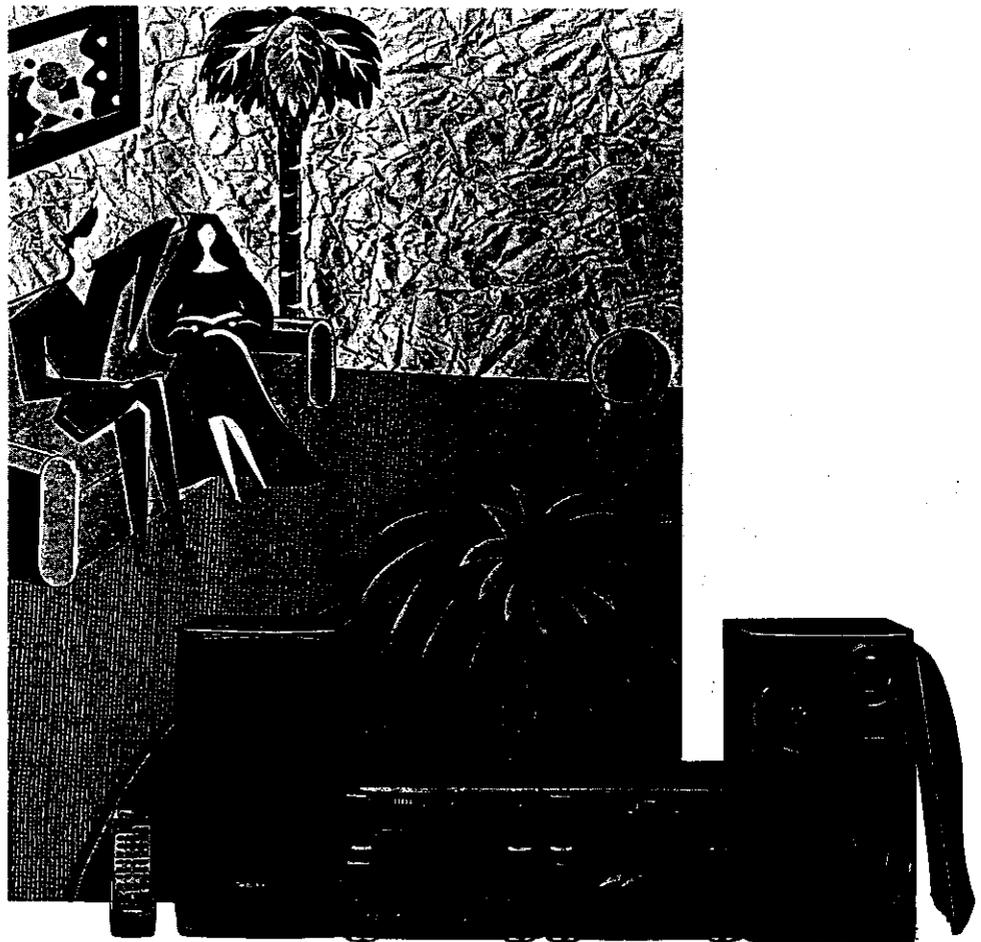


Technics

CD Stereo System SC-CH505

Operating Instructions
Instrucciones de funcionamiento
使用説明書



Before operating this unit, please read these instructions completely.

GC GN

COMPACT
disc
DIGITAL AUDIO
GRAPHICS

RQT2280-G

Dear customer

Thank you for purchasing this system.
For optimum performance and safety,
please read these instructions carefully.

These operating instructions are applicable
to the following systems.

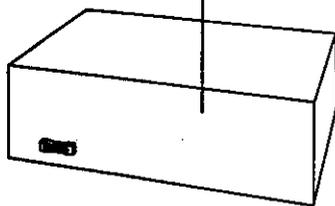
Depending on the area, the model number
of the unit is different. It is indicated in a ().

| | |
|------------------------------|--------------------------------|
| System | SC-CH505 |
| Amplifier | SE-CH505 |
| Tuner/sound processor | ST-CH707 (ST-CH505) |
| Compact disc player | SL-CH707 (SL-CH505) |
| Cassette deck | RS-CH505 |
| Speakers | SB-CH505 |

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**CLASS 1
LASER PRODUCT**



Compact disc player
Reproductor de discos compactos
激光唱機

(Back of product)
(Komponentens bagside)
(產品背面)

**DANGER-Invisible
laser radiation when
open.
AVOID DIRECT EX-
POSURE TO BEAM.**

(Inside of product)

CAUTION!

THIS PRODUCT UTILIZES A LASER.
USE OF CONTROLS OR ADJUSTMENTS OR PER-
FORMANCE OF PROCEDURES OTHER THAN THOSE
SPECIFIED HEREIN MAY RESULT IN HAZARDOUS
RADIATION EXPOSURE.
DO NOT OPEN COVERS AND DO NOT REPAIR YOUR-
SELF. REFER SERVICING TO QUALIFIED PERSONNEL.

¡ADVERTENCIA!

ESTE APARATO UTILIZA UN LASER.
EL USAR LOS CONTROLES, HACER LOS REGLAJES O
LOS PASOS REQUERIDOS EN FORMA DIVERSA DE LA
AQUÍ EXPUESTA PUEDE REDUNDAR EN EXPOSICIÓN
PELIGROSA A LA RADIACIÓN.
NO ABRA LAS TAPAS NI HAGA REPARACIONES
USTED MISMO. EN CASO DE PRODUCIRSE ANO-
MALÍAS SOLICITE AYUDA DE PERSONAL CUALIFI-
CADO.

警告!

本產品使用激光射線。
控制器的使用，調整及操作等如不遵照此處的
說明進行，很可能會受到激光射線的傷害。勿
拆開機殼或自行修理。有問題請交給專業維修
人員。

THIS TUNER/RECEIVER IS CAPABLE OF RECEIVING THE NEW AM STEREO BROADCASTS FROM THE AM BAND RADIO STATIONS. HOWEVER LIKE MANY TUNERS AND RECEIVERS CURRENTLY AVAILABLE ON THE MARKET IT WILL REPRODUCE THIS AM STEREO SIGNAL ONLY IN AM MONO, WHICH, IN EFFECT, IS OF NO LESSER QUALITY THAN YOUR EXISTING AM MONO TUNER/RECEIVER.

Suggestions for safety

■ Use a standard AC wall outlet

1. Use from an AC power source of high voltage, such as that used for an air conditioner, is very dangerous. A fire might be caused by such a connection.
2. A DC power source cannot be used. Be sure to check the power source carefully, especially on a ship or other place where DC is used.

■ Grasp the plug when disconnecting the power supply cord

1. Wet hands are dangerous. A dangerous electric shock may result if the plug is touched by wet hands.
2. Never place heavy items on top of the power supply cord, nor force it to bend sharply.

■ Place the unit where it will be well ventilated

Place this unit at least 10 cm (4") away from wall surfaces, etc.

■ Avoid places such as the following:

In direct sunlight or in other places where the temperature is high.

In places where there is excessive vibration or humidity.

Such conditions might damage the cabinet and/or other component parts and thereby shorten the unit's service life.

■ Be sure to place the unit on a flat, level surface

If the surface is inclined, a malfunction may result.

■ Never attempt to repair nor reconstruct this unit

A serious electric shock might occur if this unit is repaired, disassembled or reconstructed by unauthorized persons, or if the internal parts are accidentally touched.

■ Take particular care if children are present

Never permit children to put anything, especially metal, inside this unit. A serious electric shock or malfunction could occur if articles such as coins, needles, screwdrivers, etc. are inserted through the ventilation holes, etc. of this unit.

■ If water is spilled on the unit

Be extremely careful if water is spilled on the unit, because a fire or serious electric shock might occur. Immediately disconnect the power cord plug, and consult with your dealer.

■ Avoid spray-type insecticides

Insecticides might cause cracks or "cloudiness" in the cabinet and plastic parts of this unit. The gas used in such sprays might, moreover, be ignited suddenly.

■ Never use alcohol or paint thinner

These and similar chemicals should never be used, because they might cause flaking or cloudiness of the cabinet finish.

■ Disconnect the power supply cord if the unit will not be used for a long time

If the unit is left for a long time with the power ON, this not only will shorten its useful operation life, but also may cause other trouble.

■ If trouble occurs

If, during operation, the sound is interrupted or indicators no longer illuminate, or if an abnormal odour or smoke is detected, immediately disconnect the power cord plug, and contact with your dealer or an Authorized Service Center.

Before use

(For the areas except for Australia and New Zealand)

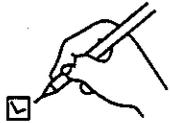
Be sure to disconnect the mains cord before adjusting the voltage selector.

Use a minus (-) screwdriver to set the voltage selector (on the rear panel) to the voltage setting for the area in which the unit will be used.

(If the power supply in your area is 117 V or 120 V, set to the "127 V" position.)

Note that this unit will be seriously damaged if this setting is not made correctly. (There is no voltage selector for some countries; the correct voltage is already set.)

Supplied accessories



Please check and identify the supplied accessories.



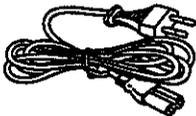
Video connection cable1 pc.
(For areas except Australia and New Zealand)
(See page 26.)



AC power supply cord1 pc.

Note

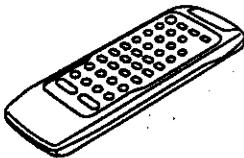
The configuration of AC power supply cord differs according to area.



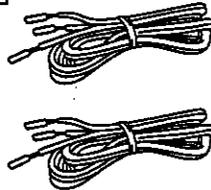
FM indoor antenna1 pc.



Remote control transmitter1 pc.



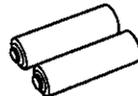
Speaker cords2 pcs.



Flat cable (long)1 pc.



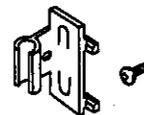
Remote control batteries (UM-4, "AAA", R03)2 pcs.



Flat cable (short)1 pc.



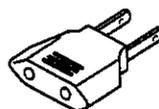
Antenna holder1 pc.
Screw1 pc.



AM loop antenna1 pc.



Power plug adaptor1 pc.
(For areas except Australia and New Zealand)



Location of controls

The functions indicated by the numbers with black background (for example ❶) can also be activated from the remote control transmitter. (See pages 150 and 152.)

Amplifier section

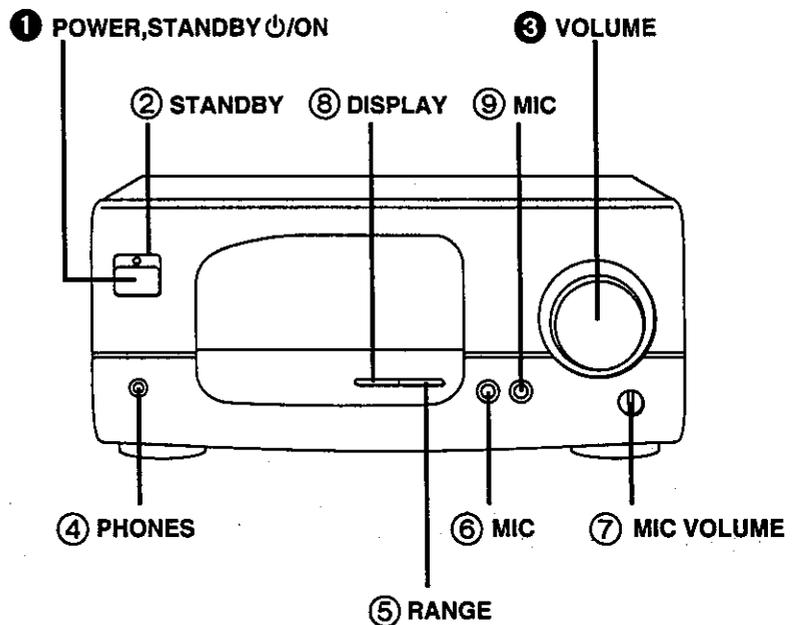
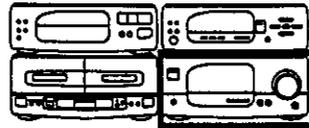
- ❶ **Power "STANDBY \odot /ON" switch (POWER, STANDBY \odot /ON)**
Press to switch the unit from on to standby mode or vice versa. In standby mode, the unit is still consuming a small amount of power.
- ❷ **Standby indicator (STANDBY)**
When the unit is connected to the AC mains supply, this indicator lights up in standby mode and goes out when the unit is turned on.
- ❸ **Volume control**
- ❹ **Headphones jack**
- ❺ **Range select button**
- ❻ **Microphone jack**
- ❼ **Microphone volume control**
- ❽ **Display mode button**
- ❾ **Microphone jack**
(For areas except Australia and New Zealand)

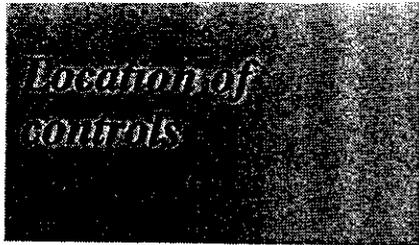
(To be continued)

If you have not yet installed and connected this system, go straight to pages 16-26.

