

# KENWOOD

UD COMPONENT SYSTEM/COMPACT HI-FI SYSTEM

## UD-405

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### INSTRUCTION MANUAL

KENWOOD CORPORATION



B60-2588-10 (SD) (KP) AP  
97/12 11 10 9 8 7 6 5 4 3 2 1 96/12 11 10 9 8 7 6 5 4 3 2 1

# 2 Before applying power

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

JD-425 (EN)

Units are designed for operation as follows.

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

## For the United Kingdom

### Factory fitted moulded mains plug

1. The mains plug contains a fuse. For replacement, use only a 13-Amp ASTA-approved (BS1362) fuse.
2. The fuse cover must be refitted when replacing the fuse in the moulded plug.
3. Do not cut off the mains plug from this equipment. If the plug fitted is not suitable for the power points in your home or the cable is too short to reach a power point, then obtain an appropriate safety approved extension lead or adapter, or consult your dealer.  
If nonetheless the mains plug is cut off, remove the fuse and dispose of the plug immediately, to avoid a possible shock hazard by inadvertent connection to the mains supply.

**IMPORTANT:** The wires in the mains lead are coloured in accordance with the following code:

Blue : Neutral  
Brown : Live

Do not connect those leads to the earth terminal of a three-pin plug.

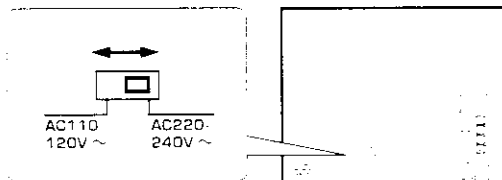
## For other countries

### \*AC voltage selection

The AC voltage selector switch on the rear panel is set to the voltage that prevails in the area to which the unit is shipped. Before connecting the power cord to your AC outlet, make sure that the setting position of this switch matches your line voltage. If not, it must be set to your voltage in accordance with the following direction.

#### AC voltage selector switch

Move switch lever to match your line voltage with a small screwdriver or other pointed tool.



**Note**  
Our warranty does not cover damage caused by excessive line voltage due to improper setting of the AC voltage selector switch.

## Safety precautions

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



### CAUTION

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  
(Except for some areas)*

**CLASS 1  
LASER PRODUCT**

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

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Preparation section

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### Easy operation

Nearly all operations for CD, tuner, and cassette deck can be done just with the self-illuminated basic operation keys. (Color keyed function control).

### Dynamic rotary volume control

When adjusting the volume, fast turning of the volume control produces a larger volume change for the same angle of rotation of the VOLUME CONTROL knob. Slow turning produces a small volume change, thus permitting fine adjustment.

### 3-Disc carousel CD player

- 16

Three discs can be set. There are various ways for enjoyment at the time of program playback, repeat playback, random playback, etc.

### One-touch edit

- 35 - 36

One-touch recording of only a single title or the entire CD is possible while listening to a CD.

### Versatile tone and sound field adjustment

- 40 - 41

Equalizer patterns can not only be selected from preset patterns, but patterns also can be created and registered. It is possible to recreate a feeling of presence and to recreate a sound field.

### Karaoke also can be enjoyed.

- 42

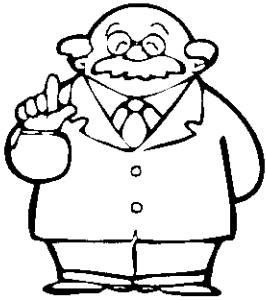
When the HIT MASTER function is used with mic mixing, normal CDs and tapes with voice recorded on them can be used as Karaoke software.

### Simple operation timer

- 45

Wake-up timer and sleep timer setting is simple. There are also two types of program timers operating every day.

Preparation section



### Unpacking

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

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

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

### Accessories

FM indoor antenna (1)



Speaker cords (2)



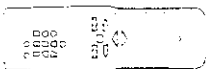
AM loop antenna (1)



Loop antenna stand (1)



Remote control unit (1)



Batteries (R6/AA) (2)



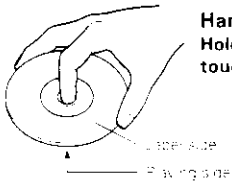
Insulators (8)



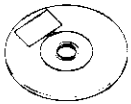
\*

\* Please attach to the speaker bottom.

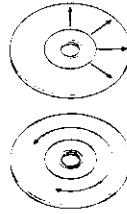
## Disc handling precautions



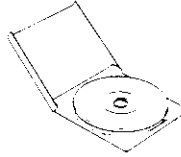
**Handling**  
Hold compact discs so that you do not touch the playing surface.



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



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



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

## Caution on disc used



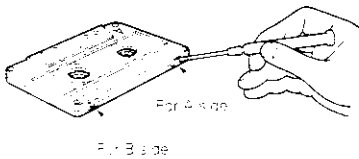
Never play cracked or warped disc. During playback, the disc rotates at high speed in the player. Therefore, to avoid malfunction, never use a cracked or deformed disc or a disc repaired with tape or adhesive agent.

## Discs which can be played with this unit

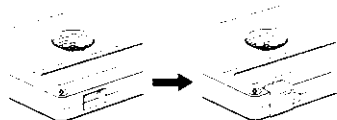
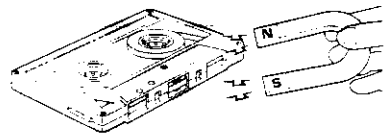
- CD (12 cm, 8 cm), CDV (only the audio part)
- With CD-R, CD-Rewritable discs, this unit can play only the audio.

## 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.

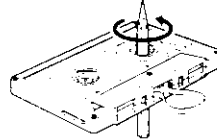


**To store cassette tapes**  
do not store the tapes in a place which is subject to direct sunlight, or near equipment that generates heat. Keep the cassette tapes away from any magnetic field.



**To re-record** Apply tape only to the position where the tab has been removed.

**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. 110/120-minute cassette tape  
Since a 110/120-minute cassette tape is very thin, the tape could adhere to the pinch roller or be easily broken. It is recommended that these tapes not be used with this unit to prevent possible damage.

2. Erasure tab  
Do not use an erasure tab, as this could damage the mechanism of the unit.

# 6 System connection

UD-405 (En)

## Connection of the System Accessories

This is the connection method for system and accessories. Please look carefully at the illustration and connect correctly in the order of the numbers.

### Malfunction of microcomputer

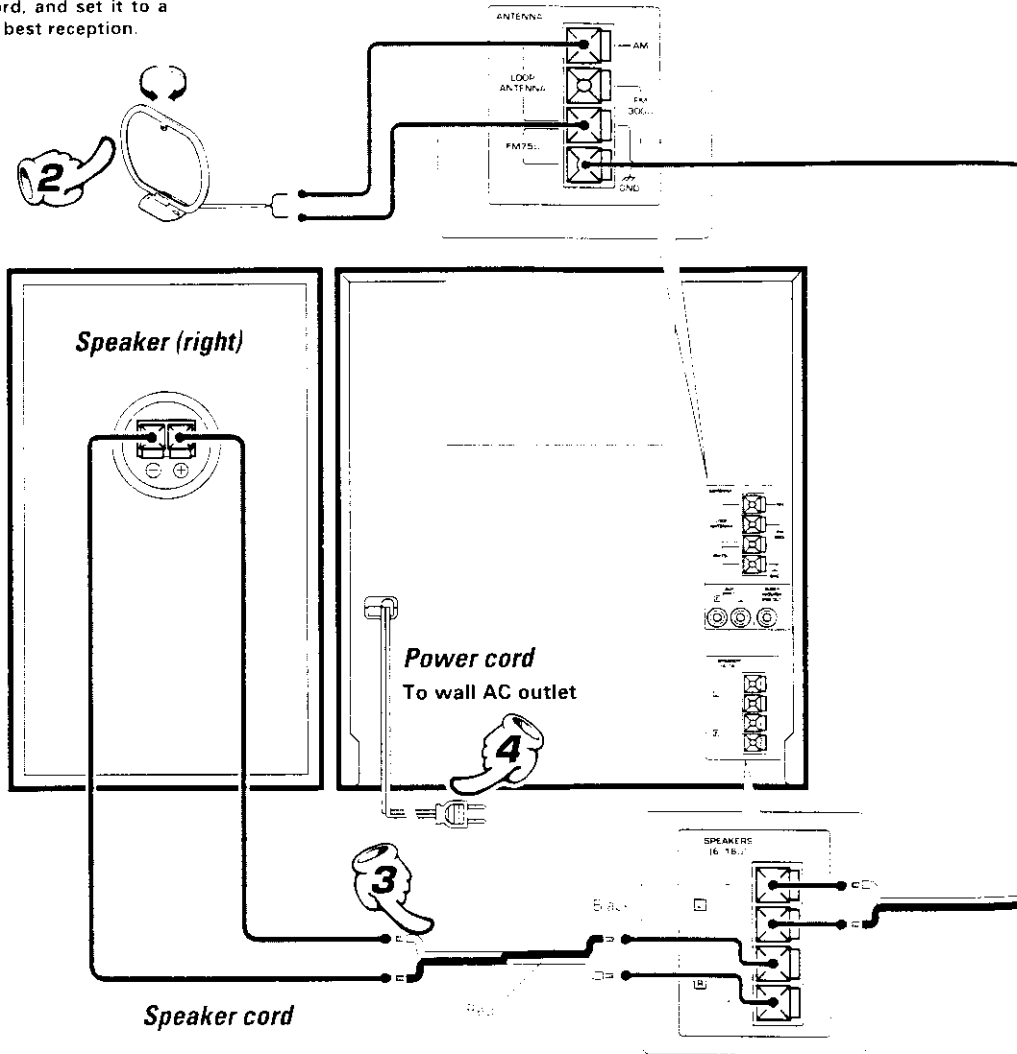
If operation is not possible or erroneous display appears even though all connections have been made properly, reset the microcomputer referring to "In case of difficulty".



- 50

### AM loop antenna

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



### Main Unit



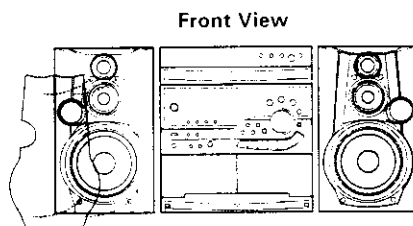
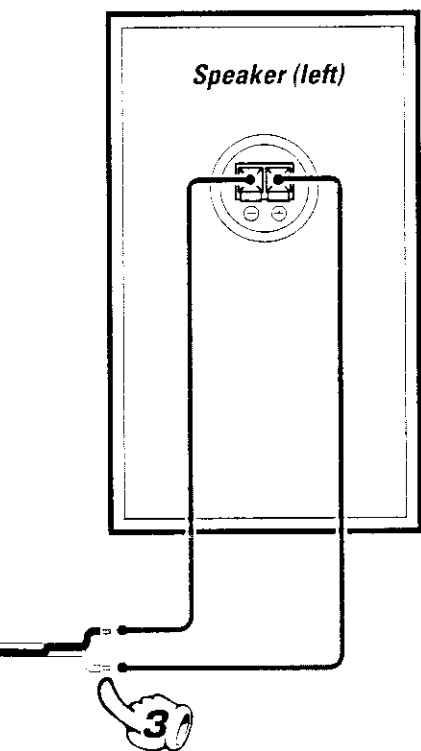
Preparation section



### FM indoor antenna

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

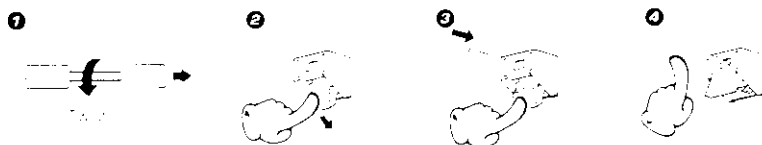
- ① Strip the coating from the tip of cord and twist the conductor.
- ② Locate the position providing good reception condition.
- ③ Fix the antenna.



1. In case an associated system component is connected, also read the instruction manual of the component.
2. Never short-circuit the + and - speaker cords.
3. If the left and right speaker connections or the + and - polarity are inverted, the sound will be unnatural with unclear positioning of musical instruments, etc. Be sure to connect them without mistake.



### Speaker Unit

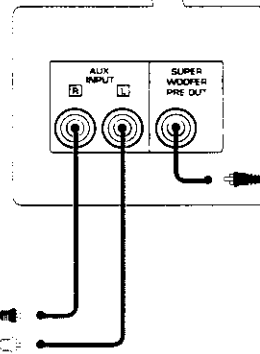
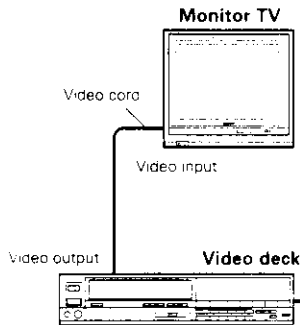
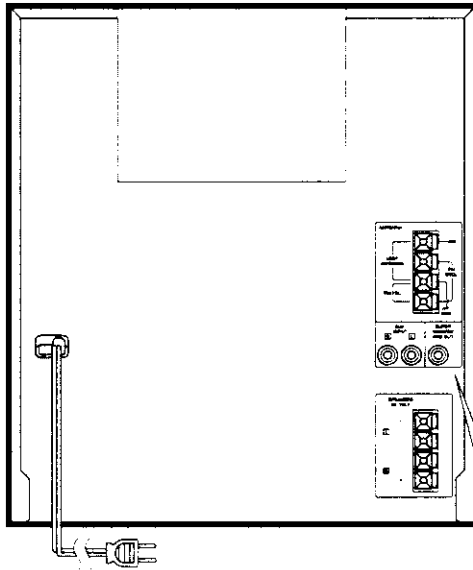


1. Be sure to insert all connection cords securely. If their connections are imperfect, the sound may not be produced or noise may interfere.
2. Before plugging or unplugging a connection cord, be sure to unplug the power cord from the wall AC outlet. If connection cords are plugged or unplugged with the power cord left plugged in, malfunction or damage may result.

