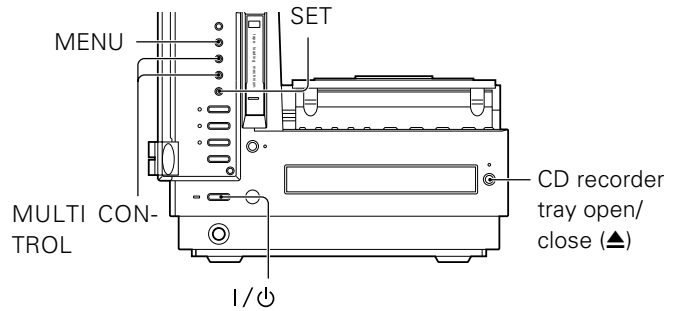


- Pressing the **RANDOM** key continues playback of tracks in the order they are recorded, while pressing the **■ STOP** key stops playback.

# Registering skipping of undesired tracks in CD-R/RW

(SKIP TRACK) **CDR**

When there is a track you do not to play, for example a track which failed to be recorded, you can register it in the disc so that the track is skipped automatically in later playback (Skip Play).



Select the "CDR" input. Be sure to put the CD recorder in stop mode. → 26

❶ Load a recordable CD-R/RW in the CD recorder. - 7 - 8

❷ Press the MENU key.

❸ Press a MULTI CONTROL keys repeatedly until "Skip Track ?" is displayed.



❹ Press a MULTI CONTROL keys to select the track to be skipped, and press the SET key.



❺ Press a MULTI CONTROL keys to select "On".

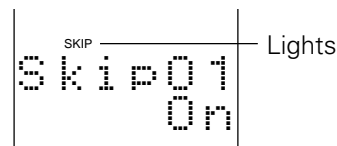
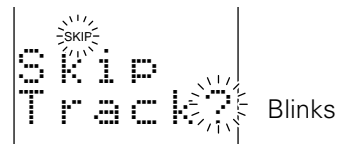


❻ Press the SET key. "Complete" will be displayed.

Skip Track is registered.



**Skip Track cannot be registered in an already finalized disc.**  
If the power cord is unplugged or there is a power failure before the data is written in the disc, the registration data will be cleared.



## To register another track for Skip Track

Repeat steps ❷ to ❻ above.

## To cancel the Skip Track registration

1. Perform steps ❶ to ❸ above.
2. In step ❹, select the track to be skipped.
3. In step ❺, select "Off" then press the SET key.

"Complete" is displayed and the registration is canceled.

- Repeat steps 1 to 3 as required.

## To test listen to the registration contents

Playback with Skip Play can be performed before finally writing the Skip Track registration data in the disc. First perform steps ❶ to ❹ of "Playing tracks by skipping registered tracks" (- 52) and press the CD-R ▶/II key.

## To write the Skip Track registration data in disc

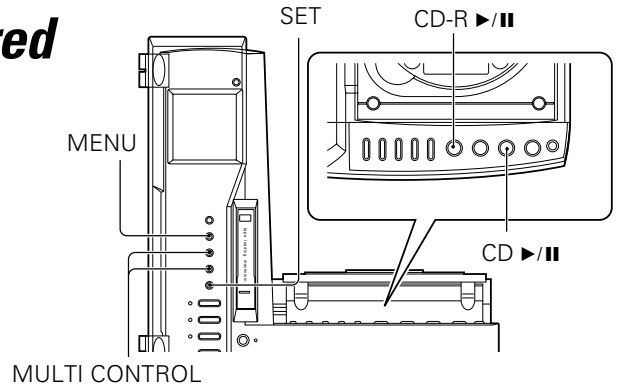
Press the CD recorder tray open/close (▲) key or press the I/⏻ key to off (STANDBY).

- The registration or cancellation data can be written in a disc up to 21 times. When "CDR Skip Full" is displayed, these data can no longer written in the disc.

# Playing tracks by skipping registered tracks (SKIP PLAY) CD CDR

When a disc in which SkipTrack is registered is played with Skip Play "On", Skip Play occurs whether the disc is played with the CD player or CD recorder.

To play a CD-R/RW disc on a CD player, it is required to finalize the disc. → 70



Select the "CD" or "CDR" input. Be sure to put the CD player or CD recorder in stop mode. → 24 → 26

❶ Press the MENU key.



❷ Press a MULTI CONTROL keys repeatedly until "Skip Play ?" is displayed.



❸ Press the SET key.

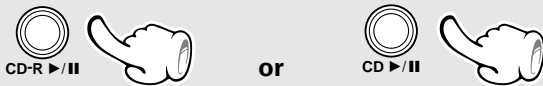


❹ Press a MULTI CONTROL keys to select "On" and press the SET key.



❺ Load a CD-R/RW with Skip Track registration. → 51

❻ Start playback.



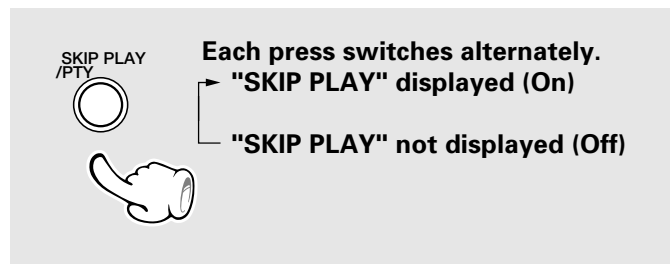
Application section

## To cancel Skip Play

- 1 Perform steps ❶ to ❸ above.
2. In step ❹, select "Off" and press the SET key.

**Note** When a disc in which Skip Track is registered with another CD recorder is played on the CD recorder of this system, Skip Play may sometimes not occur.

## Remote control operation



In addition to ordinary recording function, this system provides the following recording features for use in recording the CD player output. Select them according to the purpose of recording.

**CD** , **CDR** and **TAPE** in the description text refer to sources with which the feature in question can be played or recorded.

**CD** ..... CD player  
**CDR** ..... CDR recorder  
**TAPE** ..... Cassette deck

**CD** → **CDR** means playing the source disc on the CD player and recording its output on the CD recorder.

## Features for use in recording from CD to CD-R/RW **CD** → **CDR**

### To record a CD simpler and faster

#### One-touch edit high-speed recording (O.T.E.) (High)

**All-track high-speed recording (High)**



All tracks in a CD can be recorded onto CD-R/RW in half the normal playback period. → 56

**Single-track high-speed recording (High)**



Records only one CD track being played onto CD-R/RW in half the normal playback period. (This is convenient for recording of desired tracks from a disc being heard for the first time.) → 58

### To record CD with a simplified method

#### One-touch edit recording (O.T.E.) (Norm)

**All-track recording (Norm)**



Records all tracks in a CD onto CD-R/RW. → 60

**Single-track recording (Norm)**



Records only one CD track being played onto CD-R/RW. (This is convenient for recording of desired tracks from a disc being heard for the first time.) → 60

### To record desired CD tracks by reordering them

#### Program recording (PGM mode + O.T.E.) (Norm)

**Program recording (Norm)**



Recording of programmed tracks in the programmed order. (Convenient for recording only the desired CD tracks in the desired order.) → 62



When recording a HDCD or DTS disc on the CD recorder, use the normal-speed recording.

## Features for use in recording from CD to Tape **CD** → **TAPE**

### To record CD with a simplified method

#### One-touch edit recording (O.T.E.)

##### All-track recording



Records all tracks in a CD onto a tape.

→ 64

##### Single-track recording



Records only one CD track being played onto a tape.  
(This is convenient for recording of desired tracks from a disc being heard for the first time.)

→ 64

### To record desired CD tracks by reordering them

#### Program recording (Program playback (PGM) + O.T.E.)

##### Program recording



Recording of programmed tracks in the programmed order.  
(Convenient for recording only the desired CD tracks in the desired order.)

→ 65




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.

## Simultaneous, twin recording feature from CD to CD-R/RW and Tape

To record CD simultaneously onto an CD-R/RW and tape

Twin recording onto CD-R/RW and tape (TWIN REC) **CD** → **CDR** **TAPE**

### All-track twin recording

Simultaneous recording of an entire CD onto an CD-R/RW and tape. →  66


### Single-track twin recording

Simultaneous recording of the CD track being played onto an CD-R/RW and tape. (This is convenient for recording of desired tracks from a disc being heard for the first time.) →  66

Reordering CD tracks in a desired sequence and recording them simultaneously onto CD-R/RW and tape

Program playback + TWIN REC **CD** → **CDR** **TAPE**

### Program recording

Simultaneous recording of programmed CD tracks onto both CD-R/RW and tape. (Convenient for recording only the desired CD tracks in the desired order.) →  68

Display "CDR Writing" indicates that recorded data is being written in the CD-R/RW. Do not apply vibrations or impact during recording and "CDR Writing" display. If the power cord is unplugged from the power outlet or a power failure occurs during recording, the disc data may be destroyed and the disc may become unusable.



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.

## High-speed recording of all tracks in a CD (O.T.E.) (High) CD → CDR

High-speed recording makes possible digital-to-digital recording from a CD to CD-R/RW at a double speed. (High-speed recording is not available in analog-to-digital recording.)

The recording source can be a finalized CD-R, but digital-to-digital recording may not be available with certain discs. "Digital recording and SCMS" → 81

**Be sure to put the CD recorder in stop mode.**

### 1 Make the preparations for recording.

- ① Place a recordable CD-R or CD-RW disc. → 36
- ② Load the recording source disc in the CD player. → 24

- When a CD-R/RW is loaded in the CD recorder, the **CD-R IN** indicator may blink for a while. "OPC (Optimum Power Control)" → 37
- High-speed recording from a CD-RW is not possible. The CD-RW should be recorded at the normal speed. → 60

### 2 Select the recording speed.

- ① Press the MENU key.
- ② Press the MULTI CONTROL keys to select "O.T.E. Speed ?", then press the SET key.
- ③ Press the MULTI CONTROL keys to select "<High>", then press the SET key.