Si usted no ha instalado ni conectado aún este sistema, pase directamente a las páginas 17-27.

如果您還未安裝和連接本機，請直接參看第 17 ~ 27 頁。





(Continued)

Compact disc section **A**

- ① Random play button
- ② Repeat play button
- ③ Stop button
- ④ Pause button
- ⑤ Play button and indicator
- ⑥ Compact disc edit button
- ⑦ Skip/search buttons
- ⑧ Disc tray open/close button

CD Graphics (For areas except Australia and New Zealand)

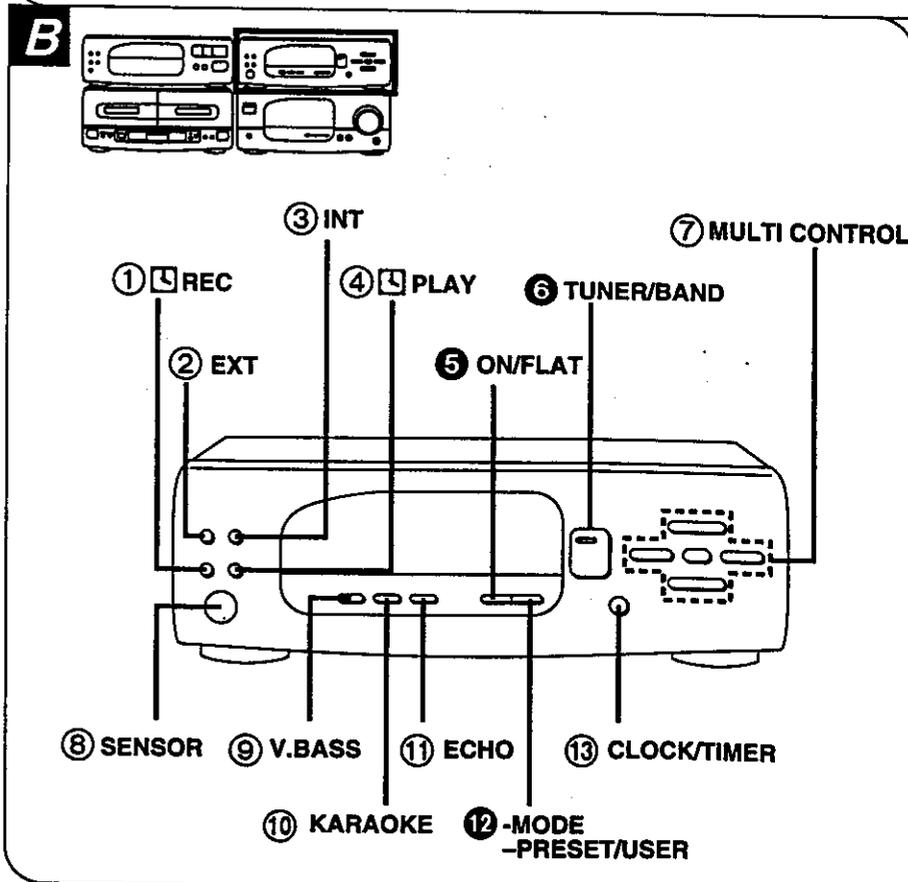
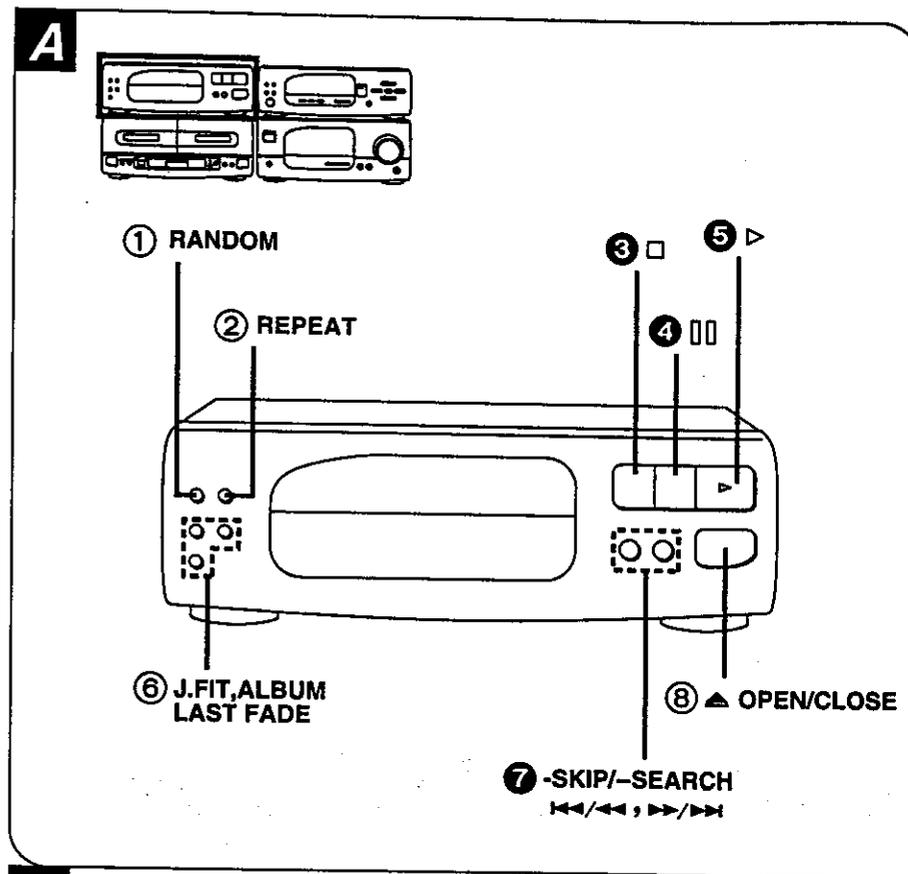
This unit has CD Graphics function. You can enjoy karaoke complete with visual imagery and the text by connecting your TV set to this unit. Use CDs marked **GRAPHICS** to enjoy CD graphics.

(See page 26.)

Tuner/sound processor section **B**

- ① Record timer button
- ② External source input select button
- ③ Internal source input select button
- ④ Play timer button
- ⑤ EQ/SPACE mode ON/FLAT button
- ⑥ Tuner source/band select button
- ⑦ Multi-control buttons
- ⑧ Remote control signal sensor
- ⑨ V. bass button
- ⑩ Voice mute button
- ⑪ Echo button
(For areas except Australia and New Zealand)
- ⑫ EQ/SPACE mode select button
- ⑬ Clock/timer button

(To be continued)

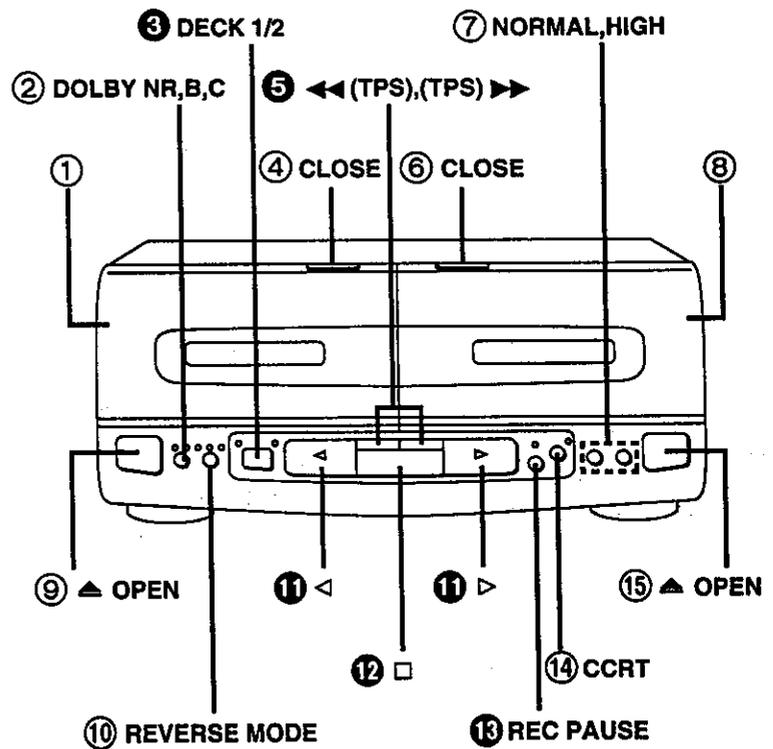
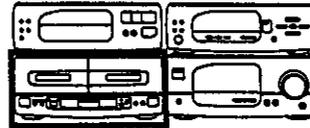


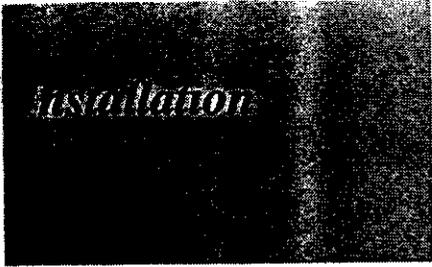
Location of controls

(Continued)

Cassette deck section

- ① Deck 1 cassette holder
- ② Dolby noise reduction button and indicator
- ③ Deck 1/deck 2 select button and indicators
- ④ Deck 1 cassette holder close button
- ⑤ Fast forward/rewind/tape program sensor buttons
- ⑥ Deck 2 cassette holder close button
- ⑦ One-touch tape edit buttons
- ⑧ Deck 2 cassette holder
- ⑨ Deck 1 cassette holder open button
- ⑩ Reverse mode button and indicators
- ⑪ Playback buttons and indicators
- ⑫ Stop button
- ⑬ Record pause button and indicator
- ⑭ CCRT button and indicator
- ⑮ Deck 2 cassette holder open button