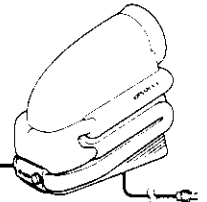
# Connection of Options (Optional Parts)

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

Preparation section



**Super woofer (SW-500)**  
Extremely low sound is played back powerfully. This can be used with any type of playback.



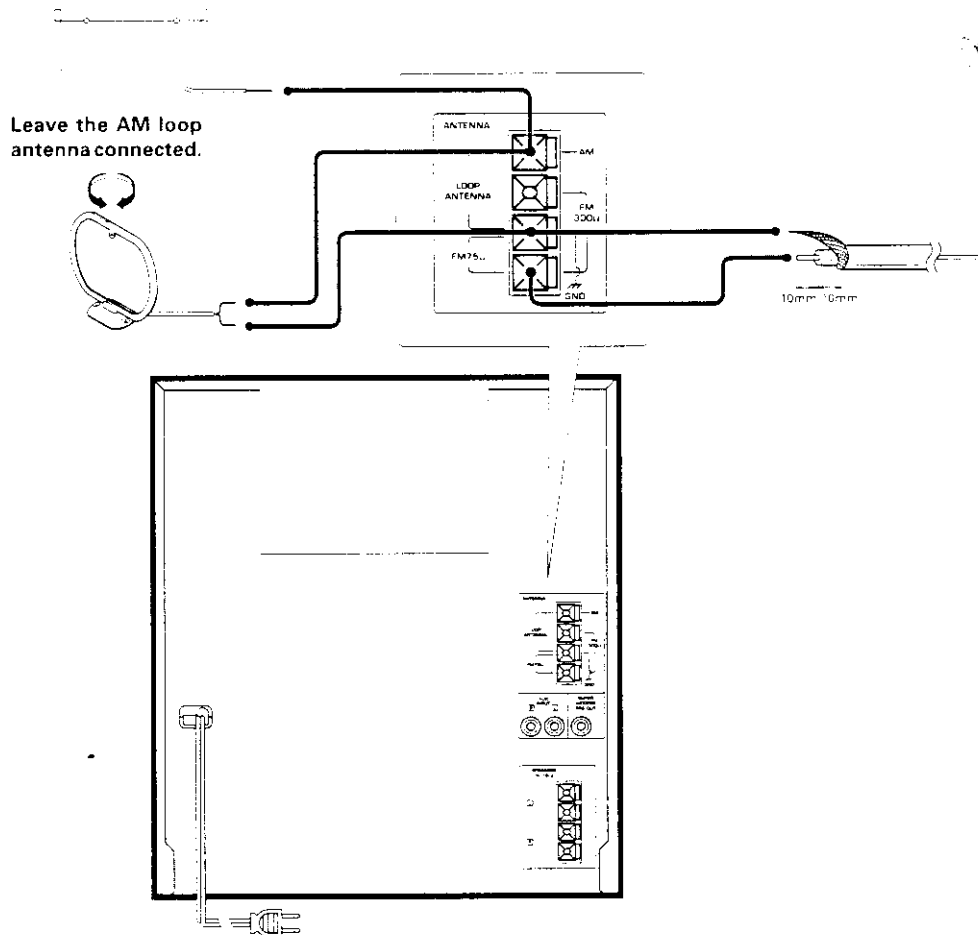


### AM outdoor antenna

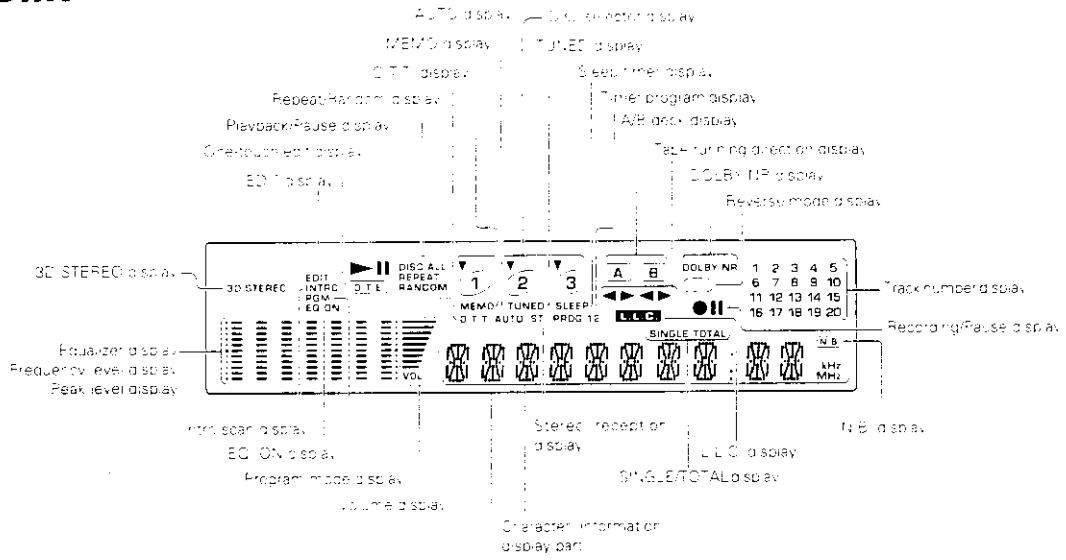
If the reception is poor when the AM loop antenna is used, distribute a vinyl-coated wire of more than 6 meters outdoors, without disconnecting the loop antenna.

### FM outdoor antenna

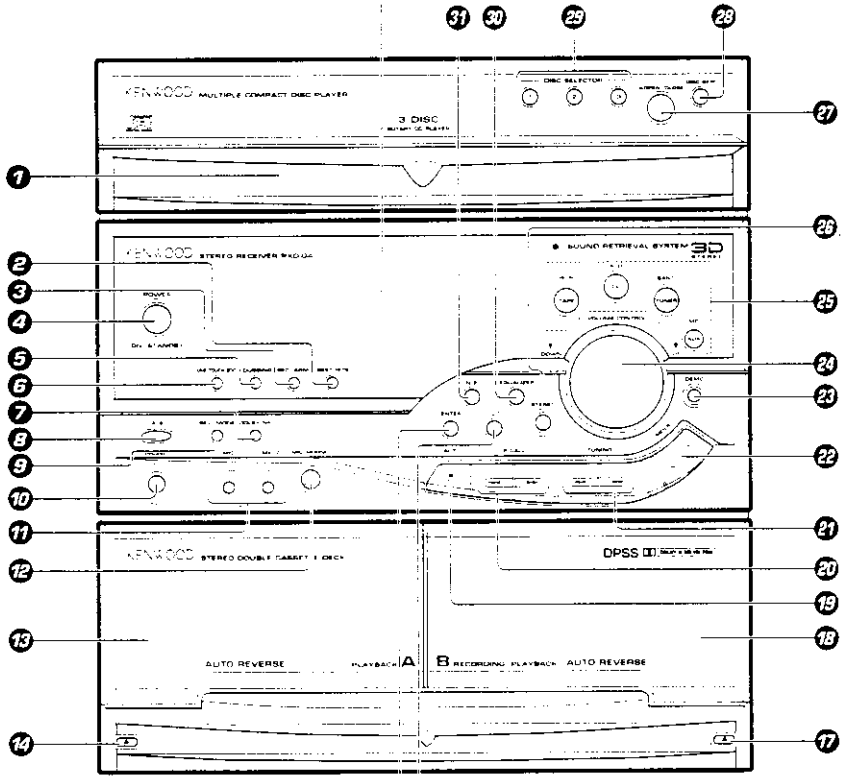
Lead the 75Ω coaxial cable connected to the FM outdoor antenna into the room and connect it to the FM 75Ω terminal.



# Main Unit



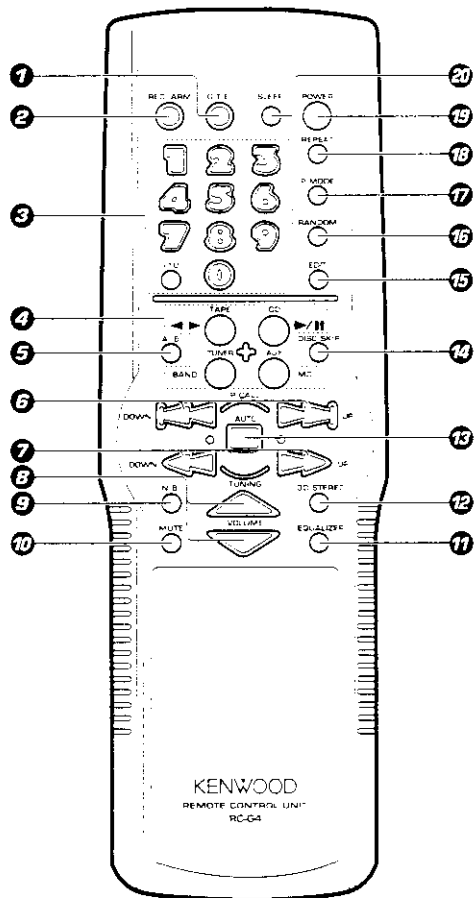
Display



Preparation section

- 1 Disc tray** → 16  
Three discs can be stored.
- 2 BEST HITS key** → 37  
Recording of one title of each stored CD in sequence on tape.
- 3 REC/ARM key** → 25  
Recording is started. When this switch is pressed during recording, an unrecorded (blank) portion of about 4 sec is produced and then the tape stops.
- 4 POWER key** → 14  
Power ON/OFF switching is executed.
- 5 DUBBING key** → 27  
The contents of the tape of the A deck are copied to the tape of the B deck.
- 6 ONE TOUCH EDIT key** → 34  
When this key is pressed during CD playback, only the title being played at that time will be recorded on tape. When this key is pressed during stop, the CD selected at that time will be recorded on tape from the first title onward.
- 7 DOLBY NR key** → 19  
Dolby noise reduction ON/OFF switching is executed.
- 8 A/B key** → 15 → 18  
The deck to be operated is selected. At the time of power OFF, power save ON/OFF is switched.
- 9 REV. MODE key** → 19  
The reverse mode of the deck, both sides, repeated, one side is switched.
- 10 PHONES terminal** → 15  
For connection of a headphone (optional).
- 11 MIC 1, MIC 2 terminal** → 42  
For connection of a microphone (optional).
- 12 MIC MIXING knob** → 42  
At the time of microphone, the balance between the voice signal from the microphone and the playback signal is adjusted.
- 13 A deck cassette holder**
- 14 A deck eject (▲) key**  
This is used to open the cassette holder at the time of cassette holder removal and insertion.
- 15 ENTER key** → 44  
Used for time setting, timer setting, etc.
- 16 L.L.C. (Listening Level Control) key** → 39  
The level for quiet listening can be set in advance, and one-touch switching is possible.
- 17 B deck eject (▲) key**
- 18 B deck cassette holder**
- 19 AUTO (■) key**  
For CD, TAPE: Used as the STOP key.  
For TUNER: Used as AUTO key for tuning mode switching.  
At the time of power OFF: Used for time setting.
- 20 P.CALL (◀◀▶▶) key**  
For CD: Used as SKIP key.  
For TAPE: Used for skip title selection.  
For TUNER: Used as the P.CALL key for selection of preset stations.
- 21 TUNING (◀▶▶▶) key**  
For CD, TAPE: Used as fast forward and rapid reverse key.  
For TUNER: Used as TUNING key to tune in to stations.
- 22 MODE key** → 38  
This key switches the function of the VOLUME CONTROL knob. The items which can be selected differ according to the status at that time.
- 23 DEMO key** → 40  
Demonstration ON/OFF is switched.
- 24 VOLUME CONTROL knob** → 14  
Normally this is used for volume adjustment. Depending on the purpose, the function can be switched with the MODE key.
- 25 Input selector keys** → 14  
The input source is selected. When a key other than V.D./AUX is pressed while the power is OFF, the power is switched on automatically. When TAPE or CD has been selected and a tape or a disc has been set, playback will start automatically. When the ◀▶ TAPE key is pressed during tape playback, the tape running direction is reversed.
- 26 3D STEREO key** → 41  
3D STEREO ON/OFF is switched.
- 27 OPEN/CLOSE (▲) key** → 16  
The disc tray is opened and closed.
- 28 DISC SKIP key** → 17  
The disc for playback (or recording) is selected. This is also used for insertion of a CD to the inside of the disc tray.
- 29 DISC SELECTOR key** → 17  
The disc for playback (or recording) is selected.
- 30 EQUALIZER key** → 40  
The equalizer effect is switched ON/OFF and the type of equalizer effect is selected.
- 31 N.B. key** → 15  
The low sounds are compensated at the time of listening at low volumes.