Each press switch the modes as follows.

- ↳ **<High>** ..... (Recording at double speed)
- ↳ **<Norm>** ..... (Recording at normal speed)

### 3 Check the current play mode of the CD player.

If it is in play mode, stop it.



### 4 Start recording.

- ① Press the MENU key.
- ② Press the MULTI CONTROL keys to select "O.T.E. Mode ?", then press the SET key.
- ③ Press the MULTI CONTROL keys to select "CD→CDR<High>", then press the SET key.



Each press switch the modes as follows.

- ↳ **CD→CDR<High>**
- ↳ **CD→TAPE**
- ↳ **Twin Rec**

- The high-speed playback sound of the CD is played at a low volume during high-speed recording.
- High-speed recording starts with the first track in the CD and continues until the last track.
- When either the **CD** playback or **CDR** recording operation stops, the other operation also stops.
- Although high-speed recording starts digital-to-digital recording automatically, this may sometimes be unavailable due to the SCMS (→ 81). In this case, record the analog input at the normal speed. → 60

When you are operating the remote, press the O.T.E. CD→CDR key.



During digital-to-digital recording, the CD recorder may encounter a track with which digital-to-digital recording is prohibited. In this case, "SCMS" (→ 81) is displayed and recording pauses temporarily, but playback of the source continues and recording restarts whenever a track with which digital-to-digital recording is permitted is encountered. However, if "SCMS" is displayed with the first track to be recorded, the track as well as the subsequent tracks will not be recorded.

- "CDR Writing" is displayed when recording completes.

Display "CDR Writing" indicates that recorded data is being written in the CD-R/RW. Do not apply vibrations or impact during recording and "CDR Writing" display.

If the power cord is unplugged from the power outlet or a power failure occurs during recording, the disc data may be destroyed and the disc may become unusable.

High-speed recording of a disc containing a certain track may not be able to be started within 74 minutes after the specific track was recorded at the High speed. In this case, the time until the high-speed recording will become ready is displayed.

| Wait  
74min. |

If you want to record the disc immediately, use the normal-speed recording.



This system judges whether high-speed recording of each track within 74 minutes after its previous high-speed recording is permitted or not based on the specific data recorded for each track (ISRC: International Standard Recording Code).

### ***To interrupt a recording***

Press the ■ (stop) key on the main unit or ■ STOP key on the remote. (This stops both recording and playback.)

### ***To finalize the recorded CD-R/RW***



## High-speed recording of a single track in a CD (O.T.E.) (High) CD → CDR

High-speed recording makes possible digital-to-digital recording from a CD to CD-R/RW at a double speed. (High-speed recording is not available in analog-to-digital recording.)

The recording source can be a finalized CD-R, but digital-to-digital recording may not be available with certain discs. "Digital recording and SCMS" → 81

**Be sure to put the CD recorder in stop mode.**

### 1 Make the preparations for recording.

- ① Place a recordable CD-R or CD-RW disc. → 36
- ② Load the recording source disc in the CD player. → 24

### 2 Select the recording speed.

- ① Press the MENU key.
- ② Press the MULTI CONTROL keys to select "O.T.E. Speed ?", then press the SET key.
- ③ Press the MULTI CONTROL keys to select "<High>", then press the SET key.



- When a CD-R/RW is loaded in the CD recorder, the **CD-R IN** indicator may blink for a while. "OPC (Optimum Power Control)" → 37
- High-speed recording from a CD-RW is not possible. The CD-RW should be recorded at the normal speed. → 60

Each press switch the modes as follows.

- **<High>** ..... (Recording at double speed)
- **<Norm>** ..... (Recording at normal speed)

### 3 Select the desired CD track and play it.

- ① Start playback of CD.



- ② Select the desired CD track and play it.

### 4 Start recording.

- ① Press the MENU key.
- ② Press the MULTI CONTROL keys to select "O.T.E. Mode ?", then press the SET key.
- ③ Press the MULTI CONTROL keys to select "CD→CDR<High>", then press the SET key.



Each press switch the modes as follows.

- **CD→CDR<High>**
- **CD→TAPE**
- **Twin Rec**

- Even when the recording is started in the middle of the track, playback restarts and recording start from the beginning of the track.
- The high-speed playback sound of the CD is played at a low volume during high-speed recording.
- When either the **CD** playback or **CDR** recording operation stops, the other operation also stops.
- Although high-speed recording starts digital-to-digital recording automatically, this may sometimes be unavailable due to the SCMS (→ 81). In this case, record the analog input at the normal speed. → 60
- When recording completes, the CD player enters pause mode. If the last recorded track is the final track in the disc, the CD player enters stop mode.

When you are operating the remote, press the O.T.E. CD→CDR key.

- "CDR Writing" is displayed when recording completes.

Display "CDR Writing" indicates that recorded data is being written in the CD-R/RW. Do not apply vibrations or impact during recording and "CDR Writing" display.

If the power cord is unplugged from the power outlet or a power failure occurs during recording, the disc data may be destroyed and the disc may become unusable.

High-speed recording of a disc containing a certain track may not be able to be started within 74 minutes after the specific track was recorded at the High speed. In this case, the time until the high-speed recording will become ready is displayed.

Wait  
74min.

If you want to record the disc immediately, use the normal-speed recording.



This system judges whether high-speed recording of each track within 74 minutes after its previous high-speed recording is permitted or not based on the specific data recorded for each track (ISRC: International Standard Recording Code).

### To interrupt a recording

Press the ■ (stop) key on the main unit or ■ STOP key on the remote. (This stops both recording and playback.)

### To finalize the recorded CD-R/RW



# One-touch edit recording (O.T.E.) (Norm) CD → CDR

Records all tracks in a CD with a simple operation. (All-track recording)

Records a single CD track being played from the beginning. (Single-track recording)











The recording source can be a finalized CD-R/RW, but digital-to-digital recording may not be available with certain discs."Digital recording and SCMS" → 81

Select the "CD" input. Be sure to put the CD recorder in stop mode.

**Before recording**

When digital-to-digital recording is not impossible or when analog-to-digital recording is performed, select the analog input as described in the following section then start the setting from step 1 below."Changing the recording input setting" → 43

- 1 Make the preparations for recording.**
- ① Place a recordable CD-R or CD-RW disc. → 36
  - ② Load the recording source disc in the CD player. → 24

- 2 Select the recording speed.**
- ① Press the MENU key.   
  
  - ② Press the MULTI CONTROL keys to select "O.T.E. Speed ?", then press the SET key.   
   →  
  - ③ Press the MULTICONTROL keys to select "<Norm>", then press the SET key.   
   →  







The current setting is displayed.  
 "DIGITAL" is lit ..... Digital-to-digital recording  
 "DIGITAL" not lit: ..... Analog-to-digital recording

- When a CD-R/RW is loaded in the CD recorder, the **CD-R IN** indicator may blink for a while.  
 "OPC (Optimum Power Control)" → 37

Application section

**3 Check the current play mode of the CD player.**

All track recording	Single-track recording
<p>If it is in play mode, stop it.</p> <div style="text-align: center; margin-top: 20px;">   </div>	<p>Select the desired CD track and play it.</p> <div style="text-align: center; margin-top: 20px;">   </div> <ul style="list-style-type: none"> <li>● Even when the O.T.E. CD→CDR key is pressed in the middle of a track, recording will start from the beginning of the track.</li> </ul>

**4** Start recording.

- When either the **CD** playback or **CDR** recording operation stops, the other operation also stops.
- When you are operating the main unit, select "**O.T.E. Mode**" in the menu mode, then select "**CD→CDR <Norm>**" and press the **SET** key to start recording.
- "**CDR Writing**" is displayed when recording completes.
- With certain discs, digital-to-digital recording may be prohibited by SCMS (→ 81). Such a disc should be recorded using the analog output signal. → 43

**Display "CDR Writing" indicates that recorded data is being written in the CD-R/RW. Do not apply vibrations or impact during recording and "CDR Writing" display.**

**If the power cord is unplugged from the power outlet or a power failure occurs during recording, the disc data may be destroyed and the disc may become unusable.**

**During digital-to-digital recording, the CD recorder may encounter a track with which digital-to-digital recording is prohibited. In this case, "SCMS" (→ 81) is displayed and recording pauses temporarily, but playback of the source continues and recording restarts whenever a track with which digital-to-digital recording is permitted is encountered. However, if "SCMS" is displayed with the first track to be recorded, the track as well as the subsequent tracks will not be recorded.**

**To interrupt a recording**

Press the ■ (stop) key on the main unit or ■ STOP key on the remote. (This stops both recording and playback.)

**To finalize the recorded CD-R/RW** → 70

## Program recording (PGM mode + O.T.E.) (Norm) **CD** → **CDR**

The Twin Recording makes it possible to record desired CD tracks programmed in the desired order onto a CD-R/RW simultaneously. (High-speed recording is not available.)

The recording source can be a finalized CD-R/RW, but digital-to-digital recording may not be available with certain discs. "Digital recording and SCMS" → 81

Select the "CD" input. Be sure to put the CD recorder in stop mode.

### Before recording

When digital-to-digital recording is not impossible or when analog-to-digital recording is performed, select the analog input as described in the following section then start the setting from step 1 below. "Changing the recording input setting" → 43



The current setting is displayed.