Stacking the components

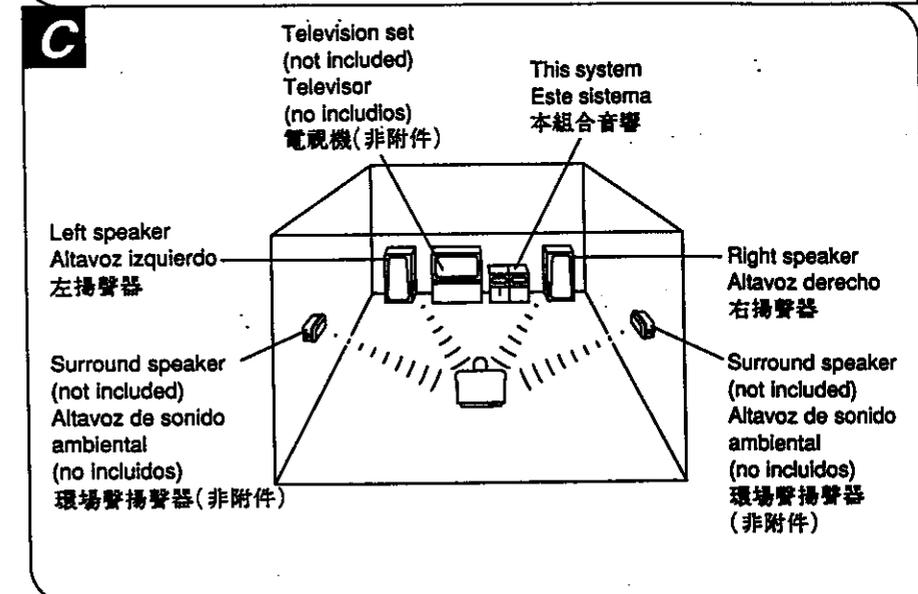
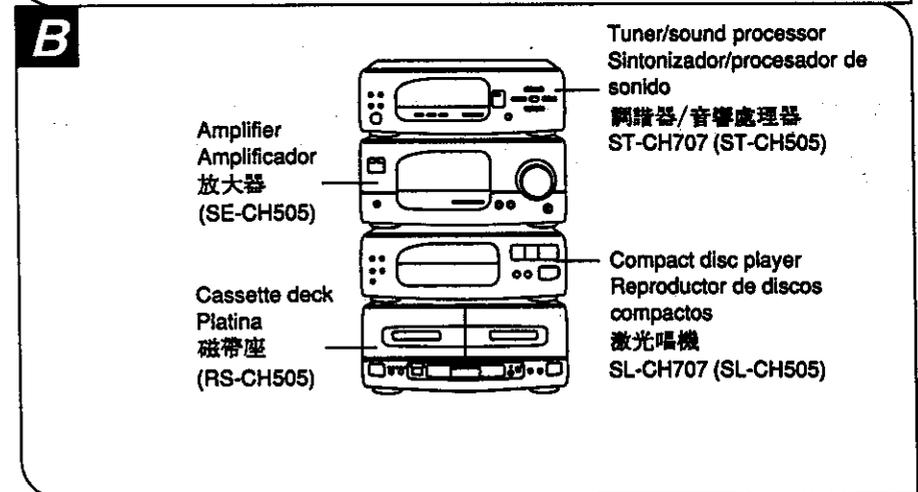
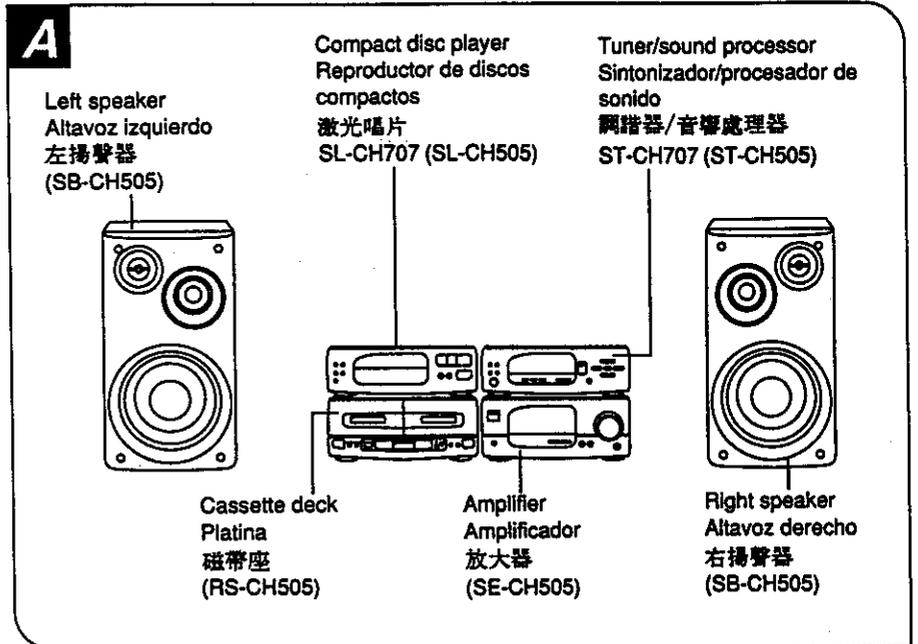
Install the various components as shown below.
Depending on the area, the model number of the unit is different. It is indicated in a ().

Horizontal stacking **A**

Vertical stacking **B**

System layout example **C**

To produce a better stereo sound, install both speakers away from the system.
Surround sound effect differs according to where you install the surround speakers. Install them as you like.



1 Connect the flat cables.

Hold the connector with the recessed part up and press in at the center until you hear a click.

1. Connect the shorter flat cable to the terminal of the tuner/sound processor and amplifier.

2. Connect the longer flat cable to the terminal of the tuner/sound processor, compact disc player, and cassette deck.

Route the cable horizontally (underneath the heat outlet grille) so that the side with the white-color lead is positioned at the front.

Be sure to connect the blue-colored connector to B1 (tuner/sound processor).

After connection, hold and press the cable as flat to the back of the unit as possible.

Do not try connecting or disconnecting the flat cables while the power is switched to ON.

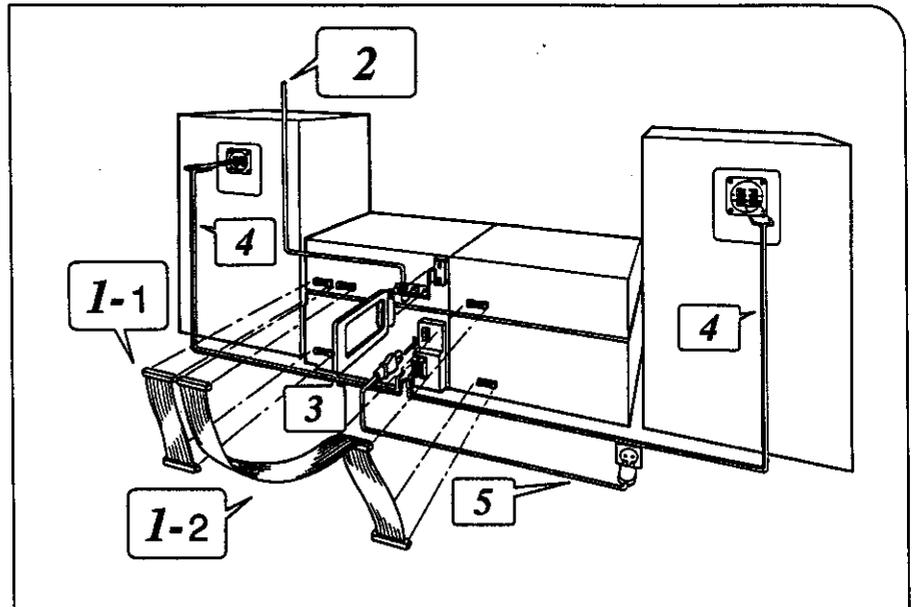
2 Connect the FM Indoor antenna.

Install the antenna on a wall at a height and in a direction which result in the best reception.

The tip of the internal antenna wire should not come into contact with any metal objects.

When you cannot get a good reception with this FM indoor antenna, we recommend you install an FM outdoor antenna (not included). (See page 24.)

(To be continued)



1

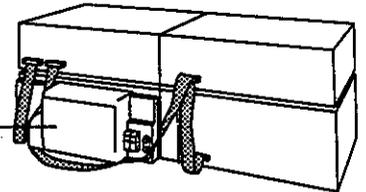
Connecting
Conexión
連接



Disconnecting
Desconexión
拆開



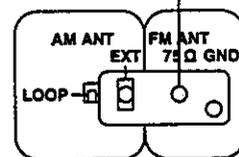
Heat outlet grille
Rejilla de escape de calor
排熱孔格柵



2

Adhesive tape
Cinta adhesiva
膠帶

FM indoor antenna (included)
Antena interior de FM (incluida)
FM 室內天線(附件)



(Continued)

3 Connect the AM (MW/LW) loop antenna.

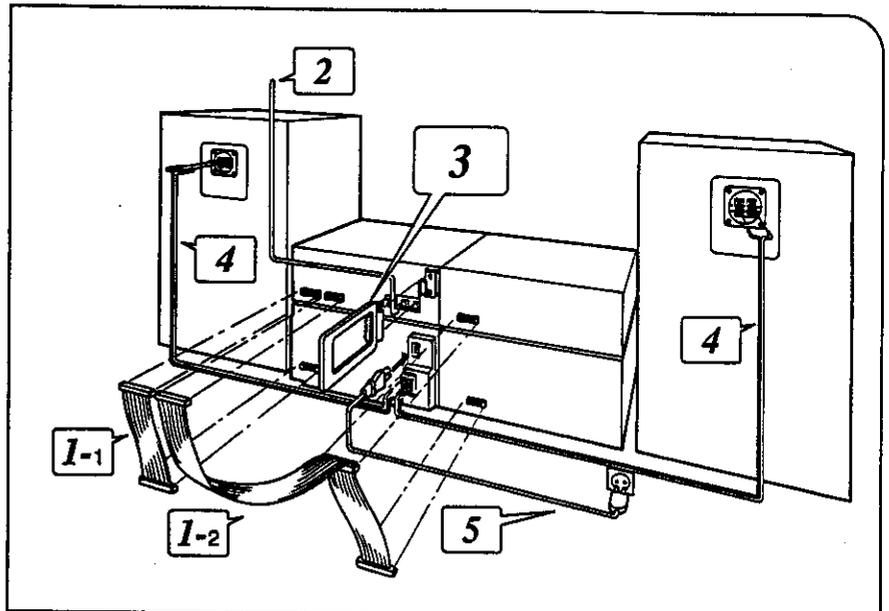
1. Attach the antenna holder to the rear panel of the tuner/sound processor.
2. Clamp the antenna to the antenna holder and connect the antenna terminal to the rear panel of the tuner/sound processor.
3. Position the loop for the best reception.

You may attach the antenna holder to a rack or other structure. Use a screw (included) to attach as shown in the figure. **A**

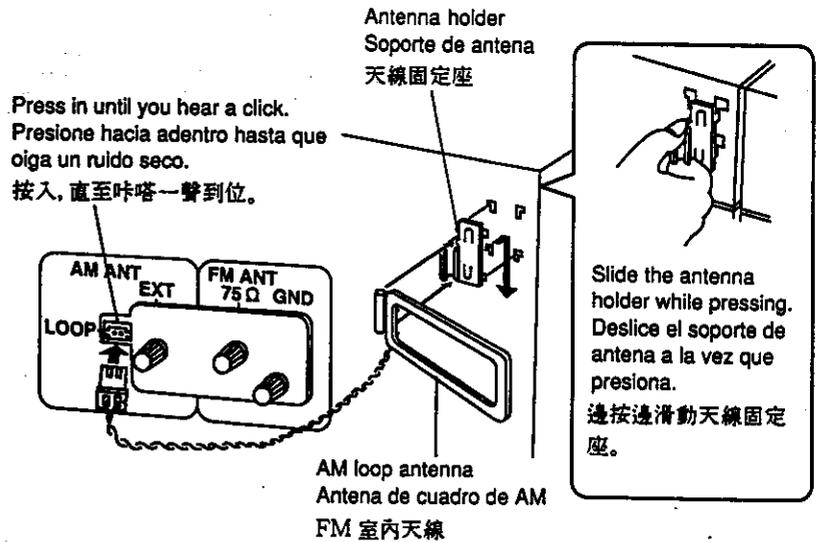
Note

To minimize noise pickup, keep the AM loop antenna cord away from the flat cables.

(To be continued)



3



A



(Continued)

4 Connect the right (R) left (L) speaker cables.

Note

Be sure to connect speaker cables before connecting the AC power supply cord.

•The load impedance of any speaker used with this unit must be 6–8 ohms.

Connection of speaker cables **A**

1. Strip off the outer covering, and twist the center conductor. Make sure the bare ends of the wires are not unraveled. (If they are, twist them tight again.)
2. ① Tilt the lever back and insert the wire.
② Close the lever and pull the cord gently to be sure that it is secured.
3. Insert the wire to the rear panel of the amplifier, and pull down the lever.

Notes

- To prevent damage to circuitry, never short-circuit positive (+) and negative (–) speaker wires.
- Be sure to connect only positive (+) wires to positive (+) terminals and negative (–) wires to negative (–) terminals.