# Remote control Unit

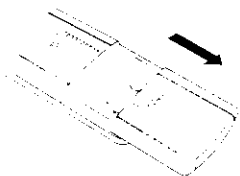


- ① **O.T.E. key** — 34  
This key has the same function as the **ONE TOUCH EDIT** key on the main unit.
- ② **REC/ARM key** — 25
- ③ **Number keys** — 17  
Used as number keys when the input is switched to CD.
- ④ **Input selector keys** — 14
- ⑤ **A/B key** — 15 — 18
- ⑥ **P.CALL (Preset Call) (◀◀▶▶) keys**
- ⑦ **TUNING (◀▶) keys**
- ⑧ **VOLUME keys** — 14  
This has the same function as the **VOLUME CONTROL** knob on the main unit. However, the **AI VOLUME** function does not operate.
- ⑨ **N.B. key** — 15
- ⑩ **MUTE key** — 15  
This is used to mute the sound temporarily.
- ⑪ **EQUALIZER key** — 40
- ⑫ **3D STEREO key** — 41
- ⑬ **AUTO (■) key**
- ⑭ **DISC SKIP key** — 17
- ⑮ **EDIT key** — 34  
Used for CD edit recording or time edit recording.
- ⑯ **RANDOM key** — 32  
For CD playback, switching is executed between introduction searching, random playback, and normal playback.
- ⑰ **P.MODE key** — 28  
Used to program the CD playback sequence.
- ⑱ **REPEAT key** — 30  
Used for repeated playback of a CD.
- ⑲ **POWER key** — 14
- ⑳ **SLEEP key** — 45  
Use to set the sleep timer.

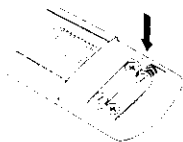
The keys on the remote control unit with the same names as on the main unit have the same function as the keys on the main unit.

## Loading batteries

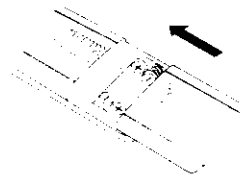
① Remove the cover.



② Insert batteries.



③ Close the cover.

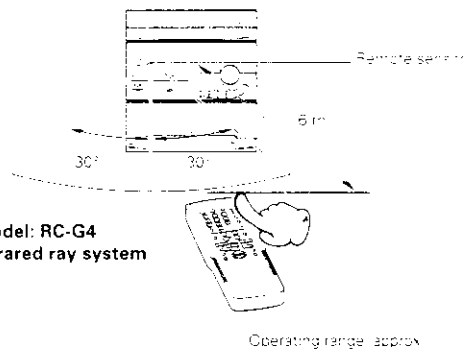


● Insert two R6 (AA)-size batteries following the polarity indications.

## Operation

After plugging the power cord of this unit, press the **POWER** key of the remote control unit to turn the power of the system **ON**. When the power is turned **ON**, press the key of the function to be operated.

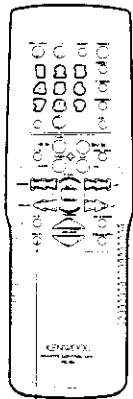
- When pressing more than one remote control keys successively, press the keys securely by leaving an interval of 1 second or more between keys.



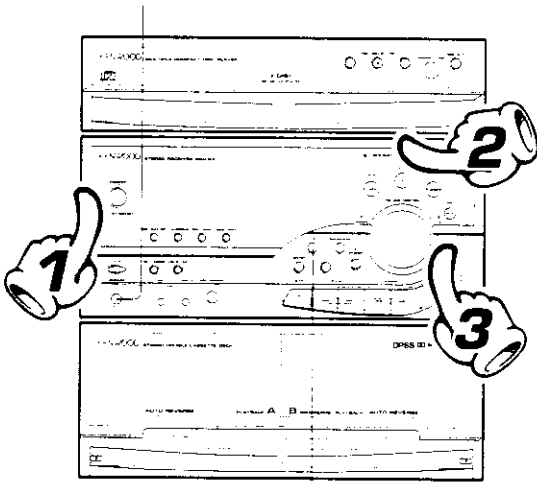
1. The provided batteries are intended for use in operation checking, and their service life may be short.
2. When the remote controllable distance becomes short, replace both of the batteries with new ones.
3. If direct sunlight or the light of a high-frequency fluorescent lamp (inverter type, etc.)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

# Basic use method

## Listening through headphones

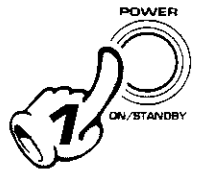


Muting the sound temporarily



Bass compensation

Press the POWER key.

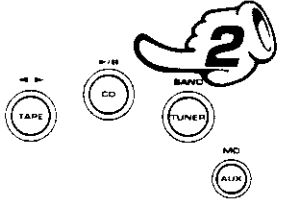


### 1. Switching the power ON (OFF)

The power is also switched on when an input selector key (CD, TAPE, TUNER, etc.) is pressed. When the POWER key is pressed while the power is ON, the power will be switched OFF.

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

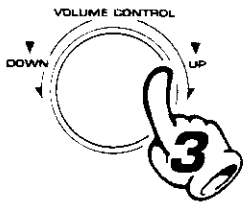
### 2. Selecting the desired output



CD	- 16
Tape	- 18
Broadcasts	- 22

- When CD or TAPE is selected, playback will start when a disc or a tape ready has been inserted.

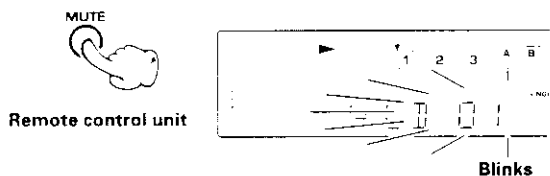
### 3. Volume adjustment



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

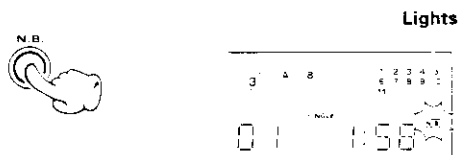
BASIC SECTION

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



- Press again to resume the original volume.
- This is cancelled when the volume or the L.L.C. is operated.

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



- This is cancelled when it is pressed again.

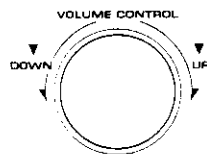
### Listening through headphones

- 1 Insert the headphone plug into the PHONES jack.



- The sounds from all speakers are cut off.

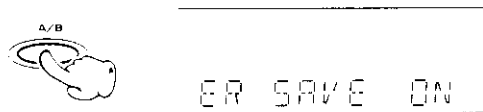
- 2 Adjust the volume.



### AUTO POWER SAVE function

When the power is ON and neither recording nor playback is executed for 30 minutes or more, the power is switched off automatically by this function. This function can be made active or not active by the following operation.

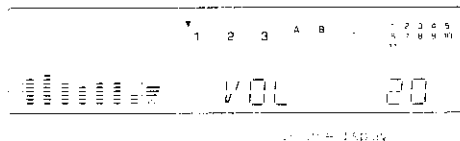
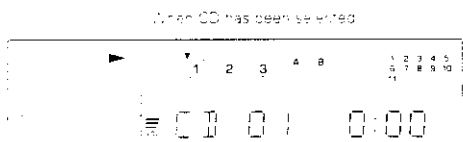
Press when the power is OFF.



Each press switches the modes as follows.

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

- This does not operate when the input selector is set to AUX/MD.



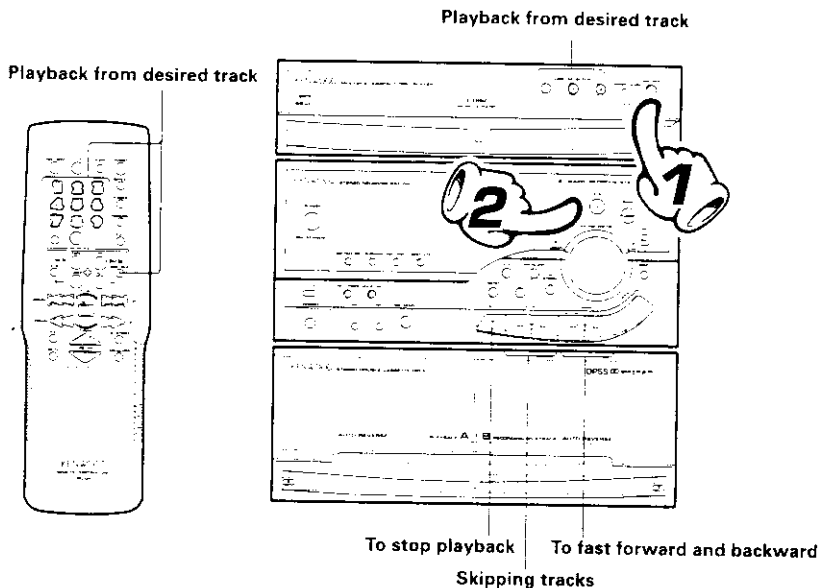
### STANDBY mode of POWER switch

When the power cord of this system is plugged into an AC outlet, the display lights up regardless of the ON/OFF setting of the POWER switch. This indicates that a small amount of current is being supplied to the unit to back up the memory contents. This mode is referred to as the Stand By mode. While the display is lit, the power of the system can be switched ON/OFF from the remote control unit.

# Playback of CD



When a disc is placed into the CD player in advance, this unit will be switched on automatically and the CD will be played when the CD (▶ II) key is pressed.



▲ OPEN / CLOSE

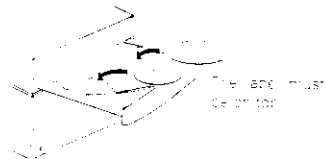


## 1. Load a disc.

- ① Open the tray.
- ② Place a disc.
- ③ Select the disc to be played.
- ④ Close the tray.

The tray opens when the key is pressed and closes when the key is pressed again.

▶ II key must be pressed

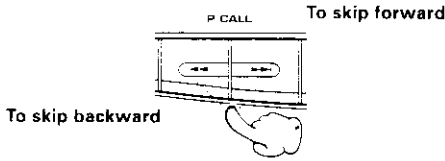


## 2. Start playback.



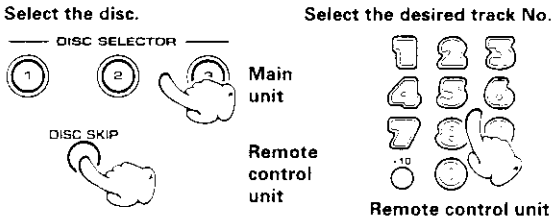


### Skipping tracks



- 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.

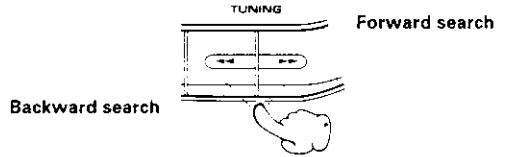
### Playback from desired track



Press the numeric keys as shown below....

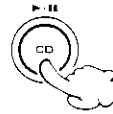
- To enter track No. 23 : **+10** **+10** **3**
- To select track No. 40 : **+10** **+10** **+10** **+10** **0**

### To fast forward and backward



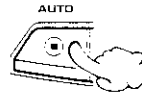
- Playback starts from the position where the key is released.

### To pause playback



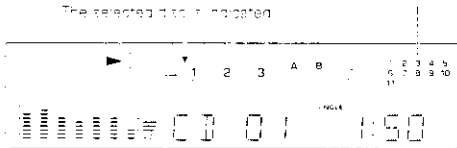
- Each press causes and plays the CD alternately.

### To stop playback



- Do not touch the played side of disc.
- Rotate the tray with the **DISC SKIP** key to insert the third disc.
- The tray of the disc to be played should come to the left position when the unit is seen from the front.

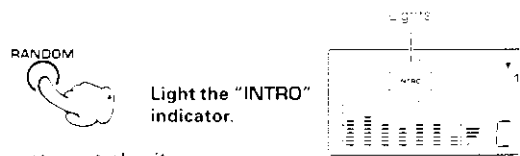
The selected disc is indicated and the track Nos. are shown.



- Lights when a disc is inserted at the time of playback.
- After a few seconds, play starts from track No. 1.

### Introduction scanning

Each title is played back in sequence for about 10 seconds. This is convenient to find titles to be played back with a disc being listened to for the first time etc.



Each press switches the modes as follows.

- ➔ 1 "INTRO" lit..... Introduction scanning
- ➔ 2 "DISC RANDOM" lit..... Random playback (1 disc)
- ➔ 3 "ALL RANDOM" lit..... Random playback (all discs)
- ➔ 4 "INTRO" and "RANDOM" not lit ..... Normal playback

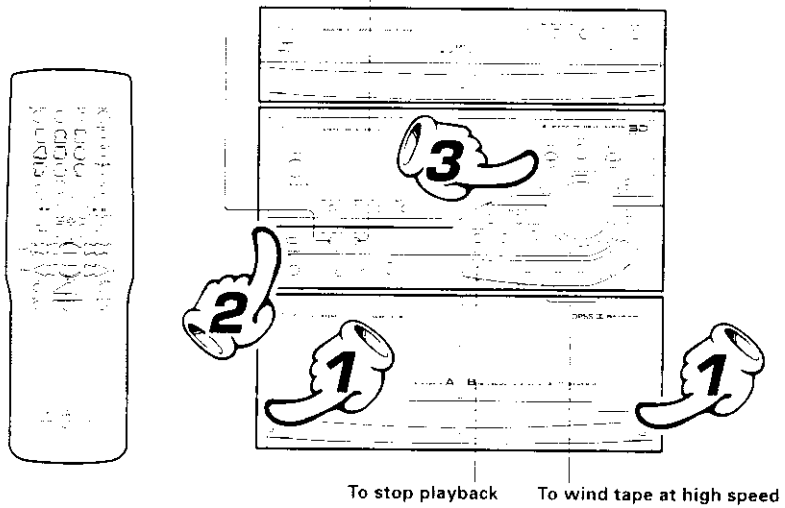
- Stop if required after introduction scanning for all discs.
- Disc number will repeat playback is possible.
- For repeat action, press the **RANDOM** key three times.