"DIGITAL" is lit ..... Digital-to-digital recording  
"DIGITAL" not lit: ..... Analog-to-digital recording

## 1 Make the preparations for recording.

- 1 Place a recordable CD-R or CD-RW disc. → 36
- 2 Load the recording source disc in the CD player. → 24
- 3 Make sure that the "High" (high-speed dubbing indicator) in the display is not lit.

- When a CD-R/RW is loaded in the CD recorder, the **CD-R IN** indicator may blink for a while. "OPC (Optimum Power Control)" → 37
- If the "HIGH" is lit in the display, turn it on by selecting "O.T.E. Speed" in the menu mode, selecting "<Norm>" and pressing the **SET** key.

## 2 Check the current play mode of the CD player.

If it is in play mode, stop it.



## 3 Program the desired sequence of CD tracks.

Perform steps 2 and 3 of the procedure in "Listening in the desired sequence (Program playback)". → 47

## 4 Start recording.



- High-speed recording is not available in the PGM mode.
- Recording starts with the first programmed track until all the programmed tracks have been recorded.
- When either the **CD** program playback or **CDR** recording operation stops, the other operation also stops.
- When you are operating the main unit, select "O.T.E. Mode" in the menu mode, then select "**CD->CDR <Norm>**" and press the **SET** key to start recording.
- With certain discs, digital-to-digital recording may be prohibited by SCMS (→ 81). Such a disc should be recorded using the analog output signal. → 43

- "CDR Writing" is displayed when recording completes.

Display "CDR Writing" indicates that recorded data is being written in the CD-R/RW. Do not apply vibrations or impact during recording and "CDR Writing" display.

If the power cord is unplugged from the power outlet or a power failure occurs during recording, the disc data may be destroyed and the disc may become unusable.

During digital-to-digital recording, the CD recorder may encounter a track with which digital-to-digital recording is prohibited. In this case, "SCMS" (→ 81) is displayed and recording pauses temporarily, but playback of the source continues and recording restarts whenever a track with which digital-to-digital recording is permitted is encountered. However, if "SCMS" is displayed with the first track to be recorded, the track as well as the subsequent tracks will not be recorded.

### ***To interrupt a recording***

Press the ■ (stop) key on the main unit or ■ STOP key on the remote. (This stops both recording and playback.)

### ***To finalize the recorded CD-R/RW***



## One-touch edit recording (O.T.E.) CD → TAPE

Records all tracks in a CD with a simple operation. (All-track recording)

Records a single CD track being played from the beginning. (Single-track recording)

Do not use a cassette tape with more than 90-minute recording time, for the tape used with such a cassette is very thin and tends to cause troubles such as entanglement around the pinch roller or cutting of tape.

*Be sure to put the cassette deck in stop mode.*

### 1 Make the preparations for recording.

① Perform steps 1~3 of the procedure in "Recording on TAPE". → 40

② Load the recording source disc in the CD player. → 24

This system can record signals on Normal (TYPE I) and High (TYPE II) position tapes. Remember that the Metal (TYPE IV) tapes cannot be used with this system.

### 2 Check the current play mode of the CD player.

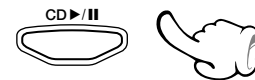
#### All track recording

If it is in play mode, stop it.



#### Single-track recording

Select the desired CD track and play it.



- Even when the O.T.E. CD→TAPE key is pressed in the middle of a track, recording will start from the beginning of the track.

### 3 Start recording.



- When either the playback or recording operation stops, the other operation also stops.
- When you are operating the main unit, select "O.T.E. Mode" in the menu mode then select "CD→TAPE" and press the SET key to start recording.
- When recording completes, the tape stops after leaving a no-sound blank of about 4 seconds.

### To interrupt a recording

Press the ■ (stop) key on the main unit or ■ STOP key on the remote. (This stops both recording and playback.)



## Program recording (PGM mode + O.T.E.) **CD** → **TAPE**

Desired CD tracks can be programmed in the desired sequence and recorded onto a tape.

Do not use a cassette tape with more than 90-minute recording time, for the tape used with such a cassette is very thin and tends to cause troubles such as entanglement around the pinch roller or cutting of tape.

*Be sure to put the cassette deck in stop mode.*

### **1** Make the preparations for recording.

- ① Perform steps 1~3 of the procedure in "Recording on TAPE". → 40
- ② Select the "CD" input. → 24
- ③ Load the recording source disc in the CD player. → 24

This system can record signals on Normal (TYPE I) and High (TYPE II) position tapes. Remember that the Metal (TYPE IV) tapes cannot be used with this system.

### **2** Check the current play mode of the CD player.

If it is in play mode, stop it.



### **3** Program the desired sequence of CD tracks.

Perform steps ② and ③ of the procedure in "Listening in the desired sequence (Program playback)". → 47

### **4** Start recording.



- Recording begins from the first track in the program and completes when the entire program has been recorded.
- When either the playback or recording operation stops, the other operation also stops.
- When you are operating the main unit, select "O.T.E. Mode" in the menu mode then select "CD→TAPE" and press the **SET** key to start recording.
- When recording completes, the tape stops after leaving a no-sound blank of about 4 seconds.

### To interrupt a recording

Press the ■ (stop) key on the main unit or ■ **STOP** key on the remote. (This stops both recording and playback.)

## Twin recording onto CD-R/RW and Tape (TWIN REC) CD → CDR TAPE

All tracks in a CD can be recorded simultaneously on a CD-R/RW and tape at the normal speed. (All-track twin recording)

It is also possible to record only the track being played from its beginning onto a CD-R/RW and tape simultaneously. (Single-track twin recording)

The recording source can be a finalized CD-R/RW, but digital-to-digital recording may not be available with certain discs. "Digital recording and SCMS" → 81

Do not use a cassette tape with more than 90-minute recording time, for the tape used with such a cassette is very thin and tends to cause troubles such as entanglement around the pinch roller or cutting of tape.

Select the "CD" input. Be sure to put the CD recorder and cassette deck in stop mode.

### Before recording CDR

When digital-to-digital recording is not impossible or when analog-to-digital recording is performed, select the analog input as described in the following section then start the setting from step 1 below. "Changing the recording input setting" → 43



The current setting is displayed.

"DIGITAL" is lit ..... Digital-to-digital recording  
"DIGITAL" not lit ..... Analog-to-digital recording

## 1 Make the preparations for recording.

① **CDR** ..... Place a recordable CD-R or CD-RW disc. → 36

**TAPE** ..... Perform steps 1~3 of the procedure in "Recording on TAPE". → 40

② Load the recording source disc in the CD player. → 24

- High-speed recording is not available in the Twin Recording mode.
- When a CD-R/RW is loaded in the CD recorder, the **CD-R IN** indicator may blink for a while. "OPC (Optimum Power Control)" → 37

This system can record signals on Normal (TYPE I) and High (TYPE II) position tapes. Remember that the Metal (TYPE IV) tapes cannot be used with this system.

## 2 Check the current play mode of the CD player.

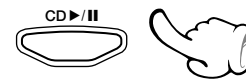
### All track recording

If it is in play mode, stop it.

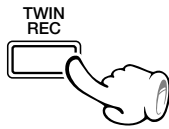


### Single-track recording

Select the desired CD track and play it.



- Even when the **TWIN REC** key is pressed in the middle of a track, recording will start from the beginning of the track.

**3** Start recording.

- When the CD-R/RW does not have available recording time at all or the tape has been wound till the end, recording cannot be started.
- When the **CD** playback stops, other operations also stop automatically.
- When you are operating the main unit, select "**O.T.E. Mode**" in the menu mode then select "**Twin Rec**" and press the **SET** key to start recording.
- When recording completes, the tape stops after leaving a no-sound blank of about 4 seconds.

**CDR**

- With certain discs, digital-to-digital recording may be prohibited by SCMS (→ [81](#)). Such a disc should be recorded using the analog output signal. → [43](#)
- "**CDR Writing**" is displayed when recording completes.

**Display "CDR Writing" indicates that recorded data is being written in the CD-R/RW. Do not apply vibrations or impact during recording and "CDR Writing" display.**

**If the power cord is unplugged from the power outlet or a power failure occurs during recording, the disc data may be destroyed and the disc may become unusable.**

**During digital-to-digital recording, the CD recorder may encounter a track with which digital-to-digital recording is prohibited. In this case, "SCMS" (→ [81](#)) is displayed and recording pauses temporarily, but playback of the source continues and recording restarts whenever a track with which digital-to-digital recording is permitted is encountered. However, if "SCMS" is displayed with the first track to be recorded, the track as well as the subsequent tracks will not be recorded.**

**To interrupt a recording**

Press the ■ (stop) key on the main unit or ■ STOP key on the remote. (This stops both recording and playback.)

**To finalize the recorded CD-R/RW**→ [70](#)

## Program twin recording onto CD-R/RW and Tape (PGM mode + TWIN REC)

CD → CDR TAPE

The PGM Twin Recording makes it possible to record desired tracks programmed in the desired order on a CD-R/RW and tape simultaneously. (High-speed recording is not available.)

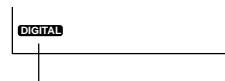
The recording source can be a finalized CD-R/RW, but digital-to-digital recording may not be available with certain discs. (CD-R/RW only) "Digital recording and SCMS" → 81

Do not use a cassette tape with more than 90-minute recording time, for the tape used with such a cassette is very thin and tends to cause troubles such as entanglement around the pinch roller or cutting of tape.

Select the "CD" input. Be sure to put the CD recorder and cassette deck in stop mode.

### Before recording CDR

When digital-to-digital recording is not impossible or when analog-to-digital recording is performed, select the analog input as described in the following section then start the setting from step 1 below. "Changing the recording input setting" → 43



The current setting is displayed.