5 Connect the AC power supply cord after you have connected all other cables and cords.

(For areas except Australia and New Zealand)

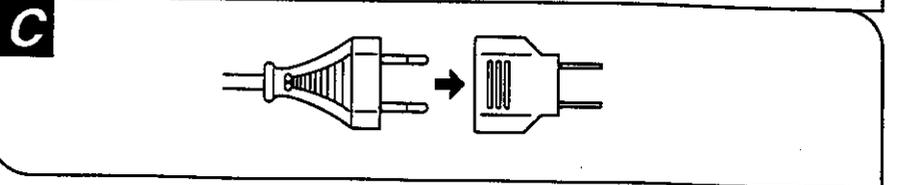
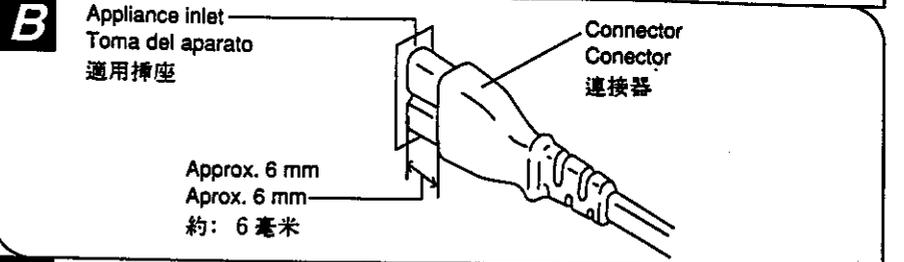
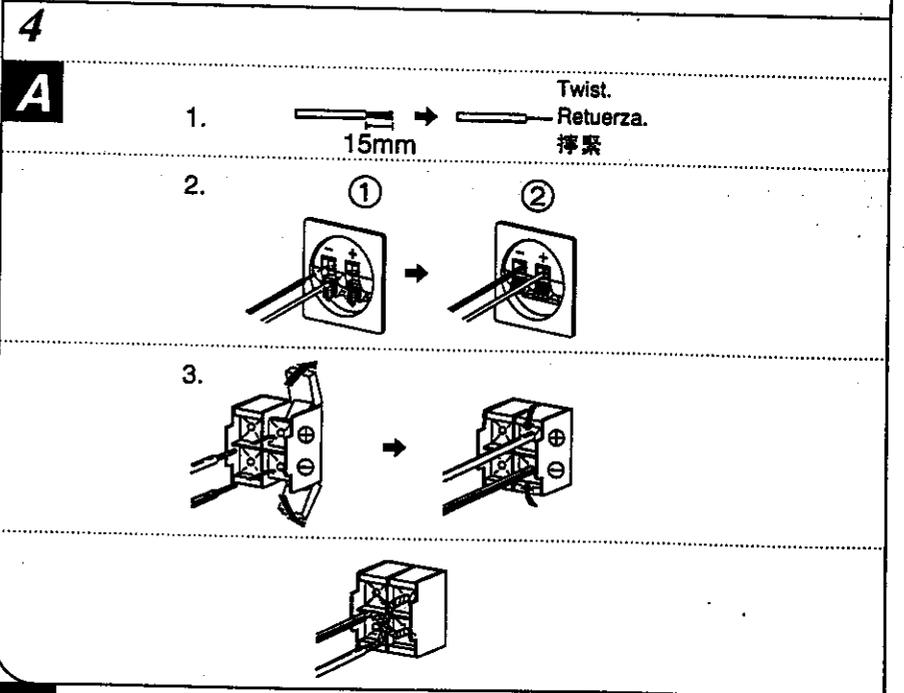
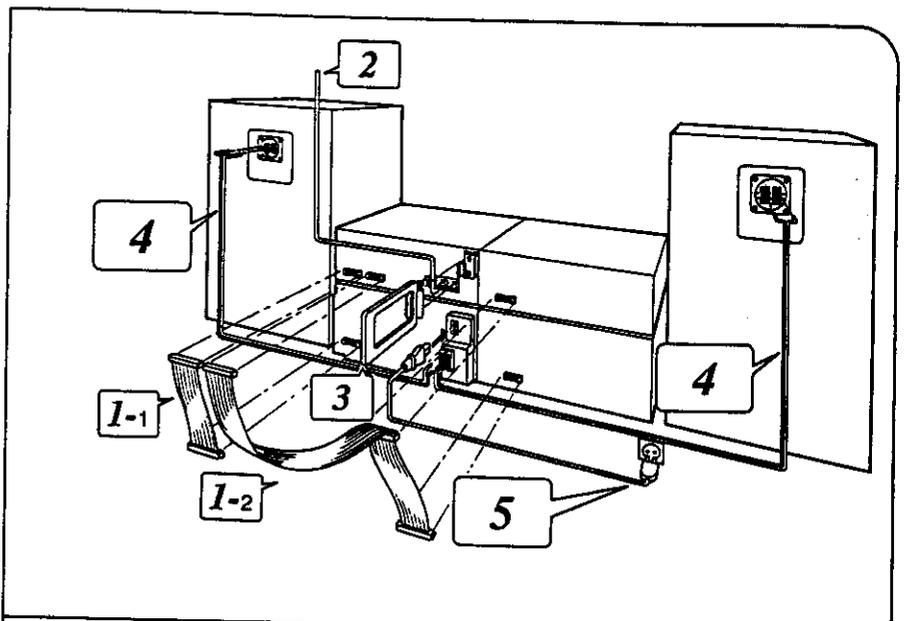
Insertion of connector **B**

Even when the connector is perfectly inserted, depending on the type of inlet used, the front part of the connector may jut out as shown in the drawing. However there is no problem using the unit.

For areas except Australia and New Zealand **C**

If the power plug will not fit your socket, use the power plug adaptor (included).

(To be continued)



(Continued)

Optional antenna connections

FM outdoor antenna (not included)

A

If the FM indoor antenna does not provide satisfactory reception of FM broadcasts, use an outdoor antenna.

You may need an outdoor antenna if you use this system in a mountainous region or inside a reinforced-concrete building, etc. An outdoor antenna should be installed by a competent technician only.

Connection of the FM outdoor antenna

1. Remove a piece of the outer vinyl sheath from the end.
2. Bundle the shield braid, and remove a piece of the inner vinyl sheath covering the core wire.
3. Connect the core wire and the shield braid.

AM (MW/LW) outdoor antenna (not included)

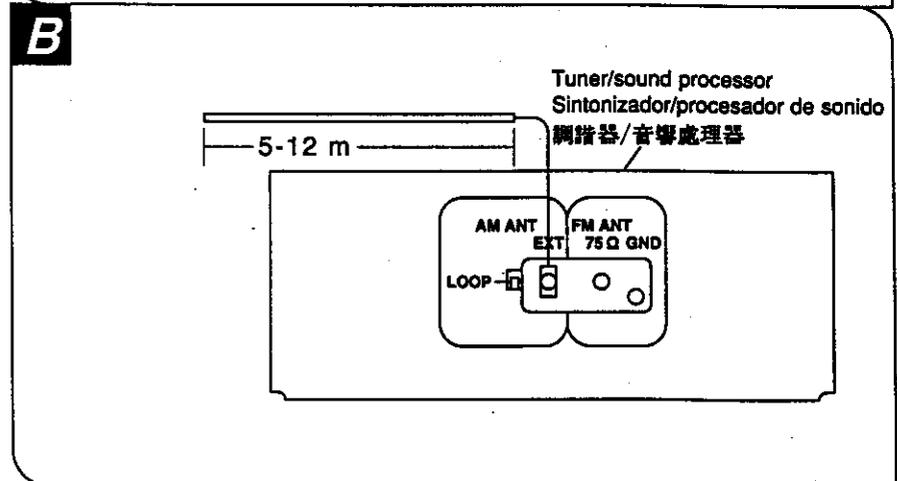
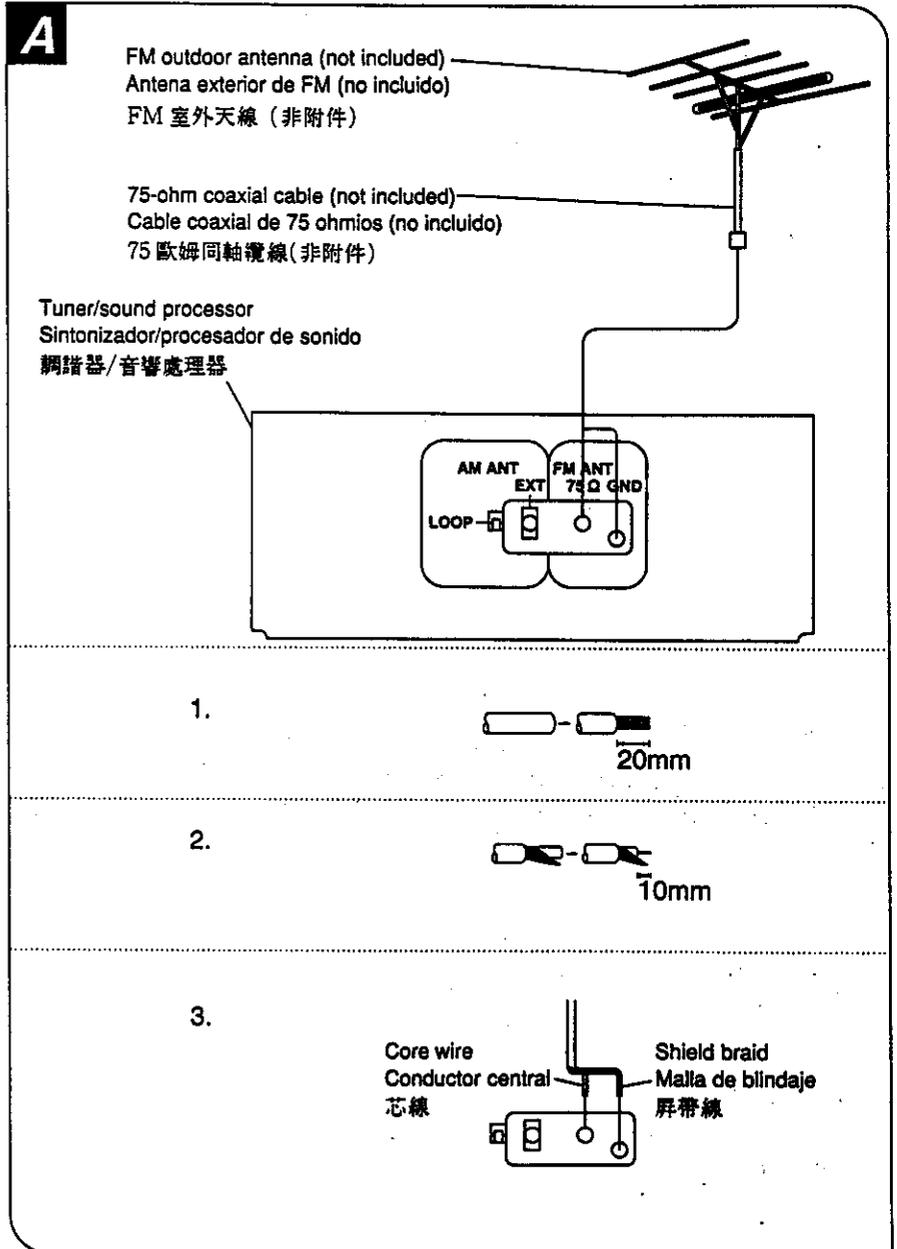
An outdoor antenna may be required in a mountainous region, or if this system is located inside a reinforced-concrete building, etc.

Run 5 to 12 m of vinyl-covered wire horizontally along a window or other convenient location.

Note

Do not remove the AM loop antenna.

(To be continued)



Connections

(Continued)

External unit connection

DCC (digital compact cassette deck)

A

Analog player **B**

Rear surround speakers **C**

Note

Be sure to connect both speaker systems. If only one side is connected, no sound will be heard.

Install each speaker left and right at the back of the listening space.