# Playback of tape



When a tape is placed into the cassette deck in advance, this unit will be switched on automatically and the tape in deck B will be played when the TAPE (◀ ▶) key is pressed.

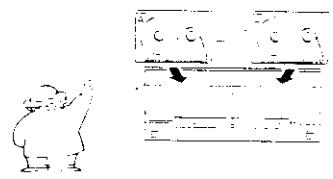
Selection of reverse mode      Selection of Dolby NR mode



BASIC SECTION

## 1. Load a cassette tape.

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



## 2. Select the deck to be used for playback.

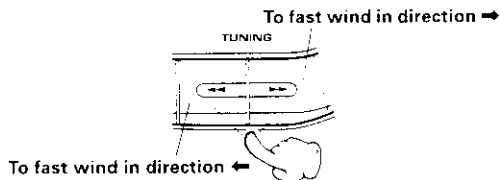


## 3. Start playback.

Each time the key is pressed, the tape running direction is changed.

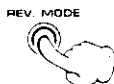


### To wind tape at high speed



- Press the **TUNING** key to stop fast winding

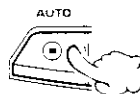
### Selection of reverse mode.



Each press switches the modes as follows.

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

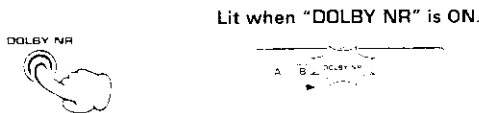
### To stop playback



- Do not press the eject key until the tape has stopped completely.

### Selection of DOLBY NR (Noise Reduction)

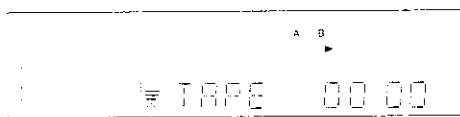
The Dolby NR system minimizes the hiss noise heard when playing tape. When playing a tape prerecorded with Dolby NR ON, be sure to set the DOLBY NR ON for playback.



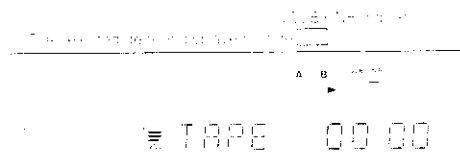
Each press switches the modes as follows.

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

- Select the Dolby NR mode according to the recording condition of the tape

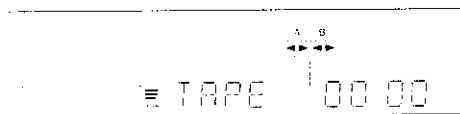


- Using TYPE I, II, or high TYPE II, or metal TYPE IV tape result in a set automatically.
- Remove tape slack before loading
- Close the door securely



### Transport direction indicators

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



Transport direction indicator



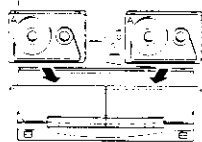
- If the tape transport direction is not the desired direction, press the TAPE ◀ ▶ key again



Pre-recorded tapes are supplied with Dolby NR ON or OFF.

### Relay play

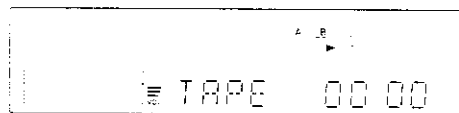
When tapes are set in the decks A and B and the reverse mode is set to "∞" (play of both sides), play of the second deck will be started automatically after play of the first deck has been completed. Tape play will be repeated alternately.



- Relay play is not possible in the reverse modes "1" and "∞".

### A tip for use of the tape counter

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

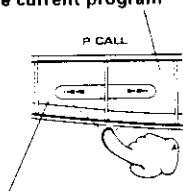


## Searching for the desired music program (DPSS)

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

### During play in direction ►

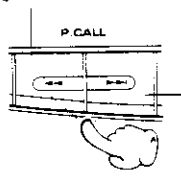
- To play the next program : Press once.  
 To play the 4th program after the current program : Press 4 times.



- To return to the beginning of the current program : Press once.  
 To play the 4th program before the current program : Press 5 times.

### During play in direction ◀

- To play the next program : Press once.  
 To play the 4th program after the current program : Press 4 times.



- To return to the beginning of the current program : Press once.  
 To play the 4th program before the current program : Press 5 times.



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

- Tapes containing several non-sound intervals of more than 4 seconds, such as conversation and talk tapes
- Tapes containing blank and sections, such as classical music tape
- Tapes in which large noise is recorded in blanks between programs.
- Tapes containing blanks between programs that are shorter than 4 seconds.
- Tapes recorded at only one
- Tapes recorded by cross-fade recording in which the beginning of next program is overlapped on the end of previous program

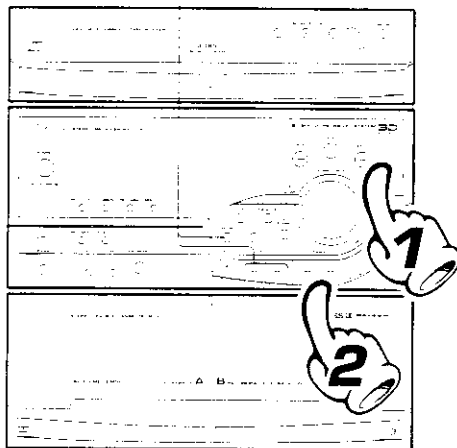
## Receiving broadcast station

It is also possible to receive them by one-touch operations by storing up to 20 stations in the preset memory.



When the TUNER key is pressed, this unit will be switched on automatically.

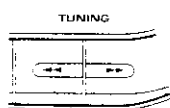
### Collective presetting of stations Storing radio stations in memory



### 1. Select the broadcast band.

Each press alternates the band.

- : FM
- ← : AM



To increase frequency

### 2. Select a station.

When no stations have been memorized

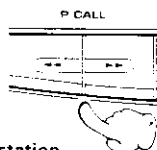
To decrease frequency



Auto tuning : Each press receives the next station.

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

When stations have been memorized (preset call)



Select a station.

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

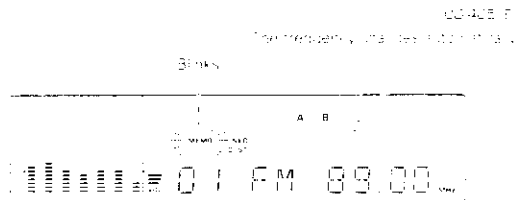
Press ►► for the order of 1→2→3 ... 18→19→20→1...

Press ◄◄ for the order of 20→19→18 ... 3→2→1→20...



### Collective presetting of stations (auto preset)

Keep the ENTER key depressed (about 2 seconds).



- With priority for FM, a maximum of 20 stations is preset automatically.
- When there are many stations and the intended station has not been preset, please also use "Storing radio stations in memory."

### Storing radio stations in memory (Station preset)

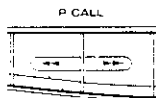
1 Press the ENTER key during reception.

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

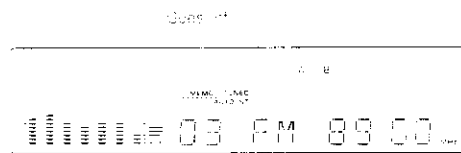
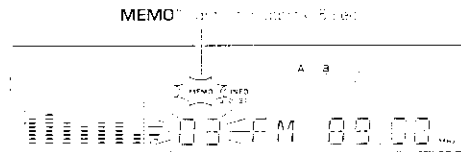


2 Select one of the preset numbers from 1 to 20.

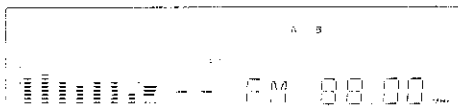
Presetting is cancelled when no operation is executed for 5 seconds or more.



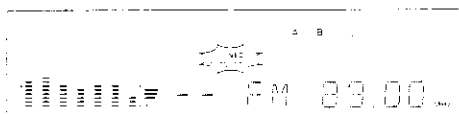
3 Press the ENTER key again.



- Repeat steps 1-3 to preset other stations.
- If several stations are preset under the same number, the previous memory is replaced with the latest memory content.



The TUNED indicator will be lit (TUNED) only when a station is preset.



FM TUNING MODE (AUTO)

- When a preset station is selected with a preset number, the station is set at an interval of about 10 seconds.

### Select the tuning mode.



- Each press alternates the mode.
- 1 "AUTO" lit (Auto tuning)
  - 2 "AUTO" not lit (Manual tuning)

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

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

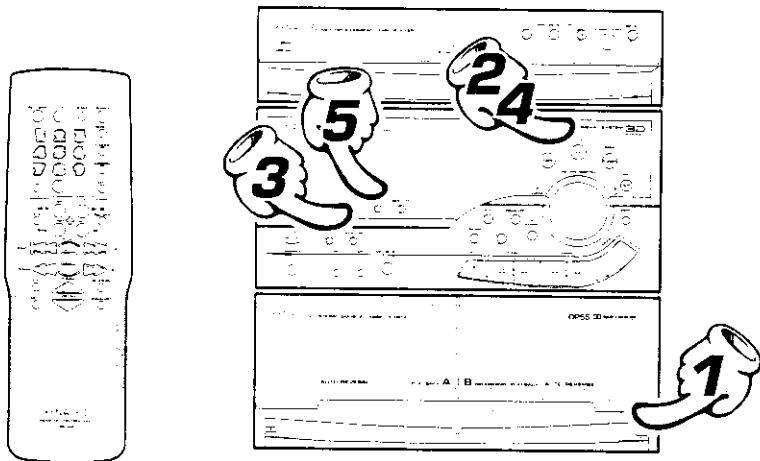
# Recording (Deck B only)



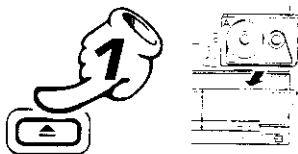
Note that this cassette deck cannot record onto Metal tapes.



When equalizer or another effect is applied to the sound, the sound with the applied effect can be recorded.



## 1. Load a tape in deck B.



- ❶ Open the door of deck B.
- ❷ Insert a tape.
- ❸ Close the door.

- Differentiation between normal (TYPE I) and high (TYPE II) tape is set automatically.
- Remove tape slack before loading.
- When the microphone is not used, set the MIC MIXING control knob fully counterclockwise to the minimum position.

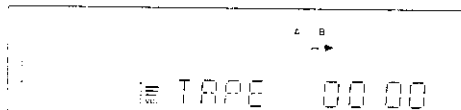
## 2. Select the tape transport direction.

To reverse the transport direction:

Check the tape transport direction indicator.



- ❶ Start playback.
- ❷ Press the key again.
- ❸ Stop playback.



Transport direction

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

## 3. Set the recording condition.



- ❶ Select the reverse mode.
- ❷ Select the Dolby NR mode.



### Selection of the reverse mode



Each press switches the modes as follows.

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

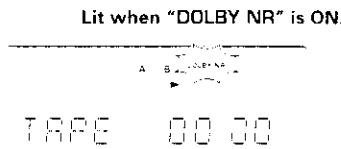
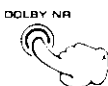
### To end recording



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

### Selection of DOLBY NR (Noise Reduction)

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



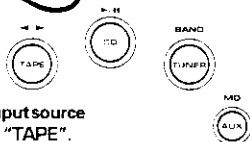
Each press switches the modes as follows.

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

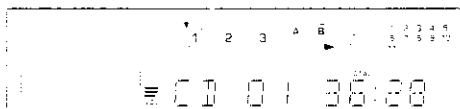


### 4. Select the source to be recorded.

The input source selected to be recorded should be used.



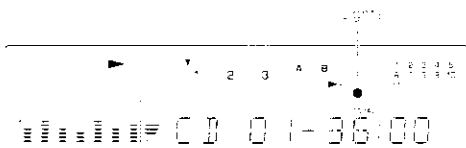
Select an input source other than "TAPE".



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

### 5. Start recording.

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



- Recording stops automatically when the tape sliders to be recorded have been fully recorded.
- The beat marker function can be used when recording ATR (auto parts).



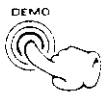
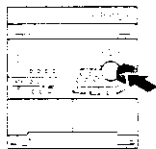
### Dolby HX Pro

The Dolby HX Pro headroom extension system records high frequencies such as the cymbal sound clearly by controlling the bias current during recording according to the frequency composition of the sound being recorded. This system is activated automatically during recording with this unit.

### Beat cancel function

There may be cases in which beat noise interferes with recording of AM (MW/LW) broadcasting.

In such a case, press the DEMO key during recording to reduce or suppress the beat noise. The DEMO key acts as the demonstration key except during tuner recording.



### Display during recording

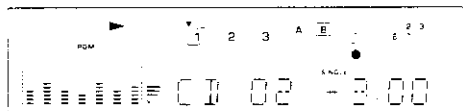
During recording, the time display on the display panel shows the remaining playing time of the track (or disc). The displayed contents vary depending on the play mode.

When the "PGM" indicator is not lit

..... Remaining time on the disc being recorded.

When the "PGM" indicator is lit

..... Remaining time on the track being recorded.



## Copying tape (Tape dubbing)

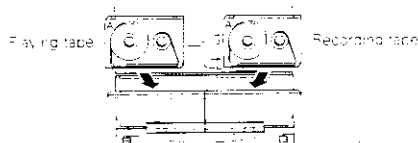
The contents of the tape in deck A can be copied onto the tape in deck B.

- ① Select the "TAPE" input.



- ② Load tapes in the decks.

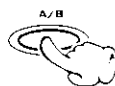
- ③ Select "→" (double-side recording) or "←" (one-side recording).