"DIGITAL" is lit ..... Digital-to-digital recording  
"DIGITAL" not lit ..... Analog-to-digital recording

### 1 Make the preparations for recording.

① CDR ..... Place a recordable CD-R or CD-RW disc. → 36

TAPE ..... Perform steps 1~3 of the procedure in "Recording on TAPE". → 40

② Select the "CD" input. → 24

③ Load the recording source disc in the CD player. → 24

- High-speed recording is not available in the Twin Recording mode.
- When a CD-R/RW is loaded in the CD recorder, the **CD-R IN** indicator may blink for a while. "OPC (Optimum Power Control)" → 37

This system can record signals on Normal (TYPE I) and High (TYPE II) position tapes. Remember that the Metal (TYPE IV) tapes cannot be used with this system.

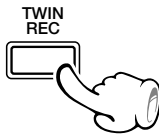
### 2 Check the current play mode of the CD player.

If it is in play mode, stop it.



### 3 Program the desired sequence of CD tracks.

Perform steps 2 and 3 of the procedure in "Listening in the desired sequence (Program playback)". → 47

**4 Start recording.**

- When the CD-R/RW does not have available recording time at all or the tape has been wound till the end, recording cannot be started.
- When the **CD** playback stops, other operations also stop automatically.
- When you are operating the main unit, select "**O.T.E. Mode**" in the menu mode then select "**Twin Rec**" and press the **SET** key to start recording.
- When recording completes, the tape stops after leaving a no-sound blank of about 4 seconds.

**CDR**

- With certain discs, digital-to-digital recording may be prohibited by SCMS (→ 81). Such a disc should be recorded using the analog output signal. → 43
- "**CDR Writing**" is displayed when recording completes.

**Display "CDR Writing" indicates that recorded data is being written in the CD-R/RW. Do not apply vibrations or impact during recording and "CDR Writing" display.**

**If the power cord is unplugged from the power outlet or a power failure occurs during recording, the disc data may be destroyed and the disc may become unusable.**

**During digital-to-digital recording, the CD recorder may encounter a track with which digital-to-digital recording is prohibited. In this case, "SCMS"(→ 81) is displayed and recording pauses temporarily, but playback of the source continues and recording restarts whenever a track with which digital-to-digital recording is permitted is encountered. However, if "SCMS" is displayed with the first track to be recorded, the track as well as the subsequent tracks will not be recorded.**

**To interrupt a recording**

Press the ■ (stop) key on the main unit or ■ STOP key on the remote. (This stops both recording and playback.)

**To finalize the recorded CD-R/RW**

# 70 Finalizing a CD-R/RW (FINALIZE)

Finalization makes a recorded CD-R/RW playable on the CD player of this system.

Once a recorded CD-R/RW is finalized, the CD-R can be played on other CD players\* and the CD-RW can be played on CD-RW compatible components. Note that the CD-RW cannot be played back on ordinary CD players.

\* ..... The finalized disc may not be playable on certain CD players or DVD players because of the difference in pickups, etc.

Note that, once a disc is finalized, additional recording on the disc becomes no longer possible. Additional recording is also impossible when a CD-RW is finalized, but the disc can be returned to the status before finalization when it is unfinalized.

Select the "CDR" input. Be sure to put the CD recorder in stop mode.

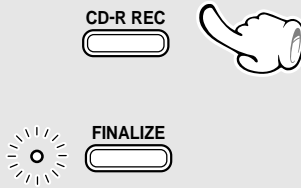
1 Load the disc to be finalized in the CD recorder.



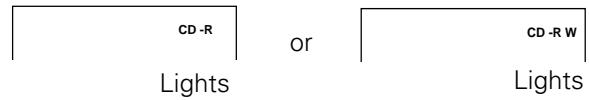
2 Press the FINALIZE key to select "Finalize Ok?"



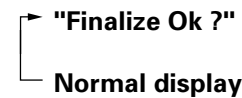
3 Press the CDR REC key to start finalization.



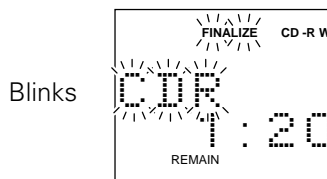
- Ensure that the disc has no scratch or dirt on the surface.
- The "CD-R" or "CD-RW" indicator lights. If the "CD" or "FINALIZED CD-RW" indicator lights, it means that the disc has already been finalized.



Each press switches alternately.



"FINALIZE" blinks.



- The FINALIZE indicator blinks.
- Do not perform any other operation during finalization.
- The time until the finalization completes is displayed.
- When finalization completes, "Complete" is displayed and the FINALIZE indicator lights.

**Never unplug the power cord during finalization.**


If the power supply is interrupted by a power failure or unplugging the power cord during finalization, the data may be destroyed and become unplayable.

# Unfinalizing a CD-RW (UNFINALIZE)

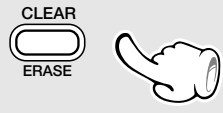
Unfinalization returns a finalized CD-RW to the status before finalization so that additional recording or rewriting is possible. Unfinalization cannot be applied to the CD-R discs.

If a disc containing the recording of text data (disc and track titles, etc.) recorded with another CD recorder or PC is unfinalized on this system, the text data will be erased from the disc and can never be restored again.


Select the "CDR" input. Be sure to put the CD recorder in stop mode.

**1** Load the CD-RW to be unfinalized in the CD recorder. 


**2** Press the ERASE key to select "Unfinalize Set?". (Remote only)



**3** Press the SET key.



**4** Press the ENTER key to start unfinalization.

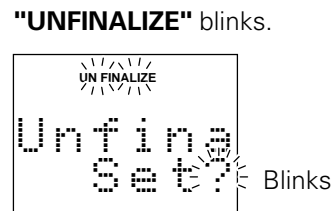


- Ensure that the disc has no scratch or dirt on the surface.
- The "FINALIZED CD-RW" indicator should light. If the "CD-RW" indicator lights, the disc is not a finalized disc.

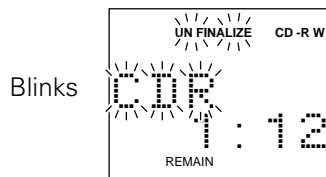


Each press switches alternately.

"Unfinalize Set ?"  
Normal display



- To abort unfinalization, press the ERASE key or ■ STOP key.



- Do not perform any other operation during unfinalization.
- The time until the unfinalization completes is displayed.
- When unfinalization completes, "Complete" is displayed.

**Never unplug the power cord during unfinalization.**  
If the power supply is interrupted by a power failure or unplugging the power cord during unfinalization, the data may be destroyed and become unplayable.



The CD recorder of this system cannot unfinalize DAO\*-recorded CD-R/RW discs recorded on a PC or recorder compatible with DAO\* method.

\* DAO (Disc At Once) ..... One of the recording formats, with which all data are written in batch in order of lead-in, data then lead-out. With this format, additional recording of data (in the unused area of disc) is not possible.

Recording in a recordable (i.e. non-finalized or unfinalized) CD-RW can be erased as described below.

There are two methods of erasure.

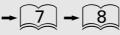
- Erasing only the last recorded track in a CD-RW
- Erasing all tracks in a CD-RW

Once erased, the tracks and data cannot be restored to the condition before erasure.


Select the "CD-R" input. Be sure to put the CD recorder in stop mode.

### Erasing the last recorded track


**Example: To erase the last track (15th track) in a disc containing 15 tracks**

➊ Place a recordable CD-RW disc. 


➋ Press the ERASE key repeatedly until "Erase 15 ?" is displayed.



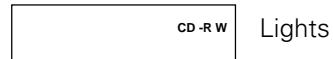
➌ Press the SET key.



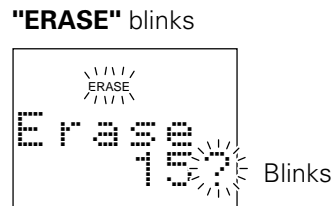
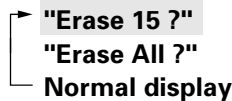
➍ Press the ENTER key to start erasure.



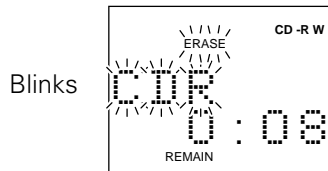
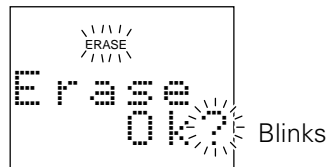
- Ensure that the disc has no scratch or dirt on the surface.
- The "CD-RW" indicator should light. If the "FINALIZED CD-RW" indicator lights, the disc is a finalized disc.



Each press switches alternately.



- To abort unfinalization, press the ERASE key or ■ STOP key.



- The time until the completion of erasure is displayed.
- Do not perform any other operation during erasure.
- "Complete" is displayed when erasure completes.

**Never unplug the power cord during erasure.**

If the power supply is interrupted by a power failure or unplugging the power cord during erasure, the data may be destroyed and become unplayable.

### To repeat erasure

Repeat steps ➋ to ➍.

- In step ➋, select "Erase XX". Here, "XX" is the track number of the last track in the disc.



Select the "CD-R" input. Be sure to put the CD recorder in stop mode.

### Erasing all tracks

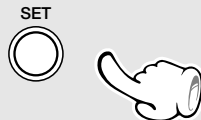
**Example: To record all tracks in a disc containing 15 tracks**

① Place a recordable CD-RW disc. 

② Press the ERASE key repeatedly until "Erase All ?" is displayed.