CD graphics (For areas except Australia and New Zealand) **D**

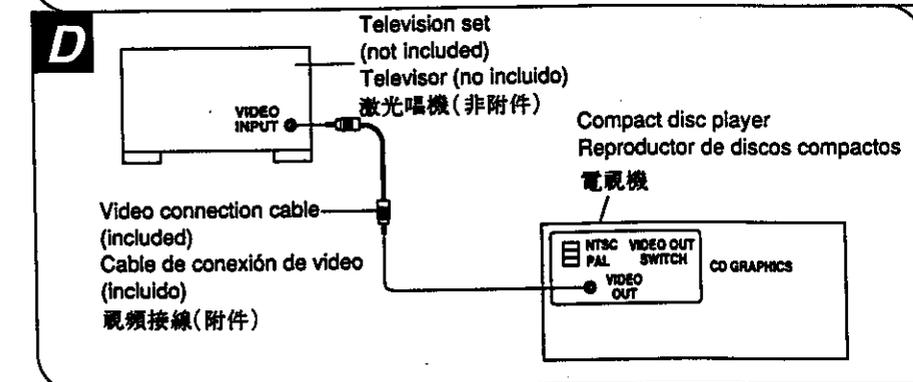
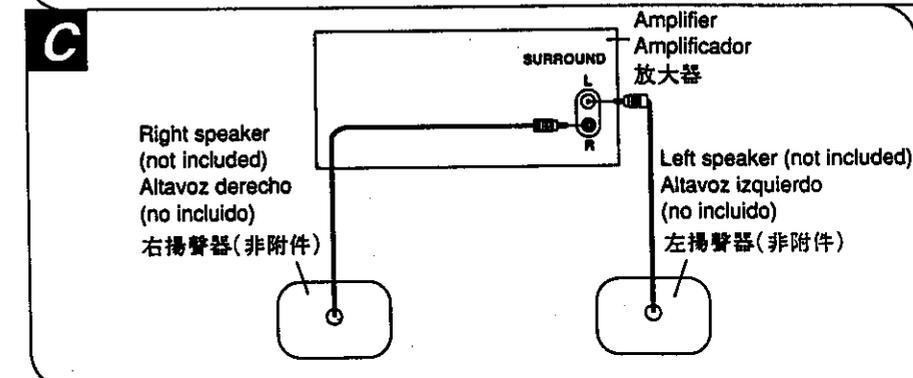
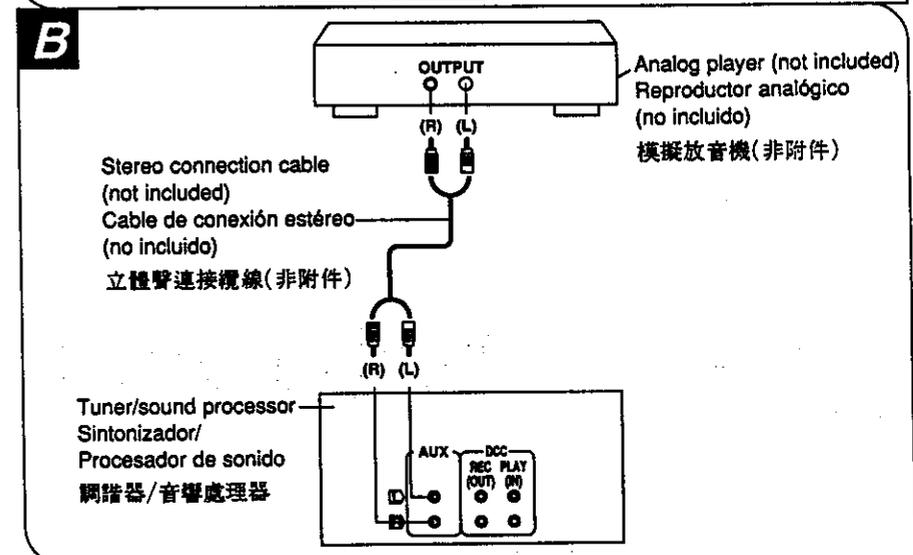
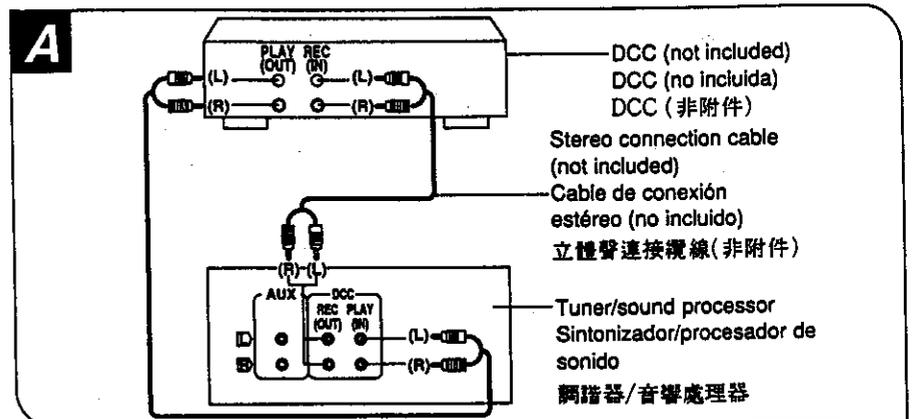
"CD graphics" refers to CDs containing pre-recorded still-picture data and the text in addition to their music, and it is mainly used for karaoke.

You can enjoy karaoke complete with visual imagery by connecting your TV set to this unit.

1. Connect the TV set to this unit.
2. Set the TV's TV/VCR selector to the "video" position.
3. Proceed with steps 1 to 4 (on page 138) in the section on "Karaoke".

Notes

- Use CDs marked **GRAPHICS** to enjoy CD graphics. No picture will appear with CDs which are not marked in this way.
- Skipping forward or backward during CD graphics play may cause the picture to shift for a short period of time. This is not indicative of malfunctioning. If play is left to continue, the picture will return to normal.
- This unit does not come with a graphics channel selection or fade-out function.
- Set the CD player according to the television set.
NTSC: When receiving NTSC signals
PAL: When receiving PAL signals
- For details, see the operation manual of the television set.



Concerning the multi-control section

Using the multi-control buttons, you can make following operation.

- Clock/timer settings
- Tuning or presetting the radio station
- Selecting or adjusting the EQ or SPACE mode
- The reverberation time adjustment (ECHO—for areas except Australia and New Zealand)

When operating, the display shows which buttons are available for the operation.

The chart below shows the display and the available buttons for each operation.

Clock/timer operation **A**

- Time setting (See page 34.)
- Record timer setting (See pages 126, 128 and 130.)
- Play timer setting (See pages 120, 122 and 124.)
- Sleep timer setting (See page 132.)

Radio operation **B**

- Automatic memory presetting (See pages 36 and 38.)
- Manual memory presetting (See page 40.)
- Manual tuner operation (See page 42.)
- Memory tuner operation (See page 42.)

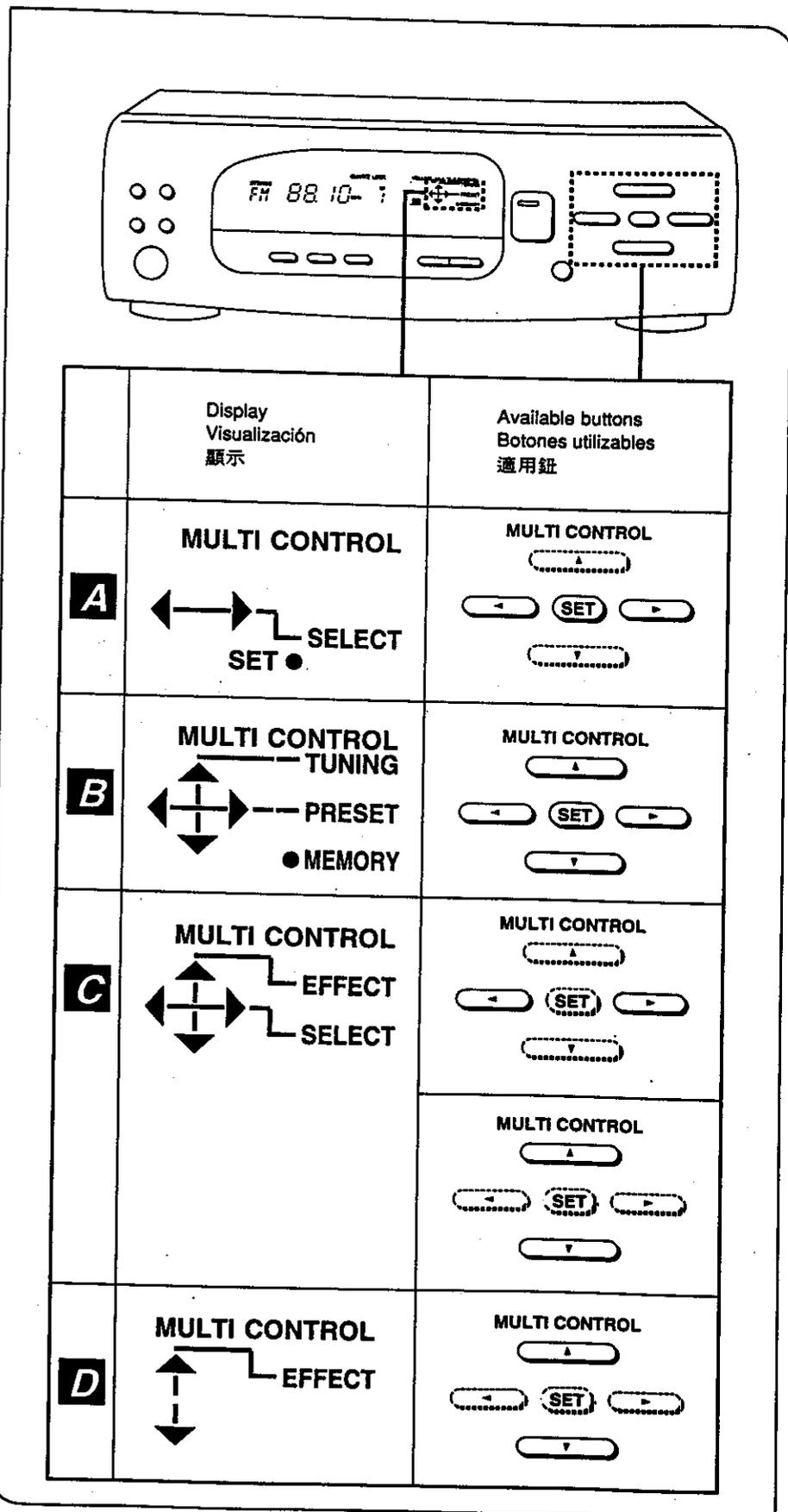
EQ/SPACE operation **C**

- The EQ/SPACE mode selection (See pages 106, 108, 110 and 112.)
- The EQ/SPACE mode effect adjustment (See page 114.)

ECHO operation (For areas except Australia and New Zealand) **D**

"ECHO" effect adjustment (See page 138.)

(To be continued)



Concerning the multi-control system

(Continued)

Demonstration function **A**

By keeping pressed V. BASS, the demonstration example shows on the display alternately.

Press and hold V. BASS.

The display will change alternately showing the display example when the multi control buttons are used.