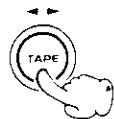
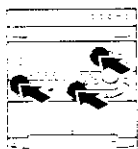
- ④ Use the same tape transport directions.

### To reverse the transport direction

- (1) Select the deck to change the transport direction.

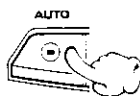


- (2) Start playback.

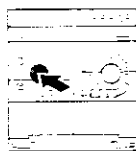


- (3) Press the key again.

- (4) Stop playback.

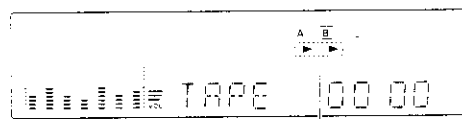


- ⑤ Start dubbing.



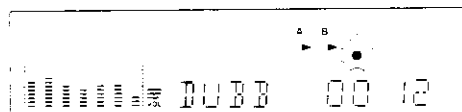
Press during stop.

Check the tape transport direction indicators.



Playing direction

- When recording is started, the tape will be transported in the direction selected in this step.



- Dubbing ends automatically when the side(s) to be dubbed has been completed.

### To stop dubbing



- The deck B will stop after creating a non-recorded portion of about 4 sec, and then the deck A will stop.
- The dubbing can also be stopped by pressing the **STOP** key. Non-recorded blank is not created in this case.



The **DOLBY NR** key is not active in dubbing mode. The tape recorded on deck B assumes the same Dolby NR condition as the tape played on deck A.

## Listening in the desired sequence (program playback)

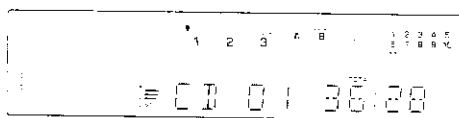
Any titles on the discs in the tray can be listened to in the desired sequence. (Max. 32 titles)

### Select the "CD" input.

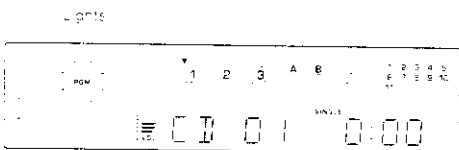
#### 1 Check that the CD player is in the stop mode.



If it is in play mode



#### 2 Light the "PGM" indicator.



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

##### ① Select the disc.

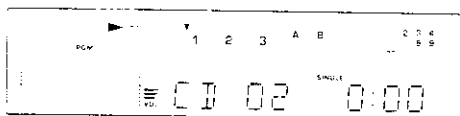
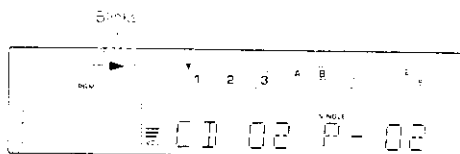


##### ② Select the track.

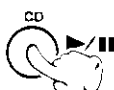


To select tracks from more than one disc, repeat ① and ②.

- The disc can also be selected with the **DISC SELECTOR** key.
- Up to 32 tracks can be programmed. When "FULL" is displayed, no more tracks can be programmed.
- To program all tracks of a CD, select the disc and then press the **P. MODE** key without selecting any tracks.
- If you make a mistake, press the **P. MODE** key to quit the program mode and restart from step 2.

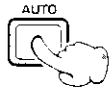


#### 4 Start playback.



- Tracks will be played in the order they were programmed in order of P. Nos.
- When the **◀◀** or the **▶▶** key is pressed during play, the program will jump to the preceding or the following track, respectively.
- When the **◀◀** key is pressed once during playback, the play position returns to the beginning of the current track being played.
- A space of several seconds is produced between tracks.

## To stop playback



## To add a track to the program

❶ Select the disc.



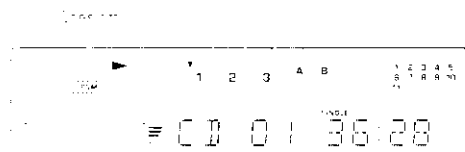
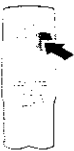
Press during stop.

❷ Select the track.



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

## To quit the program mode



- If the **EXIT** is pressed during playback, normal playback in order of track continues from the current track.

# Repeated playback

Desired titles or discs can be played back repeatedly.

## Select the "CD" input.

### To repeat a disc



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

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



- 2 Press to select "DISC REPEAT".

REPEAT



Each press switches the repeat mode.

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

Lights



- 3 Select the disc.



DISC SKIP



### To stop repeated playback

Press the REPEAT key twice.

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

### To repeat all discs



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

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



- 2 Press to select "ALL REPEAT".

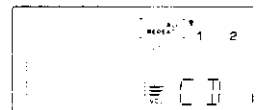
REPEAT



Each press switches the repeat mode.

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

Lights



- 3 Select the disc to be played first.



DISC SKIP



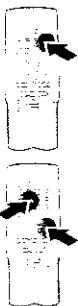
### To stop repeated playback

Press the REPEAT key again.

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

# Select the "CD" input.

## To repeat only one track



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

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

2 Press to select "REPEAT".

3 Select the disc.

4 Select the track.



Each press switches the repeat mode.

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

Lights



## To stop repeated playback

Press the REPEAT key three times.

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

## To repeat only the programmed tracks



1 Light the "PGM" indicator.

P.MODE



2 Select the disc.

DISC SKIP



3 Select the track.



4 Press to select "REPEAT".

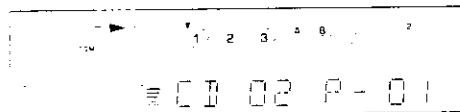
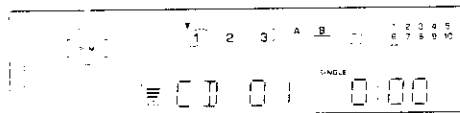
REPEAT



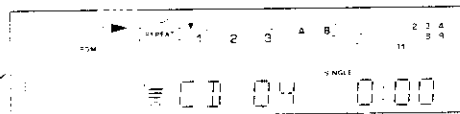
5 Start playback.



PGM



- When the programmed tracks will be played repeatedly.
- Up to 32 tracks can be programmed by repeating steps 2 and 3.
- When "FULL" is displayed, no more tracks can be programmed.



## To stop repeated playback

Press the REPEAT key again.

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

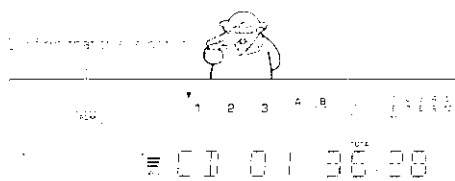
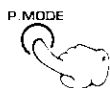
## Listening to an unexpected title sequence (random playback)

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

### Select the "CD" input.

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

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



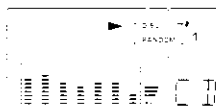
#### 2 Select the RANDOM mode.

For "DISC RANDOM" playback, select the disc in advance.

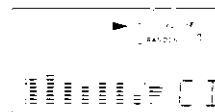


Each press switches the modes as follows.

- 1 INTRO..... No random playback in this case.
- 2 DISC RANDOM..... Random play of one disc
- 3 ALL RANDOM..... Random play of all discs
- 4 Normal playback



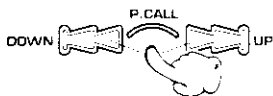
Random playback of one disc



Random playback of all discs

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

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



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

### To cancel random playback

Press so that the "RANDOM" indicator goes off.



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





## Selection of the convenient CD recording type

With this unit, the following edit recording is possible according to the purpose.

*If you want to avoid any tune being interrupted at the end of tape*

**Giving preference to the tape length over the title sequence** (time edit recording) — 34

Edit recording of CD is possible by the simple operation of entering the recording length of the tape.

*If you want to select the tracks to be recorded while playing a CD*

**Recording only desired titles**  
(ONE TOUCH EDIT.....single title recording) — 35

Play a CD and, if a track you want to record starts, press the ONE TOUCH EDIT (O.T.E.) key. The track will be recorded from the beginning.

*If you want to record a CD in order of track numbers*

**One touch recording of an entire CD**  
(ONE TOUCH EDIT.....recording of all titles) — 36

Press the ONE TOUCH EDIT (O.T.E.) key when in the stop mode. The disc will start to be recorded.

*For recording of only one title from several CDs*

**Producing a tape collecting only the first titles**  
(BEST HITS function) — 37

When the BEST HITS key is pressed, the first titles of all set CDs will be recorded in sequence on the tape. As already recorded CDs can be exchanged while recording, it is not necessary to interrupt the recording.

## Giving preference to the tape length over the title sequence (time edit recording)

When the tape recording time is specified, recording is executed with changing the title sequence so that no title will be interrupted when the tape direction is changed at the end of one side.



When equalizer or another effect is applied to the sound, the sound with the applied effect can be recorded.

### Recording preparations are required.



#### 1 Select the "EDIT" mode.

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

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

- 2 Press the EDIT key.



The editing is ended when no operation is executed for 8 sec or more.



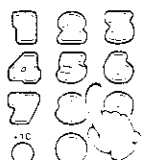
#### 2 Select the disc.



DISC SKIP



#### 3 Enter the recording length of the tape.

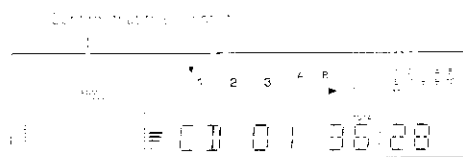


Confirm flashing of the ► indication and then go to step 4.

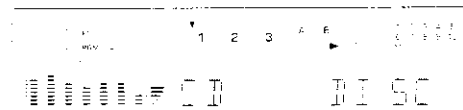
#### 4 Start edit recording.



O.T.E.



- To cancel the CD mode, press the P.MODE key of the remote control.



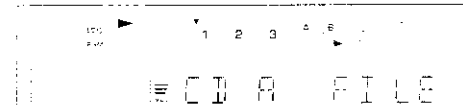
- Even if the disc has already been selected, about the disc add.

Press the numeric keys as shown below.

30-minute tape: **+10 +10 +10 0**

46-minute tape: **+10 +10 +10 +10 6**

- If you make a mistake in entering the recording time, check that the ► indicator is blinking and restart from step 3.
- Up to 32 tracks can be edited.
- The ► indicator blinks after completion of automatic editing.
- Every time the ► key is pressed, the edited track number will be displayed in the changed order. Press the ◀ key to return to the track number of the first track.



- The tape and CD stop automatically when recording has completed.
- The time display during recording is the remaining time of the current side of tape.



Depending on the combination of characters, the CD contents, number of titles and/or length of the titles and tape recording time, interruption of a title may not be available. In such a case, the respective title will not be recorded.

## Recording only desired titles (ONE TOUCH EDIT.....single title recording)

At the time of CD playback, any desired title can be selected immediately for recording.



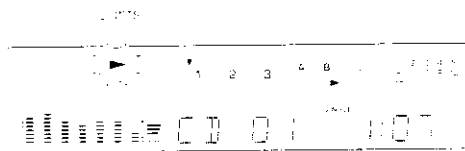
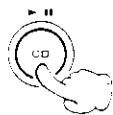
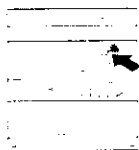
When equalizer or another effect is applied to the sound, the sound with the applied effect can be recorded.

**Recording preparations are required.**

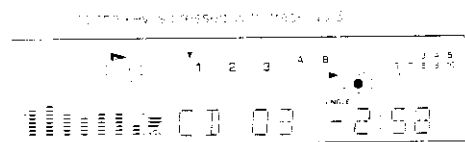
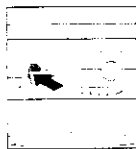


### 1 Play a CD.

Select a mode other than random play.



### 2 When you want to record a track being played, press the ONE TOUCH EDIT (O.T.E.) key.



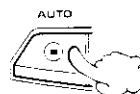
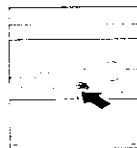
- Playback restarts from the beginning of the track being played and recording starts at the same time.
- The time display shows the remaining time of each track.

When recording has been completed, a non-recorded portion of 4 seconds will be produced and the cassette deck part will stop. The CD player will enter temporary stop condition.

To record a different track, repeat the steps 1 and 2.



### To end recording in the middle



- Both the cassette deck and CD player stop.

# One-touch recording of an entire CD (ONE TOUCH EDIT.....recording of all titles)

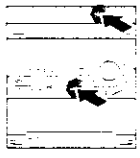
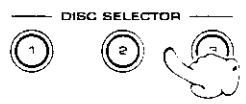
When the ONE TOUCH EDIT (O.T.E.) key is pressed while the CD player is in the stop mode, recording of a CD can be started at the same time as playback.

When equalizer or another effect is applied to the sound, the sound with the applied effect can be recorded.

**Recording preparations are required.** 

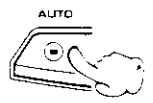
## 1 Select the disc.

1 Select the disc.



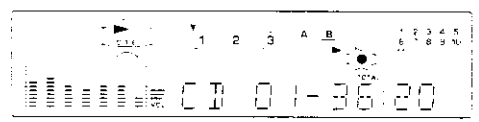
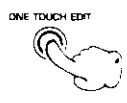
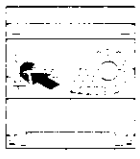
• Select a mode other than random play.

2 Stop the disc.



Step 2 also can be executed after the order of the tracks has been programmed.

## 2 Press the ONE TOUCH EDIT (O.T.E.) key.

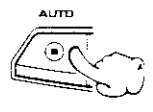


- Recording of CD starts at the same time as playback.
- At the end of tape, the music is not recorded on the leader tape portion. If you do not want any music to be interrupted in the middle, refer to "Recording" and start recording of side B with the interrupted track.