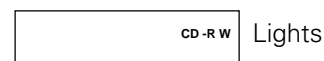
③ Press the SET key.



④ Press the ENTER key to start erasure.

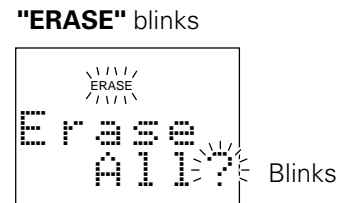


- Ensure that the disc has no scratch or dirt on the surface.
- The "CD-RW" indicator should light. If the "FINALIZED CD-RW" indicator lights, the disc is a finalized disc.

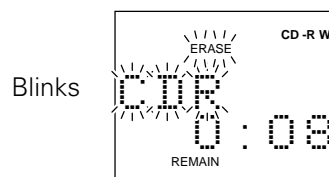
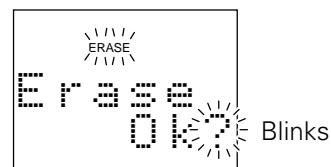


Each press switches alternately.

"Erase 15 ?"  
"Erase All ?"  
Normal display



- To abort unfinalization, press the ERASE key or ■ STOP key.



- The time until the completion of erasure is displayed.
- Do not perform any other operation during erasure.
- "Complete" is displayed when erasure completes.
- The counts of Skip Track registrations and cancel writing are also reset.

**Never unplug the power cord during erasure.**  
If the power supply is interrupted by a power failure or unplugging the power cord during erasure, the data may be destroyed and become unplayable.

# 74 Listening to an AUX input source

A cassette deck, MD recorder or a similar component can be connected to the system as the auxiliary input source.

Connect the component as described in "Connection of Other Accessories" → 13.

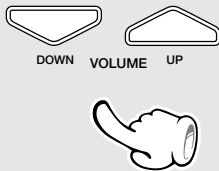
## Listening to Analog equipment

- 1 Press the AUX/D-AUX key repeatedly until "AUX".



- 2 Play the connected equipment.

- 3 Adjust the volume.



## Listening to Digital equipment

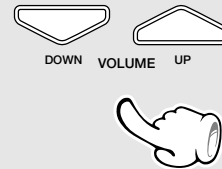
- 1 Press the AUX/D-AUX key repeatedly until "D-AUX".



- If "Unlock" is displayed when D-AUX is selected, see "Displayed message list" → 85.

- 2 Play the connected equipment.

- 3 Adjust the volume.



## Adjusting the input level of the auxiliary source (The input level from an auxiliary digital source cannot be adjusted.)

In case the input level from an auxiliary analog source is different from that from the internal source of the system such as the CD player, the auxiliary input level can be adjusted to match the internal input level.

- 1 Press the MENU key.



- 2 Press the MULTI CONTROL keys to select "AUX Input?", then press the SET key.



- 3 Adjust to the desired input level using the MULTI CONTROL keys.

- The adjustment is possible in the range from -5 to +2.

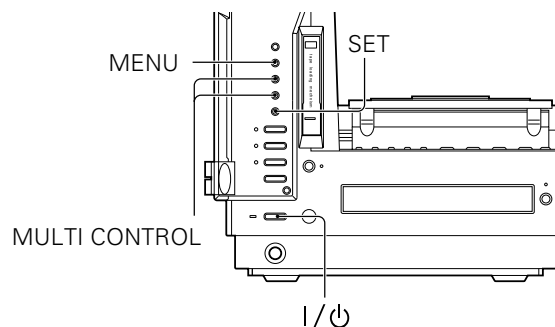
- 4 Press the SET key.



When the input level is adjusted, the level of recording of the signals from the auxiliary input source connected to the AUX input jacks changes.

→ 39 → 42

The timer makes it possible to play a CD (CD-R/RW) or TAPE, receive radio or record CD or radio automatically in the specified time zone. The O.T.T. timer works only once when it is activated, the SLEEP timer switches power off (Standby mode) automatically even after you fall asleep, and the PROG. timer provides two timer programs which work every day once they are activated.



Be sure to adjust the clock before setting the timer.



## Simplified timer setting (O.T.T. timer)

The desired source can be played with timer by simply setting the start time. The last source selected before the power is turned off (STANDBY) will be played by timer. The power is turned off (STANDBY) automatically in an hour after the start of timer playback. This timer functions only once after it is set. (The setting content is held in memory until the next setting, even if the timer operation is canceled.)

❶ Select the desired source and adjust its volume.



❷ Press the MENU key.



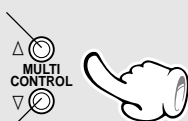
❸ Press the MULTI CONTROL keys to select "Timer Set?", then press the SET key.



❹ Press the MULTI CONTROL keys to select "O.T.T.", then press the SET key.

❺ Set the timer ON time by pressing the MULTI CONTROL keys.

To advance the time



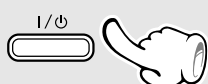
To put back the time

❻ Press the SET key.

❼ Press the remote's TIMER key repeatedly until "O.T.T." lights up.

- When the O.T.T. timer is set while the PROG.1 or PROG.2 timer has been set, the reservation by the PROG.1 or PROG.2 timer is canceled.

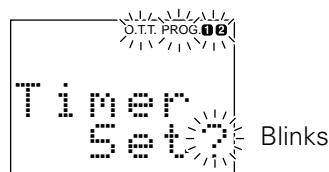
❽ Press the I/⏻ key to switch the power OFF (standby).  
(The STANDBY/TIMER indicator lights in green.)



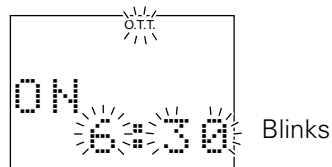
The program timer does not operate during playback by the O.T.T. timer.

- A CD can be played back on either CD player or CD recorder.

❸ Timer setting selection



❺ ON time setting



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

### To cancel O.T.T.

Switch the power ON and press the TIMER key repeatedly until "O.T.T." disappears.

- When the TIMER key is pressed repeatedly until "O.T.T." disappears after the start of O.T.T. timer playback, this will be changed to normal playback.

After setting the timer, make sure that the power is set to OFF (Standby).

- After the timer has been set and power is off (timer standby), if there is a power failure or the power cord is unplugged from and plugged again into the power outlet, the STANDBY/TIMER indicator blinks in green. In this case, set the clock again.



## Program timer playback (All timer playback) and timer recording

Two timer programs (PROG.1, PROG.2) are available. Both of them are 24-hour timer programs which can be executed every day.

Each of timer reservation programs PROG.1 and PROG.2 can store the time zone and contents of timer operation, which can be executed or deactivated as required.

- It is possible to execute both timer reservation programs **PROG.1** and **PROG.2** simultaneously.
- The time zones of **PROG.1** and **PROG.2** should be set by reserving an interval of 1 minute or more so that they are not overlapped.

**Be sure to adjust the clock before setting the timer.**



### 1 If it is recording that is to be activated by the timer, make preparations for recording.

- For recording

Make preparations for recording

**CD-R/RW**

**Step 1~3**

→ 36

**TAPE**

**Step 1~3**

→ 40

- Timer recording is possible from radio broadcasting (**TUNER**) or an auxiliary digital/analog source (**D-AUX/AUX**).

### 2 Select the source to be played or recorded and set the playback audio level.

- To listen to CD (CD-R/RW)

**Insert a CD**

**(Normal playback only)** → 24 → 26

A CD can be played back on either CD player or CD recorder. To listen to CD-R/RW on the CD player, make sure to finalize the disc.

- To listen to or record radio broadcasting

**The station should be preset prior.**

→ 30 → 31 → 32

- To listen to TAPE

**Set the tape.**

→ 28

- Recording or playing the AUX source component

**For timer playback or timer recording of a source component connected to the AUX jacks, connect it properly by referring to "Connection of Other Accessories".** → 13 → 74

- In case an associated system component is connected, also read the instruction manual of the component.

### 3 Select the timer reservation mode.

① Press the MENU key.

② Press the MULTI CONTROL keys to select "Timer Set?", then press the SET key.

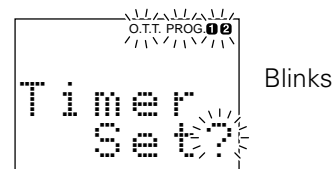


③ Press the MULTI CONTROL keys to select "PROG.1", then press the SET key.



**Example for playing radio broadcast from 10:00 am to 11:00 am using PROG.1**

④ Timer setting selection









⑤ PROG.1 selection



- If you make a mistake in the middle, press the **MENU** key to cancel the operation and restart it from step ④.
- When a timer reservation already has been made, the contents will change to the new settings.

**4** Enter the ON time.

① Set the timer ON time by pressing the MULTI CONTROL keys.

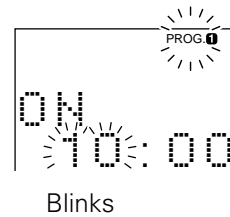
To advance the time     
 To put back the time   

② Press the SET key.

③ After entering the "hour" with the procedure in ① and ②, enter the "minute" using the same procedure.







① ON time setting



- If you make a mistake in the middle, press the **MENU** key to cancel the operation and restart it from step ②.

**5** Enter the OFF time.

① Set the timer OFF time by pressing the MULTI CONTROL keys.

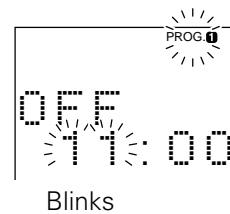
To advance the time     
 To put back the time   

② Press the SET key.

③ After entering the "hour" with the procedure in ① and ②, enter the "minute" using the same procedure.

① OFF time setting





- If you make a mistake in the middle, press the **MENU** key to cancel the operation and restart it from step ②.