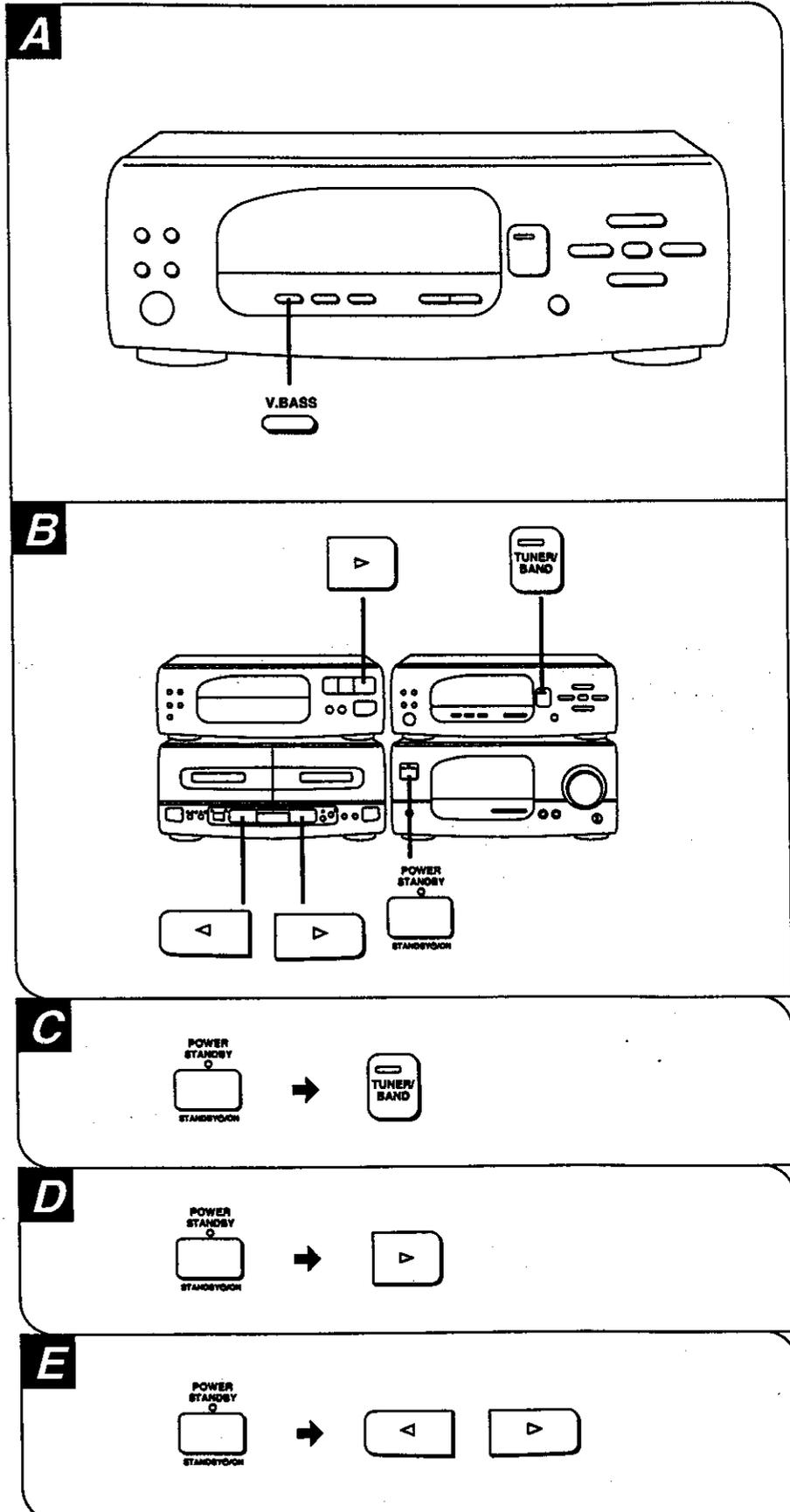
To cancel, press any button on the system.

About the illumination guide

B

Orange indicators on the buttons guide you to the easiest steps toward listening pleasure.

- To listen to a radio broadcast: **C**
- To listen to a compact disc: **D**
- To listen to a tape: **E**



Concerning the remote control

Battery installation **A**

Use of batteries

- Do not mix old and new batteries, or batteries of different types (carbon and alkaline, etc.).
- Never subject batteries to excessive heat or flame; do not attempt to disassemble them; and be sure they are not short-circuited.
- If the remote control is not to be used for a long period of time, remove the batteries and store them in a cool, dark place.
- Do not attempt to recharge alkaline or carbon batteries.

Battery life

The battery life is about one year.

The batteries should be replaced if commands from the remote control transmitter do not operate the unit even when the transmitter is held close to the front panel.

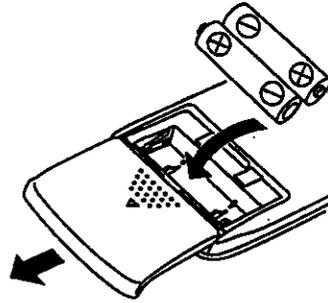
Correct method of use **B**

Operation notes

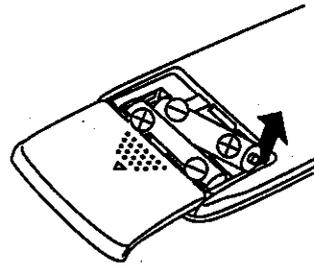
- Aim the remote control's transmission window toward the unit's sensor. Avoid any obstacles.
- Be sure the transmission window and the unit's sensor are free from dust. Excessive dust might affect its performance.
- The operation may not be correct if direct sunlight or other strong light source strikes the receiving sensor of this unit. If there is a problem, place the unit away from the light source.
- If this system is installed in a rack with glass doors, the glass doors' thickness or color might make it necessary to use the remote control a shorter distance from the system.
- Never place heavy items.
- Do not disassemble or reconstruct.
- Do not spill water or other liquids.

A

Insert the batteries in the correct polarities (\oplus , \ominus).
 Inserte las pilas colocando correctamente las polaridades (\oplus , \ominus).
 要極性(\oplus 、 \ominus)正確地插入電池。

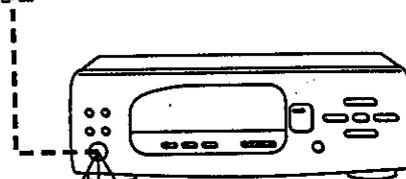


To remove the batteries, pull out the \oplus side.
 Para extraer las pilas, saque el lado \oplus .
 取出電池時，拉 \oplus 極邊。



B

Remote control signal sensor
 Sensor de señales del mando a distancia
 遙控信號感應器



Tuner/sound processor
 Sintonizador/procesador de sonido
 調諧器/音響處理器

Setting the time

This is a 24-hours display clock.
These instructions explain how to set the timer for 16:25 (4:25 p.m.) on Wednesday.

- 1 Switch on the power on the amplifier.
- 2 ① Press CLOCK/TIMER to select "CLOCK".
Within 7 seconds
② Press SET.
- 3 ① Press ► or ◀ to select "WED".
② Press SET.
- 4 ① Press ► or ◀ to select "16".
② Press SET.
- 5 ① Press ► or ◀ to select "25".
② Press SET to finish setting the time.

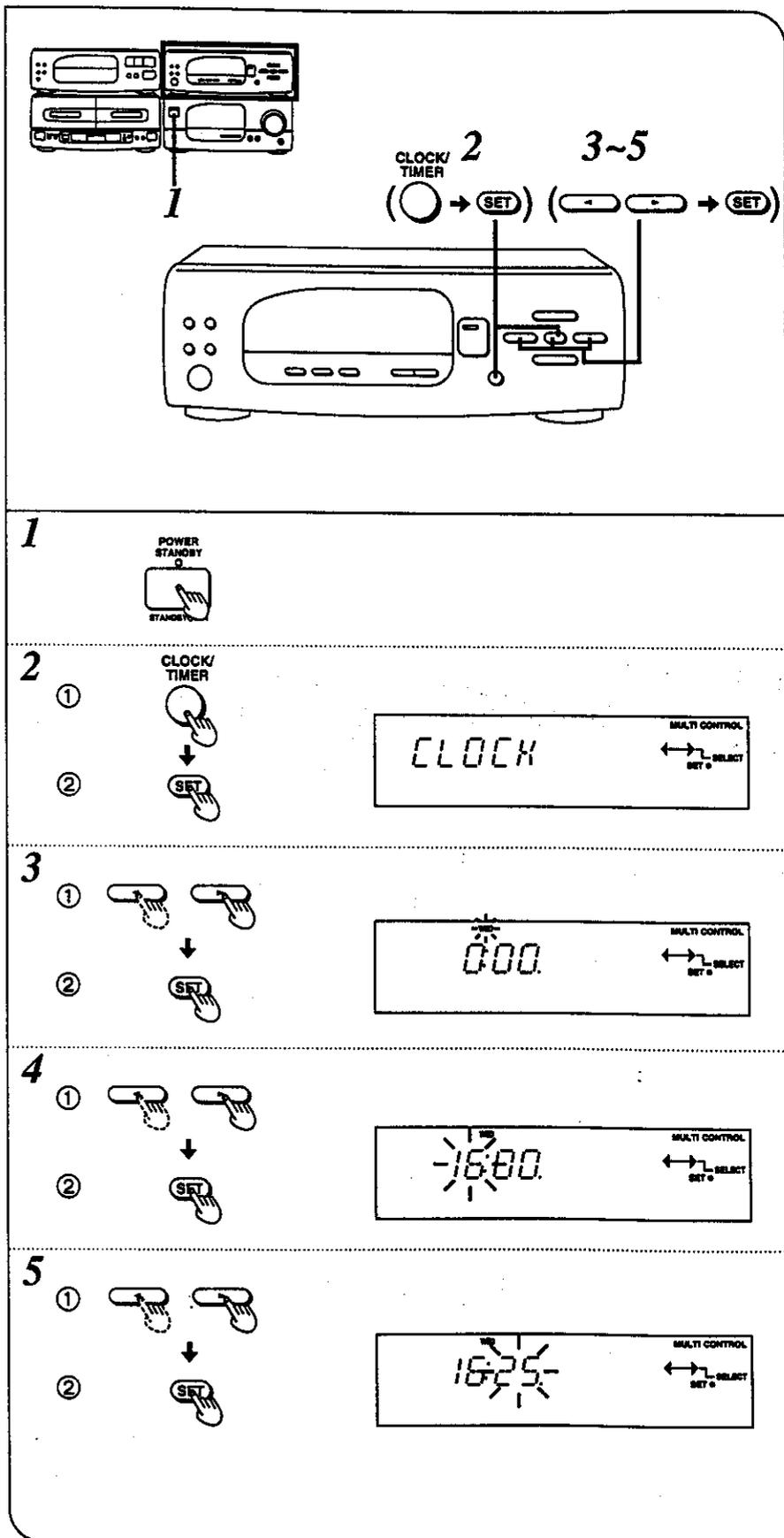
The display will return to the previous display after about 2 seconds.

When "E:" appears on the display:
It appears when you connect the power supply cord for the first time or if there has been a power failure.
If this happens, reset the time.

If the minutes setting has gone wrong:

1. Press CLOCK/TIMER.
2. Press SET 3 times.
3. Press ► or ◀ to set the minute, and then press SET.

For your reference:
To display the clock again:
Press CLOCK/TIMER.
The clock display will appear for about 7 seconds.



Memory presetting

This feature allows you to set broadcast frequencies into the memory. You can then easily retrieve any of those broadcast frequencies by pressing ► or ◀ on the tuner/sound processor.

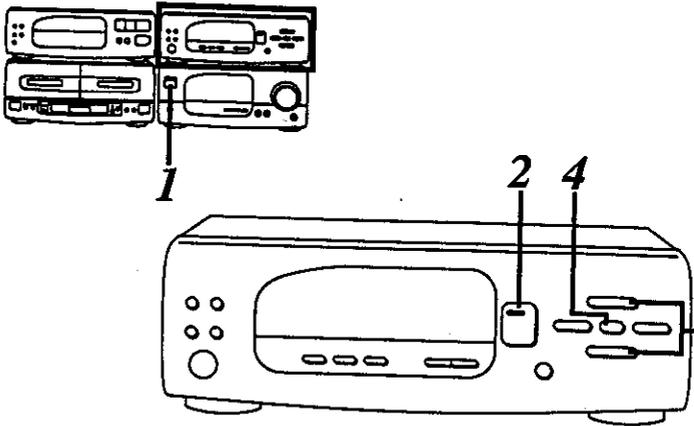
Automatic memory presetting

The frequencies of the selected broadcast stations are automatically preset (in sequence from lower to higher frequencies) into the memory: "channels" 1 to 39 are available for the presetting of FM stations, "channels" 21 to 39 are available for MW stations and "channels" 31 to 39 are available for LW stations.