Application section



### To end recording in the middle



• Both the cassette deck and CD player stop

# Producing a tape collecting only the first titles (BEST HITS function)

The first titles of the discs will be recorded in sequence. During recording of the third disc, the already recorded discs can be exchanged. This is convenient for collecting hits from a large number of single CDs.



When equalizer or another effect is applied to the sound, the sound with the applied effect can be recorded.

**Recording preparations are required.**

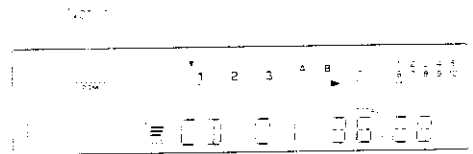


**1** Insert the discs.

**2** Make the PGM (program) display go out.

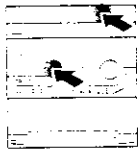


Switch to a mode other than RANDOM.



**3** Start recording.

**1** Select the disc to be recorded.



DISC SELECTOR

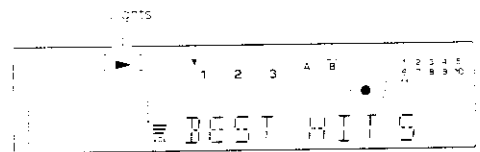


**2** Press the BEST HITS key.

BEST HITS



- Playback will start, but when recording is started by **2**, return will be made to the start of the first title.
- Recording of the first titles will start from the selected disc.

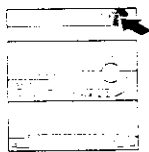


- Recording starts. The CD player plays only the first title in sequence, starting from the disc selected in **1**.

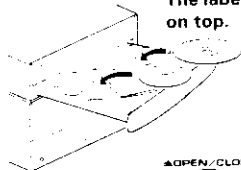
**4** Replace the discs as required.

**1** Replace two discs.

The tray opens automatically.



The label must be on top.



**2** Close the tray.

▲OPEN/CLOSE



- When recording of the third disc starts, the tray opens automatically. The two already recorded discs can be exchanged.
- Recording stops at the tape end of right side or both sides.

**To end recording**



BEST HITS



- Recording stops at the end of the present title.
- When the **■** key is pressed, recording is stopped immediately.

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

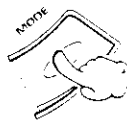
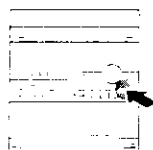
This unit permits selection of equalizer and sound field playback. Please select the equalizer as desired according to the music genre. Select the sound field mode according to the desired atmosphere.

## Adjustment of balance and input level

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

Input level..... Adjusts the volume of external equipment (video deck etc.) connected to the AUX terminal. Please adjust as required when the volume from external equipment is too high etc.

### 1 Select what to adjust.



When no operation is executed for 5 seconds or more, the adjustment is ended automatically. (Return will be made to volume adjustment.)

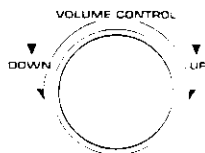
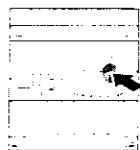
Each press switches the modes as follows.

- 1 LEVEL..... Strength of the 3D stereo effect
- 2 L---R..... Left and right volume balance
- 3 INPUT..... Volume from the external equipment connect the AUX terminal
- 4 VOL..... Normal volume adjustment

● When 3D stereo is ON, "LEVEL" (strength of the 3D effect) list is displayed.

### 2 Adjust.

#### BALANCE adjustment



The right volume is decreased.

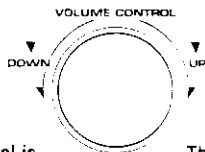
The left volume is decreased.

#### BALANCE adjustment



Indicates the balance setting.

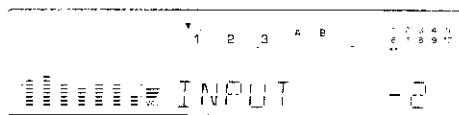
#### INPUT LEVEL adjustment



The level is decreased.

The level is increased.

#### INPUT LEVEL adjustment



Set level.

● Adjustment is possible in the range from -30 to 0.

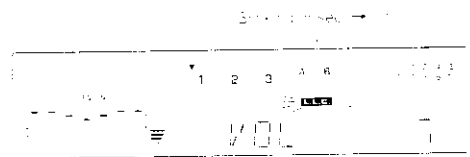
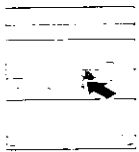
#### In regard to equalizer adjustment (LOW, MID, HIGH)

The setting items LOW, MID, and HIGH are displayed only when the equalizer is set to MANUAL (user memory). The result of adjustment of these items will be memorized automatically. → 40

## Listening at Low Level (L.L.C.: Listening Level Control function)

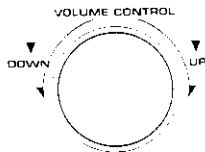
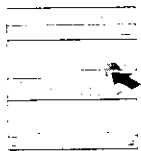
When the volume for listening at low level (L.L.C. volume) is set in advance, it can be called by one-touch operation. At this time, the equalizer will be adjusted automatically for the apparent loss of high and low tones.

### 1 Switch the L.L.C. to ON.

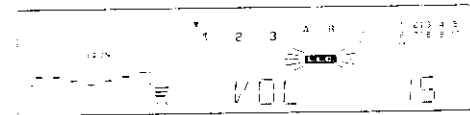


### 2 Adjustment of the L.L.C. volume.

Adjust the volume while the L.L.C. indicator is flashing.



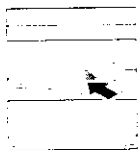
The L.L.C. volume decreases.      The L.L.C. volume increases.



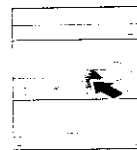
- When the L.L.C. volume exceeds 99, no compensation is executed for high and low range.

### 3 Memorizing of the adjusted volume.

Press while the L.L.C. indicator is flashing.



### To call the memorized volume



When the key is pressed again after the L.L.C. indicator has finished flashing, this function is cancelled.

- The volume is reduced and the low range and the high range are compensated.
- When L.L.C. is ON, the change amount will be constant, independent of the speed with which the **VOLUME CONTROL** knob is turned.
- When the memorized L.L.C. volume is higher than the present volume, the volume will not change.
- The volume will not return to the original volume when L.L.C. is cancelled. Please adjust as required.

## Listening with the desired sound (equalizer function)

In addition to four equalizer patterns, one equalizer pattern created by you can be memorized and can be called for use.

### Demonstration

Equalizer and sound field effect will change sequentially. Confirm the effect.



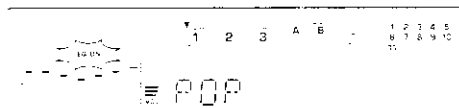
Each press switches the modes as follows.

DEMO  
 (Demonstration cancelled)

## Selection of the equalizer pattern

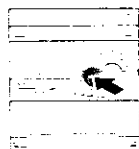
The graphic equalizer patterns can be selected according to the genre of music played. Recording with applied equalizer effect also is possible.

- ① Play the desired music.



Display characters scroll from the right to the left.

- ② Select the music category.



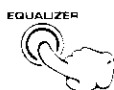
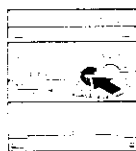
Each press switches the modes as follows.

- 1. MENU ..... An equalizer pattern can be created and memorized  
 2. POP ..... (Popular)  
 3. ROCK ..... (Rock)  
 4. JAZZ ..... (Jazz)  
 5. CLASSIC ..... (Classic)  
 6. HIT MASTER ..... Hit master (for Karaoke)  
 → 7. EQ OFF ..... (EQ.ON not lit ... Equalizer cancelled)

## Creation and memorizing of an equalizer pattern

A desired equalizer pattern can be created and memorized.

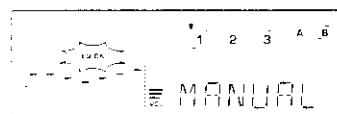
- ① Display "MANUAL".



Continue to step ② within 3 seconds.

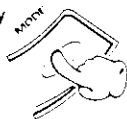
Each press switches the modes as follows.

- 1. MANUAL  
 2. POP  
 3. ROCK  
 4. JAZZ  
 5. CLASSIC  
 6. HIT MASTER  
 → 7. EQ OFF



- ② Adjust the equalizer pattern.

Select the frequency band.



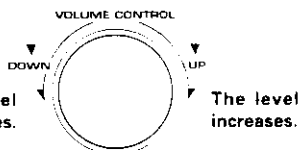
Each press switches the modes as follows.

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

Adjust the level.



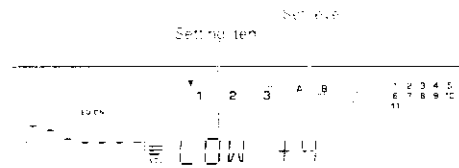
The level decreases.



The level increases.

LOW, MID, and HIGH can be adjusted individually.

- ③ Memorize the setting.



- Each frequency band can be adjusted in the range from -4 to +4
- The adjusted contents are memorized automatically.

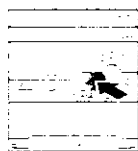


# Enjoying Sound Field Effects

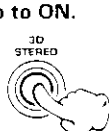
Please switch off the sound field effects when listening to a tape recorded with sound field effects ON.

## Experiencing 3D Stereo (Sound Retrieval System)

The Sound Retrieval System is an epochal system which produces a three-dimensional sound space by applying the most suitable processing to the sound signal on the basis of the human listening mechanism. This permits real depth and sound location, considered as difficult to realize with conventional 2-channel stereo (general stereo). A sufficient effect can be obtained for any source (CD, tape, broadcasts, etc.). Recording with applied 3D stereo also is possible.



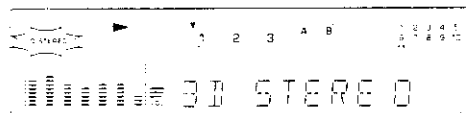
① Set 3D stereo to ON.



Each press switches the modes as follows.

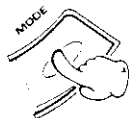
- 1 "3D STEREO" is lit..... 3D stereo is ON
- 2 "3D STEREO" is not lit.... 3D stereo is OFF

Lights



② Adjust the effect strength (level).

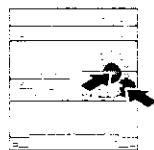
LEVEL will be displayed.



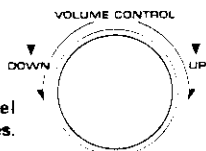
Each press switches the modes as follows.

- 1 LEVEL..... Strength of the 3D stereo effect
- 2 L--R--R..... Left and right volume balance
- 3 INPUT..... Volume from the equipment connected to the AUX terminal
- 4 VOL..... Normal volume adjustment

Adjust the strength of the effect.



The level decreases.



The level increases.

- 3D stereo ON/OFF switching is not possible during recording

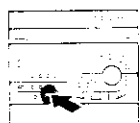


- Adjustment is possible in the range from +10 to -10
- Please refer to the manual according to the titles being played back.

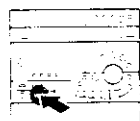
## Enjoying Karaoke

When CDs or tapes with recorded voice and instrument music are played, it is possible to lower the volume only for the voice part. In combination with mic mixing, this permits easy enjoyment of Karaoke.

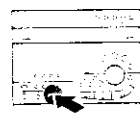
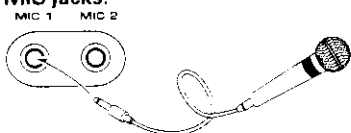
### 1 Connect a microphone.



- ① Turn the MIC MIXING control fully counterclockwise.



- ② Plug the microphone into one of the MIC jacks.



- ③ Adjust the volume balance between the music input and microphone input.



To decrease microphone volume

To increase microphone volume

- Use a microphone equipped with a mini-plug.
- Set the MIC MIXING control knob to the fully counterclockwise position when the microphone is not used.

### 2 Play the music.

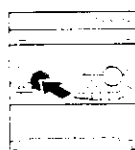
### 3 Sing along with the accompaniment.



- The HIT MASTER function can be used when only normal music sources with vocal recording are available.

- Adjust the overall volume with the VOLUME CONTROL knob.

### To record Karaoke singing



- ① Perform the procedure above until step ②.

- ② Start recording.



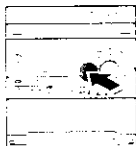
During Karaoke singing using the song recorded on a tape, the Karaoke sound cannot be recorded.

## Enjoying Karaoke with software including the vocal part (HIT MASTER function)

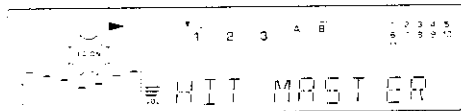
This function makes it possible to enjoy music sources including vocal as pseudo Karaoke sources. This makes it possible to enjoy Karaoke even when no special Karaoke CDs or tapes are available.

Select by pressing repeatedly.

- 1 MANUAL ..... (Manual)
- 2 POP ..... (Popular)
- 3 ROCK ..... (Rock)
- 4 JAZZ ..... (Jazz)
- 5 CLASSIC ..... (Classic)
- 6 HIT MASTER... Hit master (for Karaoke)
- 7 EQ OFF ..... (EQ.ON not lit    Equalizer cancelled)



EQUALIZER



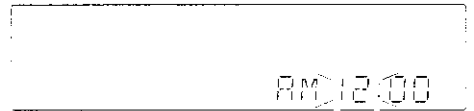
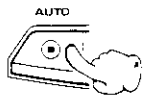
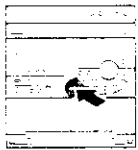
- The volume of the vocal parts of the song decreases. However, this effect may not be clear with some songs and discs.
- A Karaoke face can be created by recording the performance while the **MIC MIXING** control is in the fully counterclockwise position.