**6** Make the desired reservation.

*For timer playback or AI timer playback*

① Press the MULTI CONTROL keys to select the timer mode.

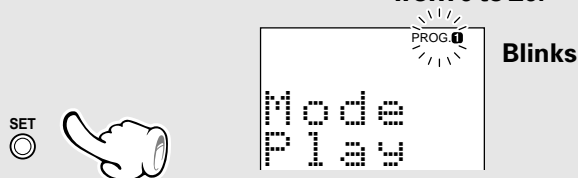
① Select "Play" or "AI Play".

**Play** ..... Timer playback at the volume used when power was turned off

**Rec**

**AI Play** ..... Timer playback with which the volume increases gradually from 0 to 20.





② Press the SET key.

Continued on next page

*For timer recording*

① Press the MULTI CONTROL keys to select the record mode.


 


① Select "Rec".

**Play**

**Rec**

**AI Play**



② Press the SET key.

Continued on next page

## 2 Select the input source.

### 1 Select the source to be played.



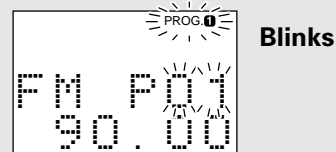
- TUNER ..... Broadcasts
- CD ..... CD (Finalized CD-R/RW)
- CDR ..... CD, CD-R/RW
- TAPE ..... Tape
- AUX ..... Auxiliary analog source
- D-AUX ..... Auxiliary digital source



### 2 Press the SET key.

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

### 1 Select the preset station No.



### 2 Press the SET key.

## 2 Select the input source.



### 1 Select the source to be recording.

- TUNER.. Broadcasts
- AUX ..... Auxiliary analog source
- D-AUX .. Auxiliary digital source

### 2 Press the SET key.

- If "Unlock" is displayed when D-AUX is selected, see "Displayed message list". → 85

When you select "D-AUX" or "AUX", go to step 4.

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



### 1 Select the preset station No.

### 2 Press the SET key.

## 4 Select the recording equipment.



- 1
  - CDR (CD recorder)
  - TAPE (Cassette deck)

- If you selected "D-AUX" in step 2, TAPE cannot be selected here.

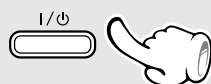
### 2 Press the SET key.

## 7 Set the program.

### 1 Press the TIMER key on the remote repeatedly until "PROG. 1", "PROG. 2" or "PROG. 1, 2" lights.



### 2 Press the I/⏻ key to switch the power OFF (standby). (The STANDBY/TIMER indicator lights in green.)



Each press switch the modes as follows.

- O.T.T.
- PROG.1
- PROG.2
- PROG.1, 2
- Goes off (OFF)

Now the program timer reservation is complete. Use the same procedure as above when you want to reserve a program timer operation in PROG.2.

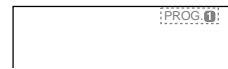
Ensure that the power is OFF.

### To cancel execution of a timer program (Remote control unit only)

Press the **TIMER** key repeatedly until "PROG.1" or "PROG.2" disappears.



Goes off



- The reservation contents are held in memory.

### To set the same timer program again (Remote control unit only)

Press the **TIMER** key repeatedly until "PROG.1" or "PROG.2" is displayed. To set both "PROG.1" and "PROG.2", press the key so that "PROG.1 2" lights.



Lights



- Also prepare the disc and adjust the listening volume.



- With timer recording, the audio is muted automatically at the moment the power is switched ON by the timer. → 23
- The reservation contents cannot be cleared. The contents are cleared only when they are changed.
- If the **STANDBY/TIMER** indicator blinks in green when the power is switched OFF (Standby), the timer will not be executed. In this case, set the clock again. → 19
- After the timer has been set and power is off (timer standby), if there is a power failure or the power cord is unplugged from and plugged again into the power outlet, the **STANDBY/TIMER** indicator blinks in green. In this case, set the clock again. → 19

### Sleep timer (SLEEP) (Remote control unit only)

The sleep timer is used to set the period after which the power will switch OFF automatically.

Press the **SLEEP** key during CD(CD-R/RW) or TAPE playback or during radio reception.



- Pressing the **SLEEP** key once allows you to check the remaining time.
- The unit is turned OFF automatically after the set time has elapsed.

- Each press increases the set time by 10 minutes. The sleep timer can be set up to about 90 minutes.

10 → 20 → 30 ... 70 → 80 → 90 → Cancel



The system has been set so that the display brightness drops automatically during the sleep timer operation. (Auto dimmer)

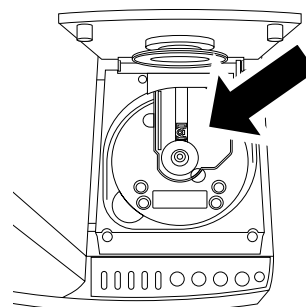
### To cancel

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

## Maintenance

### Care of lens

When the lens in the pick-up gets dirty, malfunctions including the impossibility of playback may occur. The lens should be cleaned using a commercially-available camera lens blower, etc. Do not touch the lens to prevent damaging the mechanism. Also do not use a lens cleaner or disc cleaner product.



### Cleaning the heads and peripheral components

For maintaining the best condition of the deck and for longer service life, always keep the heads, capstan and pinch roller clean. For the cleaning, use a cleaning cassette available in audio stores. For details, read the instruction manual of your cleaning cassette.

#### 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).

### Maintenance of the unit

When the front panel or case becomes dirty, wipe with a soft, dry cloth. Do not use thinner, benzine, alcohol, etc. for these agents may cause discoloration.

### In regard to contact cleaner

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.

### Note related to transportation and movement

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

#### ① Switch the power ON.

#### ② Remove all discs and tape from the unit.

- When **CD** ▶/||, **CD-R** ▶/||, or **TAPE** ◀▶ is pressed, make sure that the display becomes as shown below.

CD	CDR	TAPE
NoDisc	NoDisc	---

#### ③ Turn the power OFF.

- Do not unplug the power cord from the power outlet unless the power is switched off (STANDBY mode).



Be sure to remove the front door before transporting the unit.



### Memory backup function

Even after the power cord is unplugged from the wall outlet, the settings of the following items are held in memory.

#### Amplifier data

- "on/standby" status (ON or STANDBY)
- Last input selection
- Tone control levels (Bass, Mid, Treble)
- AUX input level
- Balance setting
- Rec Gain setting

#### Tuner data

- Auto/Manual setting
- Timer setting contents\*
- Auto Power Save setting

#### Cassette deck data

- Transport direction
- DOLBY NR
- Reverse mode

\* The Sleep timer is canceled.



## 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 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

### WARNING NOTICE:

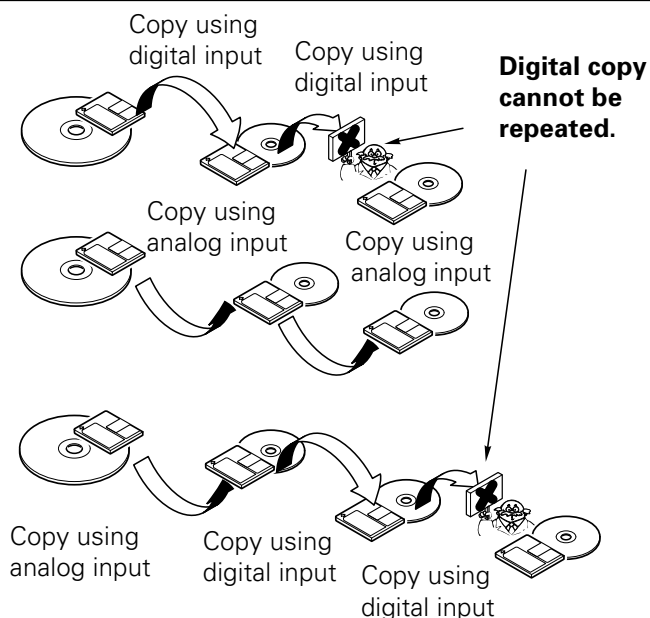
In most cases it is an infringement of copyright to make copies of tapes or discs without the permission of the copyright owners. Anyone wishing to copy commercially available tapes or disc should contact the mechanical copyright protection society limited or the performing rights society limited.

Dolby noise reduction manufactured under license from Dolby Laboratories. "DOLBY" and the double-D symbol are trademarks of Dolby Laboratories.

### Digital recording and SCMS

Designed for copyright protection, the SCMS is a prescription that copying of digital signals as they are in the digital form between digital audio equipment is allowable only for one generation.

Digital recording is not available with commercially marketed music software (CD, MD, etc.) containing the copy prohibit code.



### Sampling frequency

Three types of digital signals are usually used according to the sampling frequencies. The sampling frequencies vary depending on the types of digital equipment as shown below.

32 kHz : Standard and long-hour modes of DAT, etc.

44.1 kHz : Standard mode of DAT, CD, MD, etc.

48 kHz : Standard mode of DAT, etc.

(DAT : Digital Audio Tape deck)

In general, high-quality recording based on digital signal transmission is not possible unless the source and recorder components use the same sampling frequency.

This system incorporates a sampling rate converter so it can convert 32 kHz and 48 kHz digital signals to the sampling frequency of CD.

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 MENU key depressed, plug the power cord again.