- 1** Switch ON the power on the amplifier.
- 2** Press TUNER/BAND to select FM.
Each time you press TUNER/BAND, "FM", "MW", "LW" will appear in order.
- 3** Press and hold ▲ or ▼ until the display shows the frequency from which you want to begin automatic memory presetting.
Press ▲ or ▼ momentarily to stop changing frequencies when the displayed frequency approaches the lowest frequency. Press ▲ or ▼ a few times until the lowest frequency is reached.
- 4** Press and hold SET and the automatic memory presetting will begin.
Keep SET depressed until MEMO indicator starts flashing, then release the button.

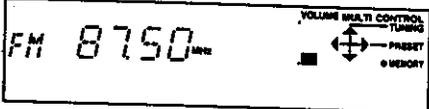
After completing the memory presetting, MEMO indicator will go out and the display will show the last preset frequency.

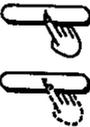
(To be continued)



- 1**

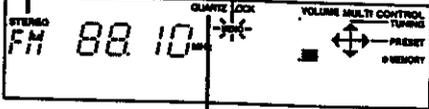

POWER STANDBY
- 2**



TUNER/BAND
- 3**

- 4**


SET

Lights when an FM stereo broadcast is being received.
Se enciende cuando se recibe una emisión en estéreo por FM.
當接收 FM 立體聲廣播時亮起。



Flashes.
Parpadea.
閃爍

Lights when you precisely tune in a broadcast station.
Se enciende cuando se sintoniza con precisión una emisora de radiodifusión.
當進行廣播電台微調時亮起。

Memory presetting

(Continued)

To preset MW, LW broadcast frequencies into the memory:

(See page 36.)

1. Select MW in step 2, then follow steps 3 and 4.
2. Select LW in step 2, then follow steps 3 and 4.

To confirm the preset stations:

Press ► or ◀.

Note

When you preset a broadcast station to a channel that has already been preset, the previous presetting will be erased. So if, for example, FM frequencies are preset from channel 1 to 39 and then MW frequencies are preset, the first MW frequency will be preset to channel 21 (thus erasing the FM presetting to channel 21), the second MW frequency will be preset to 22 (erasing FM 22), and so on.

About the TUNER/BAND Indicator:

While listening to radio broadcasts:

Lights in green.

While listening to compact discs or tapes:

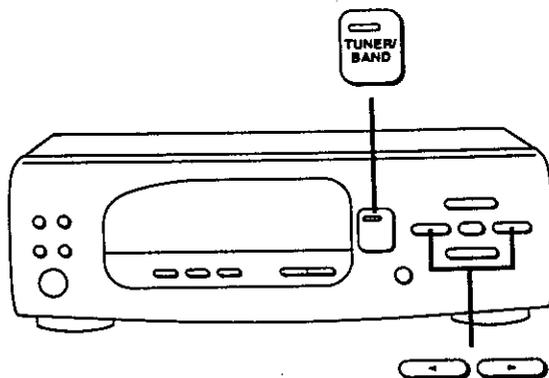
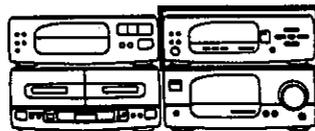
Lights in orange.

Preset memory contents maintenance:

The contents of the memory will continue to be stored for approximately 2 weeks, even if the power supply cord is disconnected.

Correct presetting may not be possible in cases where the broadcast waves are too strong or too weak. In such cases, carry out presetting manually. (See page 40.)

(To be continued)



Memory presetting

(Continued)

Manual memory presetting

This example shows how to memorize FM 88.10 MHz into preset channel 1.
This feature allows you to preset manually preset stations into any desired channel.

- 1** Press TUNER/BAND to select FM or MW or LW.
Each time you press TUNER/BAND, "FM", "MW", "LW" will appear in order.
- 2** Press ▲ or ▼ to tune in to the desired broadcast.
- 3** Press SET momentarily.
- 4** Press ► or ◀ to select the desired preset channel.
- 5** Press SET momentarily.
MEMO indicator will go out.

Automatic scanning:

Press and hold ▲ or ▼ until the displayed frequency begins to change.

- The changing of the displayed frequency will automatically stop if a broadcast station frequency is located during the tuning process.
- When there is excessive interference, the automatic scanning may not function.

To cancel the automatic scanning, press ▲ or ▼ once again.

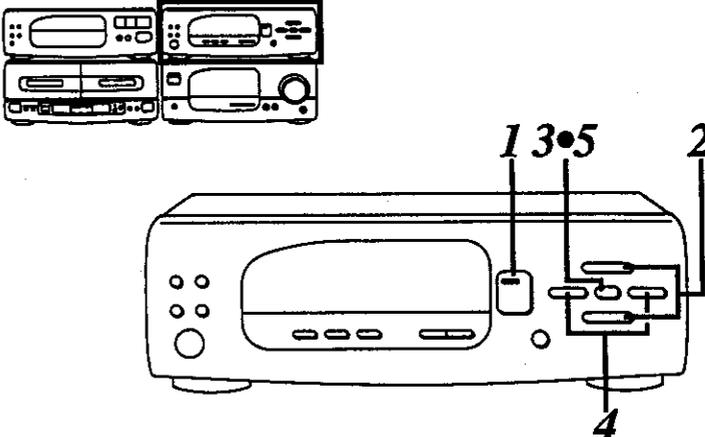
To preset FM stations in monaural position:

1. Select the desired frequency.
2. Press FM MODE on the remote control to show "MONO".
3. Follow the procedure 3–5 above.

About the frequency step:

Each time you press ▲ or ▼, the frequency display will change as follows:

- FM: 0.05 MHz step
- MW: 9 kHz or 10 kHz step
(To change the MW allocation, see page 44.)
- LW: 9 kHz step



1 

2 

3 

4 

5 

1 Illustrates pressing the TUNER/BAND button. The display shows "STEREO FM 88.10 MHz" and "QUARTZ LOCK ON".

2 Illustrates pressing the tuning arrows. The display shows "STEREO FM 88.10 MHz" and "QUARTZ LOCK ON".

3 Illustrates pressing the SET button. The display shows "STEREO FM 88.10 MHz" and "QUARTZ LOCK ON". The text indicates: "Illuminates. Se enciende. 亮起." and "Flashes. Parpadea. 閃爍".

4 Illustrates pressing the preset channel buttons. The display shows "STEREO FM 88.10 MHz" and "QUARTZ LOCK ON". The text indicates: "Flashes. Parpadea. 閃爍".

5 Illustrates pressing the SET button. The display shows "STEREO FM 88.10 MHz" and "QUARTZ LOCK ON". The text indicates: "Frequency Se enciende la frecuencia 頻率" and "Illuminates. Se enciende. 亮起".

Listening to radio broadcasts

Manual tuner operation **A**

- 1 Switch on the power on the amplifier.
- 2 Press TUNER/BAND to select FM or MW or LW.
Each time you press TUNER/BAND, "FM", "MW", "LW" will be displayed in order.
- 3 Press ▲ or ▼ to tune into the desired broadcast.
The display will show the frequency which you selected.
- 4 Adjust the volume as you like on the amplifier.

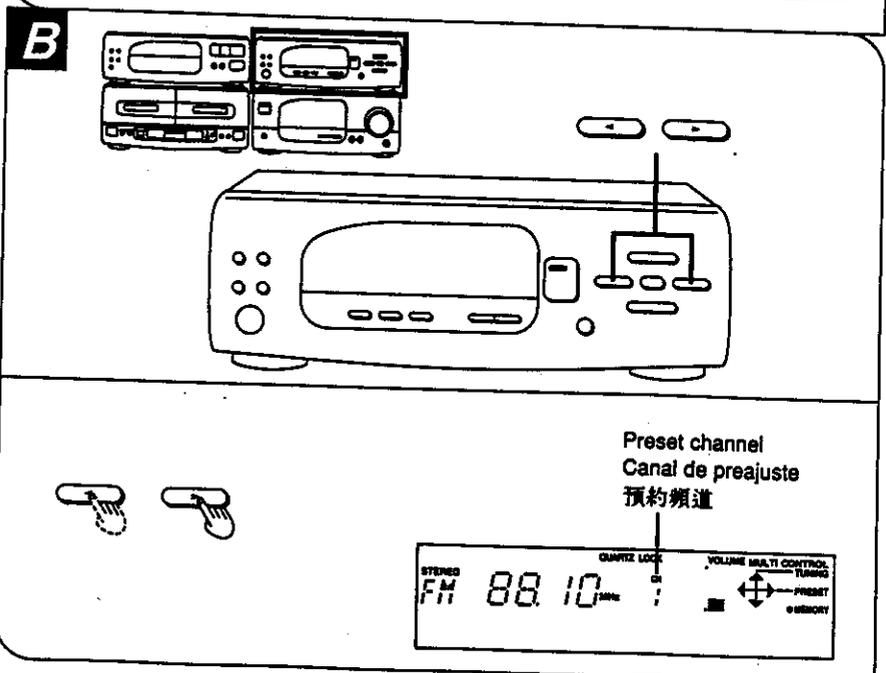
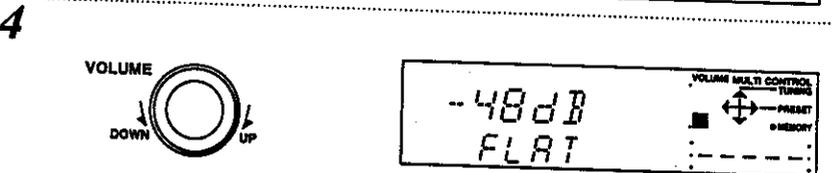
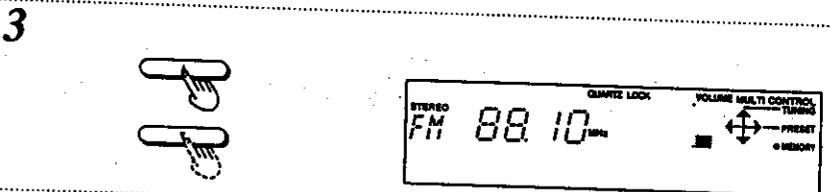
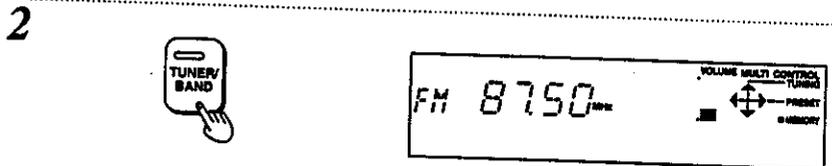
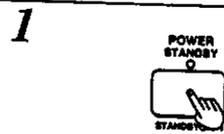
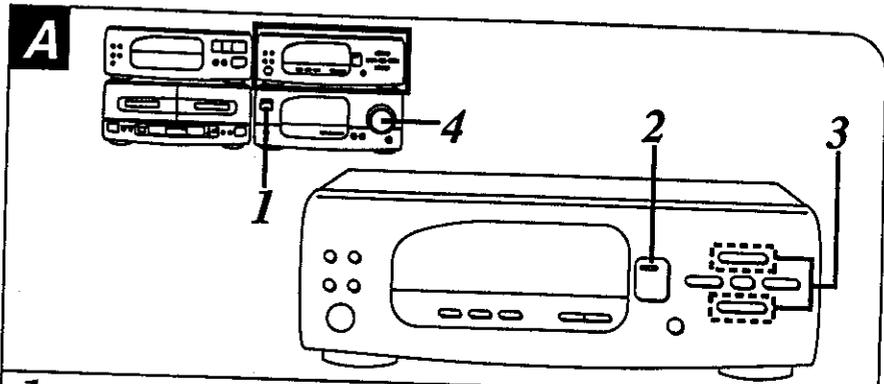
Memory tuner operation **B**

Switch on the power and be sure you've completed the steps of "Automatic memory presetting" on page 36 or "Manual memory presetting" on page 40.

This example shows how to tune in to the preset channel 1.

Press ► or ◀ to select the desired preset channel.
The selected preset channel will appear on the display.

(To be continued)



Listening to radio broadcasts

(Continued)

If noise is excessive in the FM mode:
Press FM MODE.

The sound will then be heard in monaural. If the broadcast signal is weak, or if there is a large amount of interference, you will get a clearer sound using FM MODE.