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

**Ensure that the power is OFF.**

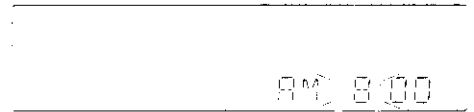
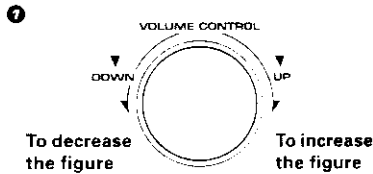
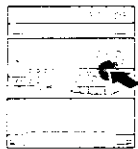
## 1 Activate the clock adjustment mode.

Example: Adjustment to 8:45



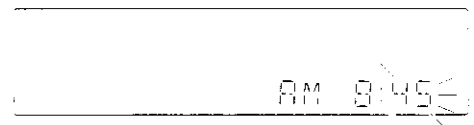
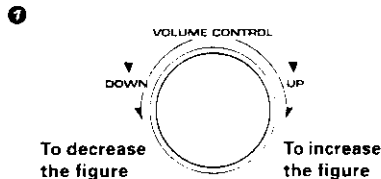
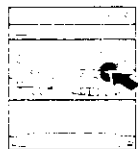
- The time display starts to blink.

## 2 Enter the figure of hour.



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

## 3 Enter the figure of minute.



- If you make a mistake, restart from the beginning.
- To adjust correct time, press the **ENTER** key at the same moment as a time announcement.
- The time display blinks after a power failure or when the power cord has been unplugged from the AC outlet and plugged again. In such a case, adjust the clock again.

Application section

# Timer operation

Adjust the clock before setting the timer.

WD-405 (E)

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

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

## Sleep timer

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

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

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

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

When timer playback starts, the volume increases gradually.

## Adjust the clock before setting the timer.

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

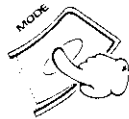
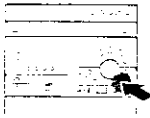
Timer playback is possible by the simple operation of setting the source to be played back and the playback start time. One hour after the start of playback, the power is switched off automatically.



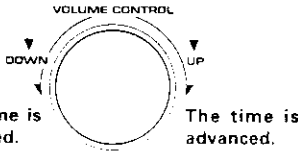
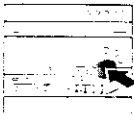
The program timer does not operate until O.T.T. operation has ended.

At the time of tape playback by timer operation, the B deck has priority.

- 1 Select the source to be played.
- 2 Switch OFF the power supply.
- 3 Press the MODE key.



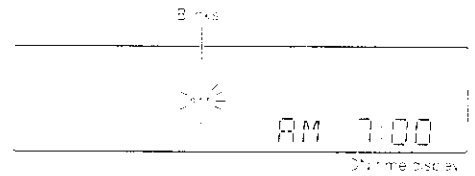
- 4 Set the ON time.



- 5 Press the ENTER key.



- Set the volume
- When the MODE key is pressed, the input source will be displayed, and after a few seconds the ON time will be displayed.



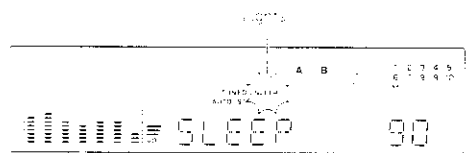
- The ON time can be set in steps of 5 minutes.

### To cancel

Press the MODE key twice while the power is OFF.

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

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



Duration of sleep timer

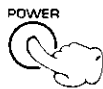
### To cancel

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

### Sleep timer

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

- 1 Turn the power ON.



- 2 Set the time.



## Timer programming

Two 24-hour timer systems (PROG.1, PROG.2) (which can be used every day) and a sleep timer system (which works only once) are available.

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

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

### Adjust the clock before setting the timer.

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

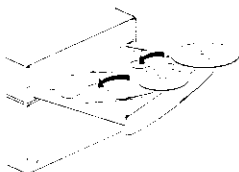
- To listen to radio

The station should be preset prior to the above.

- 23

- To listen to CD

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



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

- To listen to tape

Set a tape into deck B.



The B deck has priority at the time of timer playback.

- Playing the auxiliary input source

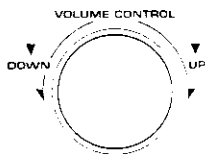
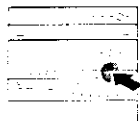
Make timer setting of the component connected to the AUX jacks.

- For recording

Make preparations for recording.

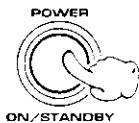
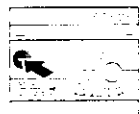
- 24

#### 2 Adjust the listening volume.

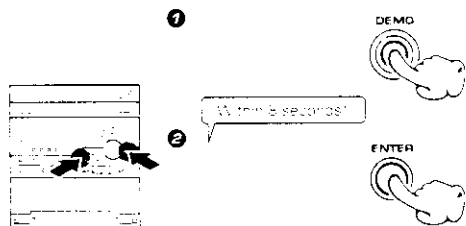


- When recording radio, the listening volume is automatically set to the minimum volume at the moment the power is turned ON by the timer.

#### 3 Set the POWER switch to OFF (STANDBY) position.



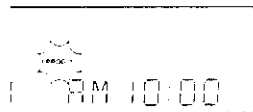
#### 4 Select a program No.

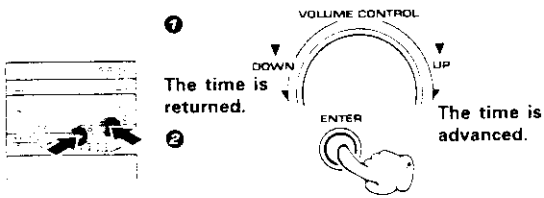


- The selected program No. lights.
- If a program No. under which a timer program has already been reserved, it is replaced by the new timer program.

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

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

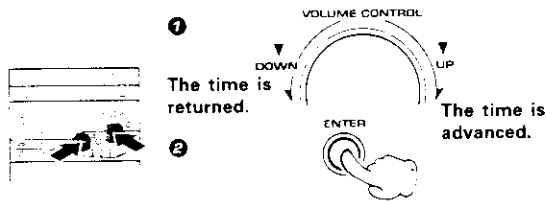


**5** Enter the ON time.

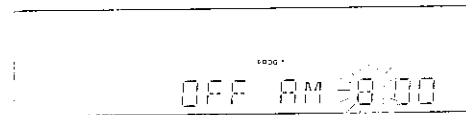
- After entering the figure of "hour" with the procedure in ① and ②, enter the figure of "minute" using the same procedure.



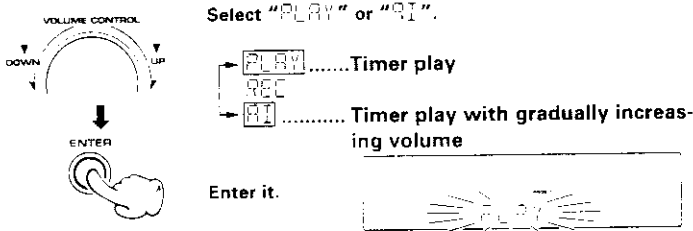
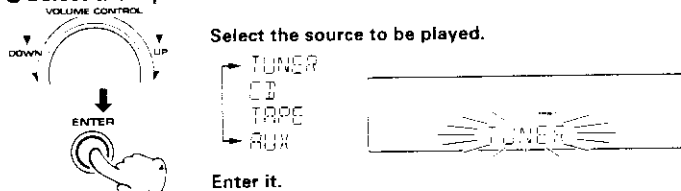
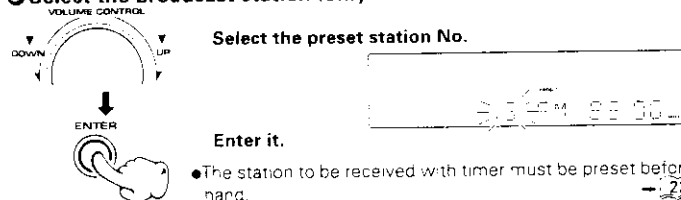
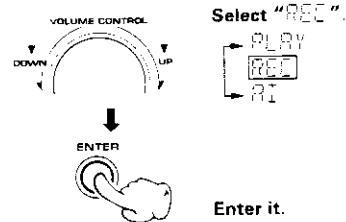
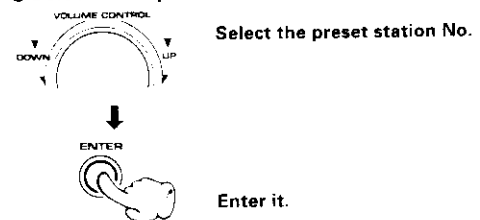
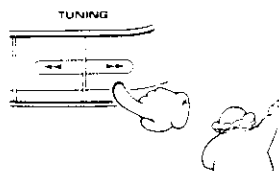
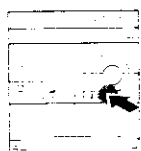
- If you commit a mistake, restart from step ②.

**6** Enter the OFF time.

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



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

**7** Make the desired reservation.**For timer playback or AI timer playback****①** Select the mode.**②** Select the input source.**③** Select the broadcast station (only when TUNER is selected above).**Timer recording of radio broadcasts****①** Select the mode.**②** Select the input source.**8** Select the timer program No. to be used.

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

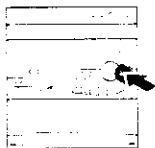
- 1 PROG. 1.....Execution of program 1 only.
- 2 PROG. 2.....Execution of program 2 only.
- 3 PROG. 1, 2... Execution of programs 1 and 2.
- 4 Timer OFF

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



Ensure that the power is OFF.

### Check the reservation content.



Select the program number to be checked.



The reservation contents cannot be cleared. The contents are cleared only when they are changed.

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

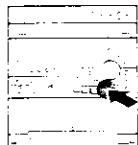
- PROG. 1.....Display of program 1
- PROG. 2.....Display of program 2
- Normal mode

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

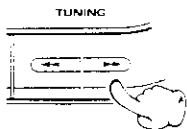
### To change the reserved contents

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

### When timer operation is not required



Press so that all PROG. indicators are OFF.

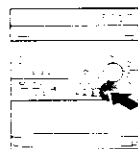


Each press of the key switches the program numbers as follows.

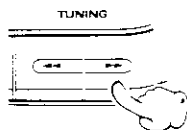
- PROG. 1.....Program 1 operates.
- PROG. 2.....Program 2 operates.
- PROG. 1, 2...Programs 1 and 2 operate.
- Not lit.....No program operates.

- The reservation contents are held in memory.

### To set the same timer program again



Press so that the desired PROG. indicators light.



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

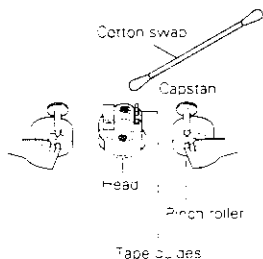
- PROG. 1.....Program 1 operates.
- PROG. 2.....Program 2 operates.
- PROG. 1, 2...Programs 1 and 2 operate.
- Not lit.....No program operates.

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



## Maintenance

### Cleaning the head section



#### Cleaning the heads and peripheral components

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

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

#### Demagnetizing the head

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



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

## Reference

### Beware of condensation

When water vapor comes into contact with the surface of a cold material, condensation is produced.

If condensation occurs, correct operation may not be possible, or the unit may not function correctly.

This is not a malfunction, however, and the unit should be dried-out. (To do this, turn the POWER switch ON and leave the unit as it is for several hours.)

Be especially careful in the following conditions:

- When the unit is brought from a cold place to a warm place, and there is a large temperature difference.
- When a heater starts operating.
- When the unit is brought from an air-conditioned place to a place of high temperature with high humidity.
- When there is a large difference between the internal temperature of the unit and the ambient temperature, or in conditions where condensation occurs easily.

Dolby noise reduction and HX Pro headroom extension manufactured under licence from Dolby Laboratories Licensing Corporation. HX Pro originated by Bang & Olufsen. "DOLBY", the double-D symbol and "HX PRO" are trademarks of Dolby Laboratories Licensing Corporation.

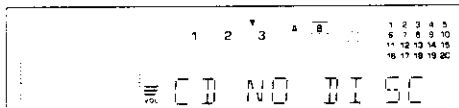
Sound Retrieval System manufactured under licence from SRS Labs, Inc. "SOUND RETRIEVAL SYSTEM" and the SRS Symbol (●) are trademarks of SRS Labs, Inc. Purchase of this product does not convey the right to sell recordings made with the SOUND RETRIEVAL SYSTEM.

When your unit needs to be repaired, bring the entire set (Speakers excluded) to your dealer.

### Note related to transportation and movement (CD player)

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

1. Turn the power ON but do not load a disc.
  - Press the CD (▶/⏸) key to check that no disc is present on the tray.
2. Wait a few seconds and verify that the display shown appears.



3. Turn the power OFF.

### Memory backup function

Stored contents which are cleared immediately when power plug is unplugged from power outlet

Clock display

Stored contents which are cleared in at least a day after power plug is unplugged from power outlet

**Amplifier**  
 POWER status (ON or OFF)  
 Input selection  
 Volume control value

**Tuner unit**  
 Receiving band  
 Frequency  
 Preset stations  
 Program settings

**Cassette deck unit**  
 Transport direction  
 DOLBY NR  
 Reverse mode

## Operation to reset

The microcomputer may fall into malfunction (impossibility to operate, erroneous display, etc.) when the power cord is unplugged while power 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.