## Amplifier section/Speakers

Symptom	Remedy
Sound is not produced.	<ul style="list-style-type: none"> <li>● Connect properly referring to "System connection". → 12 → 13</li> <li>● Adjust to an required volume.</li> <li>● Switch <b>MUTE</b> OFF. → 23</li> <li>● Unplug the headphone plug.</li> </ul>
The STANDBY/TIMER indicator blinks in red and no sound is put out.	<ul style="list-style-type: none"> <li>● A speaker cord is short-circuited. Turn power off and re-connect the speaker cord. → 12</li> </ul>
The STANDBY/TIMER indicator blinks in green.	<ul style="list-style-type: none"> <li>● Adjust the present time again. → 19</li> </ul>
No sound from the headphones.	<ul style="list-style-type: none"> <li>● Insert correctly. → 23</li> </ul>
Sound is not produced from the left or right speakers.	<ul style="list-style-type: none"> <li>● Connect properly referring to "System connection". → 12</li> <li>● Adjust the optimum left and right balance. → 23</li> </ul>
The clock display blinks without changing the figures.	<ul style="list-style-type: none"> <li>● Adjust the present time again. → 19</li> </ul>
Timer operation is not possible.	<ul style="list-style-type: none"> <li>● Adjust the present time referring to "Clock adjustment". → 19</li> <li>● Set properly the timer ON time and OFF time. → 75 → 77</li> <li>● Press the <b>TIMER</b> key to set up the execution. → 78 → 79</li> </ul>

## Tuner section

Symptom	Remedy
Radio stations cannot be received.	<ul style="list-style-type: none"> <li>● Connect antennas. → 11</li> <li>● Select a band. → 30 → 32</li> <li>● Tune to the frequency of the desired station. → 30 → 32</li> </ul>
Noise interferes.	<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 ◀▶ key.	<ul style="list-style-type: none"> <li>● Preset stations with tunable frequencies. → 31 → 32</li> </ul>

## Remote control unit

Symptom	Remedy
Remote control operation is not possible.	<ul style="list-style-type: none"> <li>● Replace with new batteries. → 17</li> <li>● Operate the unit inside the remote controllable range. → 17</li> </ul>

### Cassette deck

Symptom	Remedy
Sound cannot be produced by pressing the play key.	<ul style="list-style-type: none"> <li>● Clean the head referring to <b>"Maintenance"</b>. → 80</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>● Change the tape transport direction or reverse the tape insertion orientation. → 28 → 29</li> </ul>
Sound is harsh or high frequencies are not reproduced.	<ul style="list-style-type: none"> <li>● Clean the head referring to <b>"Maintenance"</b>. → 80</li> <li>● Try another tape.</li> </ul>
Sound is distorted.	<ul style="list-style-type: none"> <li>● Adjust the AUX input level (<b>AUX Input, Rec Gain</b>). → 42</li> </ul>
Noise is noticeable.	<ul style="list-style-type: none"> <li>● Demagnetize the head referring to <b>"Maintenance"</b>. → 80</li> <li>● Install the system at a distance from other electric appliances and TV.</li> <li>● Set the <b>"DOLBY NR"</b> to on. → 29</li> </ul>
Sound vibrates.	<ul style="list-style-type: none"> <li>● Clean the head referring to <b>"Maintenance"</b>. → 80</li> <li>● Wind the tape again by fast forwarding, rewinding or playing from an end to the other. → 29</li> </ul>
Recording cannot be started by pressing the record key.	<ul style="list-style-type: none"> <li>● Use a cassette with an unbroken recording protect tab or block the hole. → 10</li> <li>● Set the input selector to the source to be recorded. → 41</li> <li>● Change the tape transport direction or reverse the tape insertion orientation. → 28 → 29</li> </ul>


### CD player section

Symptom	Remedy
A CD is placed in the player but it cannot be played.	<ul style="list-style-type: none"> <li>● Place the disc properly, with the label side facing upward.</li> <li>● Clean the disc referring to <b>"Disc handling precautions"</b>. → 9</li> <li>● Refer to <b>"Caution on condensation"</b> and remove the condensation by evaporation. → 81</li> <li>● If the disc is a CD-R/RW, finalize it. → 70</li> </ul>
Sound is not produced.	<ul style="list-style-type: none"> <li>● Press the <b>CD ▶/II</b> key.</li> <li>● Clean the disc referring to <b>"Disc handling precautions"</b>. → 9</li> </ul>
Sound skips.	<ul style="list-style-type: none"> <li>● Clean the disc referring to <b>"Disc handling precautions"</b>. → 9</li> <li>● Install the unit in a place not subject to vibrations.</li> </ul>

**CD recorder section**

Symptom	Remedy
A CD is placed in the player but it cannot be played.	<ul style="list-style-type: none"> <li>Place the disc properly, with the label side facing upward.</li> <li>Clean the disc referring to "Disc handling precautions". → 9</li> <li>Refer to "Caution on condensation" and remove the condensation by evaporation. → 81</li> <li>Load a recorded disc.</li> </ul>
Sound is not produced.	<ul style="list-style-type: none"> <li>Press the <b>CD ▶/  </b> key.</li> <li>Clean the disc referring to "Disc handling precautions". → 9</li> </ul>
Sound skips.	<ul style="list-style-type: none"> <li>Clean the disc referring to "Disc handling precautions". → 9</li> <li>Install the unit in a place not subject to vibrations.</li> </ul>
Sound is distorted.	<ul style="list-style-type: none"> <li>Adjust the AUX input level (<b>AUX Input, Rec Gain</b>). → 39</li> </ul>
Recording is not possible.	<ul style="list-style-type: none"> <li>Clean the disc referring to "Disc handling precautions". → 9</li> <li>Load a recordable disc. → 7 → 8</li> <li>Unfinalizing a disc (CD-RW only) → 71</li> <li>Adjust the AUX input level (<b>AUX Input, Rec Gain</b>). → 39</li> <li>Set the input selector to the source to be recorded.</li> <li>Digital-to-digital recording is not possible when "SCMS" is displayed. → 81</li> </ul>
The track number increments incorrectly or does not increment (during external source recording).	<ul style="list-style-type: none"> <li>Adjust the AUX input level (<b>AUX Input, Rec Gain</b>). → 39</li> <li>Adjust the blank detection level (<b>Cut Lv.</b>). → 45</li> <li>Set track marking (<b>T. Mark</b>) to "Manual". → 44</li> <li>Use digital-to-digital recording if this is possible.</li> </ul>
Noise is noticeable.	<ul style="list-style-type: none"> <li>Install the unit at a position apart from an electric appliance or TV set.</li> </ul>
"TNO Full" is displayed while the disc still has a remaining recordable time.	<ul style="list-style-type: none"> <li>More than 100 tracks (track No. 100 or more) cannot be recorded. (There may be also cases in which recording is impossible while the track number is less than 99.) In such a case, the REMAIN time display shows "0:00".</li> </ul>
The time which has been recorded on the CD-R/RW and the remaining time do not add up to the maximum recording time (74 min.).	<ul style="list-style-type: none"> <li>As recording is executed with 4 sec. as the minimum unit, the display time may not coincide.</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>
The CD-R IN indicator blinks for an abnormally long period.	<ul style="list-style-type: none"> <li>The indicator blinks for a longer period than usual when an unused CD-R/RW or a CD-RW experiencing unfinalization is loaded.</li> </ul>



## Common messages

Displayed Message	Meaning	Action
Not Audio	<ul style="list-style-type: none"> <li>The disc or input signal is incompatible with this system.</li> </ul>	<ul style="list-style-type: none"> <li>This is a normal operation.</li> </ul>
Reading...	<ul style="list-style-type: none"> <li>The system is reading the TOC and other disc data.</li> </ul>	<ul style="list-style-type: none"> <li>This is a normal operation.</li> </ul>
Unlock	<ul style="list-style-type: none"> <li>The auxiliary digital source is not connected properly.</li> </ul>	<ul style="list-style-type: none"> <li>Connect properly referring to "<b>System connection</b>". </li> </ul>
CD ReWritable Disc	<ul style="list-style-type: none"> <li>An attempt is made to perform high-speed recording from a CD-RW.</li> </ul>	<ul style="list-style-type: none"> <li>Use the normal-speed recording.</li> </ul>

## CD player messages

Displayed Message	Meaning	Action
No Disc	<ul style="list-style-type: none"> <li>No disc is placed on the tray.</li> <li>The loaded disc is not finalized.</li> </ul>	<ul style="list-style-type: none"> <li>Load a disc.</li> <li>Load a finalized disc.</li> </ul>
--:--	<ul style="list-style-type: none"> <li>The <b>TOC*</b> data cannot be read out.</li> </ul>	<ul style="list-style-type: none"> <li>Play another disc.</li> </ul>



## CD recorder messages

Displayed Message	Meaning	Action
No Disc	<ul style="list-style-type: none"> <li>No disc is placed on the tray.</li> </ul>	<ul style="list-style-type: none"> <li>Load a disc.</li> </ul>
Disc Full	<ul style="list-style-type: none"> <li>The disc does not have enough recordable space.</li> </ul>	<ul style="list-style-type: none"> <li>Use a disc containing enough recording space.</li> </ul>
SCMS	<ul style="list-style-type: none"> <li>An attempt is made to record the digital signal from a source the digital copy of which is prohibited by SCMS.</li> </ul>	<ul style="list-style-type: none"> <li>Record the analog input from the source. </li> </ul>
Writing...	<ul style="list-style-type: none"> <li>The system is writing data on processing, setting, etc.</li> </ul>	<ul style="list-style-type: none"> <li>This is a normal operation.</li> </ul>
Ok? (blinking)	<ul style="list-style-type: none"> <li>Confirmation if "processing can be executed".</li> </ul>	<ul style="list-style-type: none"> <li>Press the <b>ENTER</b> key to execute the processing.</li> </ul>
Wait xx min.	<ul style="list-style-type: none"> <li>An attempt is made to record a track in high-speed recording within 74 minutes after the last high-speed recording.</li> </ul>	<ul style="list-style-type: none"> <li>Start high-speed recording after the displayed time has elapsed or record the CD with normal-speed recording.</li> </ul>
Sorry Buffer Over	<ul style="list-style-type: none"> <li>An attempt is made to record more than 200 tracks in a CD in high-speed recording within 74 minutes after the high-speed recording.</li> </ul>	<ul style="list-style-type: none"> <li>Start high-speed recording after the displayed time has elapsed or record the CD with normal-speed recording.</li> </ul>
Pro. Disc	<ul style="list-style-type: none"> <li>The disc is not a CD-R/RW for music.</li> </ul>	<ul style="list-style-type: none"> <li>Use a music CD-R/RW. </li> </ul>

*Continued on next page*

\* TOC ..... Any CD-R/RW contains the recording of TOC (Table Of Contents) data in addition to audio signals. The TOC contains the non-rewritable data among that on the tracks, playing time and text data.