**Unplug the power cord from the power socket, and while holding the ENTER key depressed, plug the power cord into the socket again.**

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

## Remote control unit

Symptom	Cause	Remedy
Remote control operation is not possible.	<ul style="list-style-type: none"> <li>● Batteries are exhausted</li> <li>● The remote control is too far away from the system, the controlling angle is deviated or there is an obstacle in between</li> <li>● There is no tape or CD set in the component to be played</li> <li>● An attempt is made to play the cassette deck while it is recording something</li> </ul>	<ul style="list-style-type: none"> <li>● Replace with new batteries → <u>13</u></li> <li>● Operate the unit inside the remote controlable range → <u>13</u></li> <li>● Set a tape or CD in the component to be played</li> <li>● Wait until the recording ends</li> </ul>


## Receiver unit, speakers

Symptom	Cause	Remedy
Sound is not produced.	<ul style="list-style-type: none"> <li>● The speaker cords are disconnected</li> <li>● The volume control is set to the minimum position</li> <li>● The MUTE switch of remote control unit is turned ON</li> <li>● The loudspeaker plug is inserted into the socket</li> </ul>	<ul style="list-style-type: none"> <li>● Connect properly referring to "Connections" → <u>6</u></li> <li>● Adjust to an required volume → <u>14</u></li> <li>● Switch MUTE OFF → <u>15</u></li> <li>● Unplug the receptor plug → <u>15</u></li> </ul>
The character display blinks and sound is not produced.	<ul style="list-style-type: none"> <li>● The speaker cords are short circuited</li> </ul>	<ul style="list-style-type: none"> <li>● Turn the power OFF, remove the short-circuit, and turn the power ON again → <u>6</u></li> </ul>
Sound is not produced from the left or right speakers.	<ul style="list-style-type: none"> <li>● The speaker cords are disconnected</li> </ul>	<ul style="list-style-type: none"> <li>● Connect properly referring to "System connection" → <u>6</u></li> </ul>
The clock display blinks without changing the figures.	<ul style="list-style-type: none"> <li>● There was a power failure</li> <li>● The power cord was unplugged from the outlet</li> </ul>	<ul style="list-style-type: none"> <li>● Adjust the present time again → <u>44</u></li> <li>● Adjust the present time again → <u>44</u></li> </ul>
Timer operation is not possible.	<ul style="list-style-type: none"> <li>● The present time has not been adjusted or there was a power failure</li> <li>● The timer ON time and OFF time have not been set</li> <li>● The timer execution was not set up</li> </ul>	<ul style="list-style-type: none"> <li>● Adjust the present time referring to "Clock adjustment" → <u>44</u></li> <li>● Set the timer ON time and OFF time → <u>46</u></li> <li>● Press the ►► key to set up the execution → <u>47</u></li> </ul>
Radio stations cannot be received.	<ul style="list-style-type: none"> <li>● The antennas have not been connected.</li> <li>● A proper broadcasting band has not been selected</li> <li>● The frequency of the station to be received is not tuned</li> </ul>	<ul style="list-style-type: none"> <li>● Connect antennas → <u>6</u></li> <li>● Select a band → <u>22</u></li> <li>● Tune to the frequency of the desired station → <u>22</u></li> </ul>
Noise interferes.	<ul style="list-style-type: none"> <li>● Lightning noise</li> <li>● Influence of an electric appliance</li> <li>● A TV set is installed near the system</li> </ul>	<ul style="list-style-type: none"> <li>● Install the outdoor antenna in an apart position from the road → <u>9</u></li> <li>● Switch the suspected electric appliance OFF</li> <li>● Install the TV or the system at an increased distance between them</li> </ul>
A station has been preset but it cannot be received by pressing the P.CALL key.	<ul style="list-style-type: none"> <li>● The frequency of the preset station is not tunable</li> <li>● The preset memory has been cleared because the power cord has been unplugged for a long period</li> </ul>	<ul style="list-style-type: none"> <li>● Preset stations with tunable frequencies → <u>23</u></li> <li>● Preset stations again → <u>23</u></li> </ul>
Demonstration starts suddenly.	<ul style="list-style-type: none"> <li>● The power plug was unplugged from the outlet while the power switch was ON, or there was a power failure</li> </ul>	<ul style="list-style-type: none"> <li>● This is not malfunction. Press the DEMO key to cancel the demonstration → <u>40</u></li> </ul>

## Cassette deck unit

Symptom	Cause	Remedy
Sound cannot be produced by pressing the play key or no operation occurs even when an operation key is pressed.	<ul style="list-style-type: none"> <li>The head is dirty.</li> <li>The tape is wound too tight due to irregular winding.</li> <li>A non-recorded tape is played.</li> </ul>	<ul style="list-style-type: none"> <li>Clean the head referring to "Maintenance" → 49.</li> <li>Try another tape.</li> <li>Play a recorded tape.</li> </ul>
No operation occurs even when an operation key is pressed.	<ul style="list-style-type: none"> <li>The cassette holder is not closed completely.</li> <li>The operation key is pressed immediately after closing the cassette holder.</li> <li>The operation key is pressed in less than 4 seconds after turning the power ON.</li> <li>A tape is not inserted in the unit.</li> <li>The tape is wound too tight due to irregular winding.</li> <li>The tape is fully wound to one of the reels.</li> </ul>	<ul style="list-style-type: none"> <li>Close the holder completely → 18.</li> <li>Press operations keys in more than a few seconds after closing the holder.</li> <li>Press operation keys after waiting for more than 4 seconds.</li> <li>Insert a tape → 18.</li> <li>Try another tape.</li> <li>Change the tape transport direction or reverse the tape insert or orientation → 19.</li> </ul>
The DPSS malfunctions.	<ul style="list-style-type: none"> <li>The tape used is not suitable for DPSS (for example the spaces between tunes may be too short).</li> </ul>	<ul style="list-style-type: none"> <li>Refer to "Searching for the desired music program (DPSS)" → 21.</li> </ul>
In dubbing, the tape stops at different moments in decks A and B.	<ul style="list-style-type: none"> <li>This is due to the difference in the tape length or characteristics of the mechanisms of two cassette decks.</li> </ul>	<ul style="list-style-type: none"> <li>Small time difference does not mean a malfunction.</li> </ul>
The cassette holder cannot be opened by pressing the eject key.	<ul style="list-style-type: none"> <li>The key is pressed during recording or playback.</li> <li>The microcomputer is malfunctioning due to external noise.</li> </ul>	<ul style="list-style-type: none"> <li>Press the stop mode → 25.</li> <li>Unplug the power cord and plug it again → 30.</li> </ul>
Sound is harsh or high frequencies are not reproduced.	<ul style="list-style-type: none"> <li>The head is dirty.</li> <li>The tape is stretched or shrunk.</li> </ul>	<ul style="list-style-type: none"> <li>Clean the head referring to "Maintenance" → 49.</li> <li>Try another tape.</li> </ul>
Sound is distorted.	<ul style="list-style-type: none"> <li>The tape being played was recorded with a distorted sound.</li> </ul>	<ul style="list-style-type: none"> <li>Try another tape.</li> </ul>
Noise is noticeable	<ul style="list-style-type: none"> <li>The tape is not a standard type.</li> <li>External noise is included.</li> <li>A tape recorded with Dolby NR ON is played with Dolby NR OFF.</li> </ul>	<ul style="list-style-type: none"> <li>Clean the head referring to "Maintenance" → 49.</li> <li>Install the system at a distance from other electric appliances and TV.</li> <li>Set the Dolby NR to on → 19.</li> </ul>
Sound vibrates.	<ul style="list-style-type: none"> <li>The capstans or pinch rollers are dirty.</li> <li>The tape is wound irregularly.</li> </ul>	<ul style="list-style-type: none"> <li>Clean the head referring to "Maintenance" → 49.</li> <li>Wind the tape again by "fast forwarding", "rewinding" or "playing from an end to the other" → 19.</li> </ul>
Recording cannot be started by pressing the record key.	<ul style="list-style-type: none"> <li>The recording protect tab of the cassette has been broken.</li> <li>The cassette holder is not closed completely.</li> <li>The TAPE input is selected.</li> <li>The tape is fully wound to one of the reels.</li> </ul>	<ul style="list-style-type: none"> <li>Use a cassette with an unbroken recording protect tab or block the hole → 5.</li> <li>Close the holder completely → 18.</li> <li>Select the source to be recorded with the input selector key → 25.</li> <li>Change the tape transport direction or be B or reverse the tape insert or orientation → 24.</li> </ul>
Volume of the recorded track changed.	<ul style="list-style-type: none"> <li>MIC MIXING control knob is moved during recording.</li> </ul>	<ul style="list-style-type: none"> <li>Fix the MIC MIXING control knob to the left → 42.</li> </ul>

## CD player unit

Symptom	Cause	Remedy
A CD is placed in the player but it cannot be played.	<ul style="list-style-type: none"> <li>● The disc is placed upside down</li> <li>● The disc position is displaced</li> <li>● The disc is extremely dirty</li> <li>● The disc is scratched</li> <li>● Dew is condensed on the optical lens</li> </ul>	<ul style="list-style-type: none"> <li>● Place the disc properly, with the label side facing upward → 16</li> <li>● Place the disc properly → 16</li> <li>● Clean the disc referring to "Disc handling precautions" → 5</li> <li>● Try another disc.</li> <li>● Refer to "Beware of condensation" and remove the condensation by evaporation → 49</li> </ul>
Sound is not produced.	<ul style="list-style-type: none"> <li>● The disc has not been placed.</li> <li>● The player is not put to the play mode</li> <li>● The disc is extremely dirty</li> <li>● The disc is scratched</li> </ul>	<ul style="list-style-type: none"> <li>● Place a disc in the CD player → 16</li> <li>● Press the <b>CD</b>  key → 16</li> <li>● Clean the disc referring to "Disc handling precautions" → 5</li> <li>● Try another disc</li> </ul>
Sound skips.	<ul style="list-style-type: none"> <li>● The disc is dirty</li> <li>● The disc is scratched</li> <li>● The player is subject to vibration</li> </ul>	<ul style="list-style-type: none"> <li>● Clean the disc referring to "Disc handling precautions" → 5</li> <li>● Try another disc.</li> <li>● Install the unit in a place not subject to vibrations</li> </ul>



1. With some tapes, a squeaky noise is produced when the tape is stopped automatically. This is due to the tape protection function, and not a malfunction.
2. Do not use 120-minute tapes, for the tape is too thin and gets easily tangled.
3. 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.

*For the U.S.A.*

**CAUTION:**

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

In compliance with Federal Regulations, following are reproductions of labels on, or inside the product relating to laser product safety.

KENWOOD CORPORATION  
2967-3, ISHIKAWA-CHO,  
HACHIOJI-SHI,  
TOKYO, JAPAN

KENWOOD CORP. CERTIFIES THIS EQUIPMENT CONFORMS TO DHHS REGULATIONS NO. 21 CFR 1040.10, CHAPTER I, SUBCHAPTER J.

Location: Back Panel

*For the U.S.A.*

**FCC WARNING**

This equipment may generate or use radio frequency energy. Changes or modifications to this equipment may cause harmful interference unless the modifications are expressly approved in the instruction manual. The user could lose the authority to operate this equipment if an unauthorized change or modification is made.

**NOTE:**

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment may cause harmful interference to radio communications, if it is not installed and used in accordance with the instructions. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio / TV technician for help.

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*For the U.S.A.*

**Note to CATV system installer:**

This reminder is provided to call the CATV system installer's attention to Article 820-40 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

**Main unit (RXD-G4)****[Amplifier section]****Rated power output**

70 watts per channel minimum RMS, both channels driven, at 6  $\Omega$  from 40 Hz to 15 kHz with no more than 0.5 % total harmonic distortion. (FTC)

**Input sensitivity / Impedance**

AUX ..... 200 mV / 47 k $\Omega$

MIC ..... 2.1 mV / 2.2 k $\Omega$

**Signal to noise ratio**

AUX ..... 86 dB (IHF'66)

**[FM Tuner section]**

Tuning frequency range ..... 87.5 MHz ~ 108 MHz

**[AM Tuner section]**

Tuning frequency range ..... 530 kHz ~ 1,700 kHz

**[Cassette deck section]**

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

Recording system ..... AC bias system

(Frequency: 105 kHz)

**Heads**

A deck Playback head ..... 1

B deck Playback / recording head ..... 1

Erasing head ..... 1

Motors ..... 1

Fast winding time ..... Approx. 120 seconds

(C-60 tape)

**[CD player section]**

Laser ..... Semiconductor laser

Playing rotation ..... 200 rpm ~ 500 rpm (CLV)

Wow & Flutter ..... Unmeasurable Limit

**General**

Power consumption ..... 180 W

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

H: 305 mm (12")

D: 342 mm (13-7/16")

Weight (net) ..... 9.4 kg (20.7 lb)

**Speakers (LS-G4)**

Enclosure ..... Bass-reflex type

Speaker configuration ..... 3-Way system

Woofer ..... 130 mm, cone type

Tweeter ..... 65 mm, cone type

Super tweeter ..... 25 mm, Piezo-Electric type

Impedance ..... 6  $\Omega$

Maximum input level ..... 80 W

**General**

Dimensions ..... W: 180 mm (7-1/16")

H: 305 mm (12")

D: 238 mm (9-3/8")

Weight (net) ..... 3.0 kg (6.6 lb) (1 piece)