## CD recorder messages

Displayed Message	Meaning	Action
PCA Full	<ul style="list-style-type: none"> <li>Additional recording is not available because the disc does not contain the <b>PCA*1</b> which is the area where <b>OPC*1</b> is applied.</li> </ul>	<ul style="list-style-type: none"> <li>Use a recordable disc.</li> </ul>
PMA Full	<ul style="list-style-type: none"> <li>Additional recording is not available because the disc does not contain the <b>PMA*3</b> which is the area for temporarily writing the <b>TOC data*2</b>.</li> </ul>	<ul style="list-style-type: none"> <li>Use a recordable disc. (With a CD-RW, additional recording may become possible by finalizing then unfinalizing the disc.)</li> </ul>
Skip Full	<ul style="list-style-type: none"> <li>The maximum number of skip registration writing is about to be exceeded.</li> </ul>	<ul style="list-style-type: none"> <li>It is not permitted to write Skip Play registration for more than <b>22</b> times.</li> </ul>
TNO Full	<ul style="list-style-type: none"> <li>An attempt is made to record the 100th track in the disc.</li> </ul>	<ul style="list-style-type: none"> <li>It is not permitted to record 100 or more tracks in a disc.</li> </ul>
Ready	<ul style="list-style-type: none"> <li>The system is entering record or record-pause mode or is preparing for finalization, unfinalization or erasure.</li> </ul>	<ul style="list-style-type: none"> <li>This is a normal operation.</li> </ul>
Finalized Disc	<ul style="list-style-type: none"> <li>An attempt is made to finalize or record onto a finalized disc.</li> </ul>	<ul style="list-style-type: none"> <li>Recording is not available with a finalized CD-R. If additional recording on a CD-RW is required, the disc should be unfinalized before recording. <b>"Unfinalizing a CD-RW (UNFINALIZE)"</b> </li> </ul>
Unfinalize Disc	<ul style="list-style-type: none"> <li>An attempt is made to perform repeated playback with a non-finalized disc.</li> </ul>	<ul style="list-style-type: none"> <li>Repeated playback is not available with a non-finalized disc. Finalize the disc before performing its repeated playback. <b>"Finalizing a CD-R/RW (FINALIZE)"</b> </li> </ul>
Play Only	<ul style="list-style-type: none"> <li>The loaded disc is a playback-only disc.</li> </ul>	<ul style="list-style-type: none"> <li>Use a recordable CD-R/RW.</li> </ul>
Rec Only	<ul style="list-style-type: none"> <li>An attempt is made to erase a CD-R.</li> </ul>	<ul style="list-style-type: none"> <li>The CD-R cannot be erased.</li> </ul>
DAO Disc	<ul style="list-style-type: none"> <li>An attempt is made to unfinalize a disc which was been recorded in the <b>DAO*4</b> format on other equipment.</li> </ul>	<ul style="list-style-type: none"> <li>This system cannot unfinalize such discs.</li> </ul>


**\*1 OPC and PCA** : When a disc which has not been finalized is loaded in the CD recorder, it perform test writing in a specific area in the disc in order to calculate the optimum laser irradiation intensity and time for the disc. This operation is referred to as the OPC (Optimum Power Control) processing and the area in which test writing is performed is referred to as PCA (Power Calibration Area).

**\*2 TOC** : Any CD-R/RW contains the recording of TOC (Table Of Contents) data in addition to audio signals. The TOC contains the non-rewritable data among that on the tracks, playing time and text data.

**\*3 PMA** : With a CD-R/RW which is not finalized, the TOC data is temporarily written in a specific area in the disc. The area in which the temporary writing is performed is referred to as PMA (Program Memory Area). Additional writing in the PMA is performed every time recording or Skip Play registration is made on the disc.

**\*4 DAO** : The DAO (Disc At Once) method is a recording formats with which all data are written in batch in order of lead-in, data then lead-out. With this format, additional recording of data (in the unused area of disc) is not possible.

**CD recorder messages**

Displayed Message	Meaning	Action
<b>Rec Error</b>	<ul style="list-style-type: none"> <li>● A trouble occurred during recording. Recording is not possible due to a scratch, contamination or characteristics of the disc.</li> </ul>	<ul style="list-style-type: none"> <li>● Use a recordable disc. Take out the disc and insert it again. Clean the disc.</li> </ul>
<b>Mecha Error</b>	<ul style="list-style-type: none"> <li>● A mechanical trouble occurred. Playback or recording is not possible due to a scratch, contamination or characteristics of the disc.</li> </ul>	<ul style="list-style-type: none"> <li>● Take out the disc and insert it again. Clean the disc. Change the disc.</li> </ul>
<b>Disc Error</b>	<ul style="list-style-type: none"> <li>● Playback or recording is not possible due to a scratch, contamination or characteristics of the disc.</li> </ul>	<ul style="list-style-type: none"> <li>● Take out the disc and insert it again. Clean the disc. Change the disc.</li> </ul>
<b>Blank Disc</b>	<ul style="list-style-type: none"> <li>● The CD-R/RW with no recording is loaded.</li> </ul>	<ul style="list-style-type: none"> <li>● If you want to play a disc, use a recorded CD-R/RW.</li> </ul>
<b>OPC</b>	<ul style="list-style-type: none"> <li>● The <b>OPC*</b> processing is being executed. → </li> </ul>	<ul style="list-style-type: none"> <li>● This is a normal operation.</li> </ul>
<b>OPC Error</b>	<ul style="list-style-type: none"> <li>● A trouble occurred during <b>OPC*</b> processing. Recording is not possible due to a scratch, contamination or characteristics of the disc.</li> </ul>	<ul style="list-style-type: none"> <li>● Take out the disc and insert it again. Clean the disc. Use a recordable disc.</li> </ul>
<b>XXX &lt;&lt;&lt;&lt;</b>	<ul style="list-style-type: none"> <li>● A title containing 24 or more characters is input.</li> </ul>	<ul style="list-style-type: none"> <li>● The maximum number of title or text characters that can be displayed is 23.</li> </ul>

\* **OPC and PCA** : When a disc which has not been finalized is loaded in the CD recorder, it perform test writing in a specific area in the disc in order to calculate the optimum laser irradiation intensity and time for the disc. This operation is referred to as the **OPC (Optimum Power Control)** processing and the area in which test writing is performed is referred to as **PCA (Power Calibration Area)**.

**Main unit****[Amplifier section]**

Rated output power during STEREO operation	
1 kHz, 1.0 % T.H.D., at 6 $\Omega$ .....	15 W + 15 W
Effective output power during STEREO operation	
1 kHz, 10 % T.H.D., at 6 $\Omega$ .....	20 W + 20 W
Signal to noise ratio	
AUX .....	90 dB (IHF '66)
Input sensitivity / impedance	
AUX .....	180 mV/47 k $\Omega$
Output level / impedance	
AUX .....	180 mV/100 $\Omega$
SUB WOOFER PREOUT .....	1.7 V / 620 $\Omega$

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

Tuning frequency range ..... 87.5 MHz ~ 108 MHz

**MW (AM) tuner section**

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

**[CD player section]**

Laser .....	Semiconductor laser
D/A Conversion .....	1 Bit
Oversampling .....	8 fs (352.8 kHz)
Frequency response .....	20 Hz~20 kHz $\pm$ 1 dB
Wow and flutter .....	Less than unmeasurable limit
Laser wave length .....	775 to 815 nm
Laser power class .....	Class 1

**[CD recorder section]**

Laser .....	Semiconductor laser
D/A Conversion .....	1 Bit
Oversampling .....	8 fs (352.8 kHz)
Frequency response .....	20 Hz~20 kHz $\pm$ 1 dB
Sampling frequency .....	44.1 kHz
Wow and flutter .....	Less than unmeasurable limit
Laser wave length .....	780 to 790 nm
Laser power class .....	Class 3B



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).

**[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
Wow and flutter .....	0.15 % (W.R.M.S.)
Fast winding time .....	Approx. 110 seconds (C-60 tape)
Dolby NR .....	Dolby B

**[General]**

Power consumption .....	55 W
Dimensions .....	W : 243 mm (9-9/16") H : 284 mm (11-3/16") D : 310 mm (12-3/16")
Weight (net) .....	6.3 kg (13.9 lb)

**Speakers**

Enclosure .....	Bass-reflex type
Speaker configuration	
Woofer .....	100 mm, cone type
Tweeter .....	19 mm, dome type
Impedance .....	6 $\Omega$
Maximum input level .....	20 W
Dimensions .....	W : 133 mm (5-1/4") H : 277 mm (10-7/8") D : 224 mm (8-13/16")
Weight (net) .....	2.9 kg (6.4 lb) (1 piece)

# 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 \_\_\_\_\_