MW allocation settings:

(Only on the main unit)

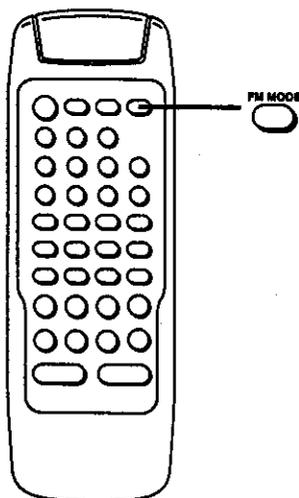
This unit comes equipped with an electronic digital tuner that divides the broadcast band into many small steps. These steps match the assignable broadcast frequencies and intervals in between.

Each country allocates (assigns) broadcast bands according to their particular needs.

By adjusting the allocation, you can enable this tuner to receive MW broadcasts allocated in 10 kHz steps.

1. Press TUNER/BAND to select MW.
2. Press and hold TUNER/BAND for approximately 4 seconds.

To return to the original frequency indication, repeat steps 1 and 2.



MONO lights.
Se enciende MONO.
MONO (單聲) 亮起。



Sequential play

Sequential play refers to play beginning with the first track and continuing in order to the last track.

- 1 Switch on the power on the amplifier.
 ⓐ This indicates that a CD has not been installed.
- 2 Press **▲ OPEN/CLOSE** to open the disc tray.
 Insert the disc with label facing upward.
 Do not put your finger through the hole in the middle of the disc holder. It could get caught when the holder closes.
 An adaptor for CD single is not required.
- 3 Press **▲ OPEN/CLOSE** to close the disc tray.
 When there are 16 or more tracks on the disc, **▶** will appear.
- 4 Press **▶**.
 Disc play begins from the first track on the disc.
 Play stops automatically when the last track on the disc finishes playing.
- 5 Adjust the volume level as you like on the amplifier.

To stop the disc play:

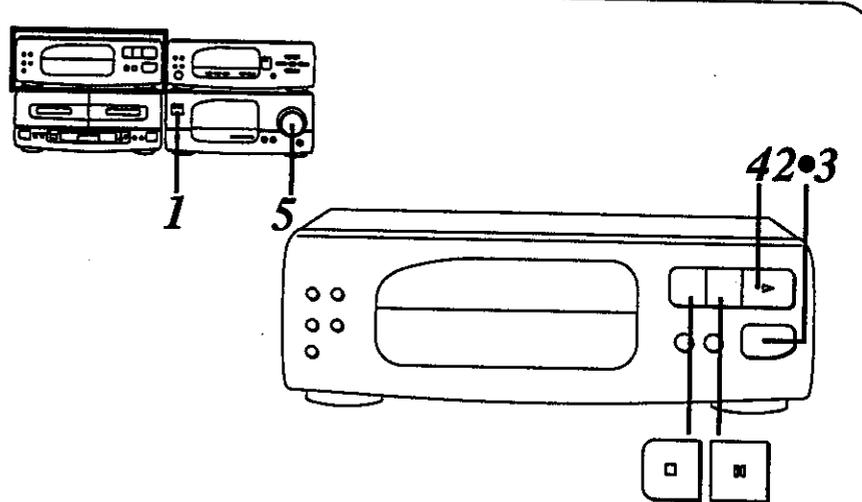
Press **□**.

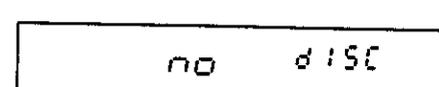
To temporarily stop the disc play:

Press **▢▢**.
▶ flashes.

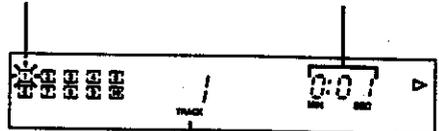
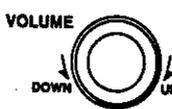
To play again, press **▶**.

(To be continued)



- 1  **POWER STANDBY**
 ⓐ  no disc
- 2  **OPEN/CLOSE**
 Label must face upward.
 La etiqueta debe quedar hacia arriba.
 標識面必須朝上。

- 3  **OPEN/CLOSE**
 Total number of tracks
 Número total de melodías
 全部曲目數
 Total playing time
 Tiempo de reproducción total
 全部放音時間

- 4  **▶**
 Flashes. Elapsed play time
 Parpadea. Tiempo de reproducción transcurrido
 閃爍 已放音時間

 The track currently playing
 La melodía que está reproduciéndose
 正在放音曲目
- 5  **VOLUME**
 DOWN UP

Listening to compact discs

(Continued)

For your reference:

- If you press \triangleright instead of \blacktriangle OPEN/CLOSE after inserting a disc, the tray will close and play will start directly from the track 1.
- The compact disc will automatically stop when a different sound mode is selected during its operation.

About \triangleright Indicator:

While halted: Lights in orange.

While playing: Lights in green.

The total playing time display:

The total playing time displayed includes the silent sections between tracks. Hence, there will be a difference between the total playing time and the liner notes included with the disc.

When \triangleright appears on the display:

It shows there are 16 or more tracks on the disc you load.

Repeat function \square

This function repeats the play of all tracks.

Press REPEAT before or during play.

To cancel repeat play:

Press REPEAT once again.

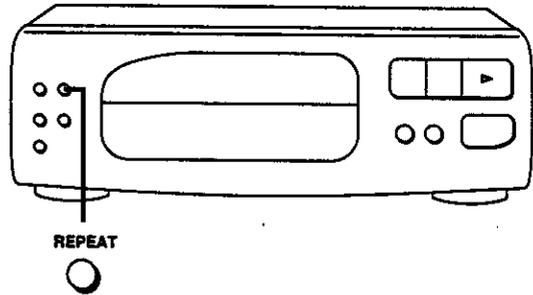
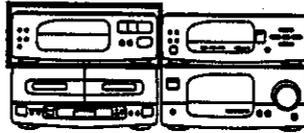
\square Indicator on the display will go out.

For your reference:

In program play mode, the compact disc player will repeat only the programmed tracks.

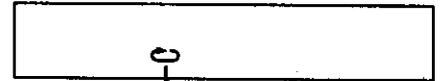
You can enjoy the same track over and over by programming only one track.

(To be continued)



A

REPEAT



Lights.
Se enciende.
亮起

(Continued)

Skip function **A**

Press either **▶▶/▶▶** or **◀◀/◀◀** until you reach the desired track.

▶▶/▶▶ : To skip forward

You can skip as many tracks as the number of times you press the button.

◀◀/◀◀ : To skip backward

You can skip to the beginning of the track being played. If you press this button again quickly, you can skip to the beginning of the previous track.

Note that in a backward skip, the current track is included in the count.

For your reference:

In program play mode you can skip only the programmed tracks.

Note

In random play mode, you cannot skip to the previous track.

Search function **B**

You can rapidly search forward or backward on the disc for specific sections.

While in play mode, press and hold either **▶▶/▶▶** or **◀◀/◀◀**. Release the button when you have reached the desired point.

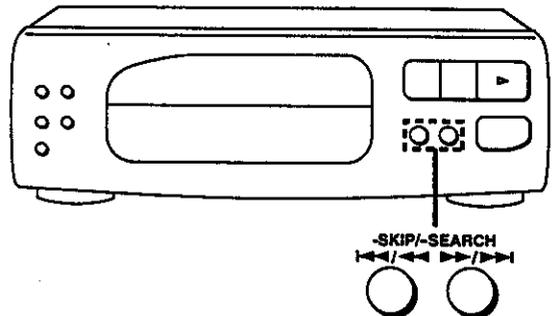
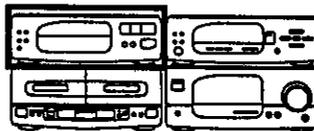
▶▶/▶▶ : To search forward

◀◀/◀◀ : To search backward

For your reference:

During program play and random play, search will take place within the track being played.

(To be continued)



A



B



(Continued)

Direct access play

(Available only from the remote control)

Direct access allows you to start sequential play from a specific track to the last track on the disc.

This example shows how to start the play from the 8th track.

- 1 Press CD.
- 2 Press the numeric button to select the desired track number.
Play will start with the track you select.

To select a two-digit track:

Press ≥ 10 .

For example:

Track no. 13: $\geq 10 \rightarrow 1 \rightarrow 3$

Track no. 20: $\geq 10 \rightarrow 2 \rightarrow 0$

Track no. 35: $\geq 10 \rightarrow 3 \rightarrow 5$

Random play

The microcomputer will automatically select a sequence of tracks to be played in random order.

Press **RANDOM**.
Random play will start.

To cancel random play:

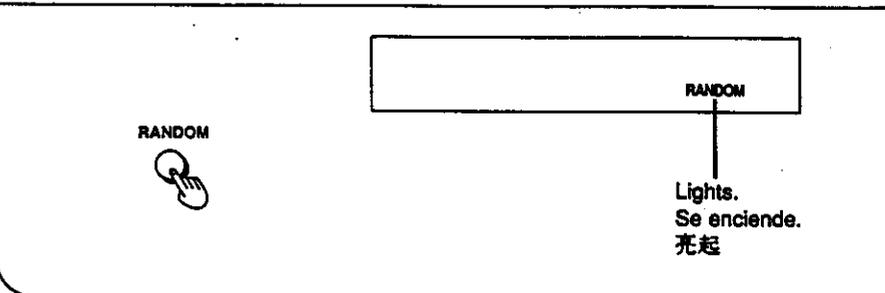
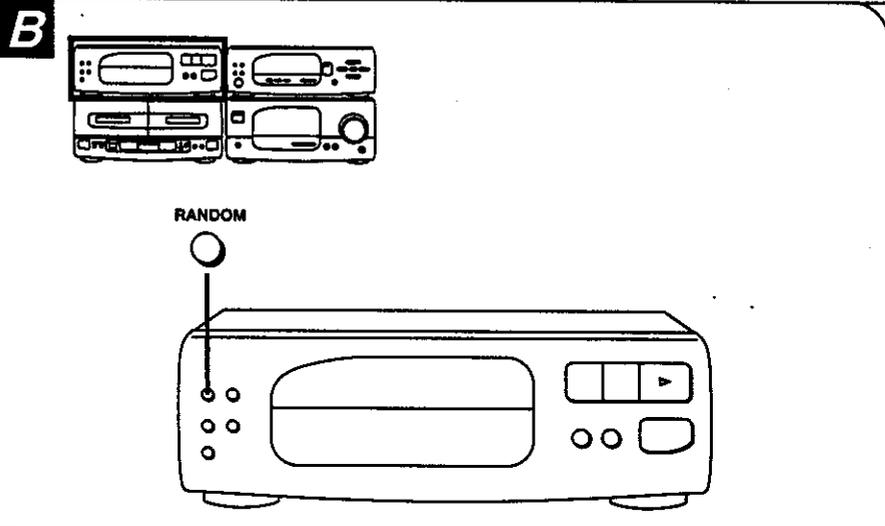
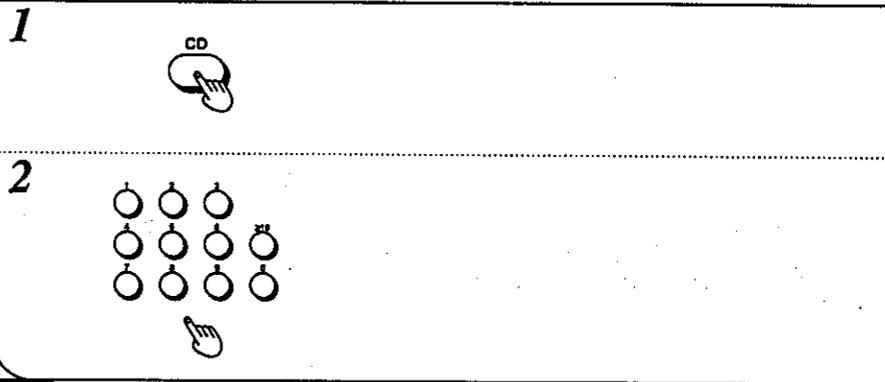
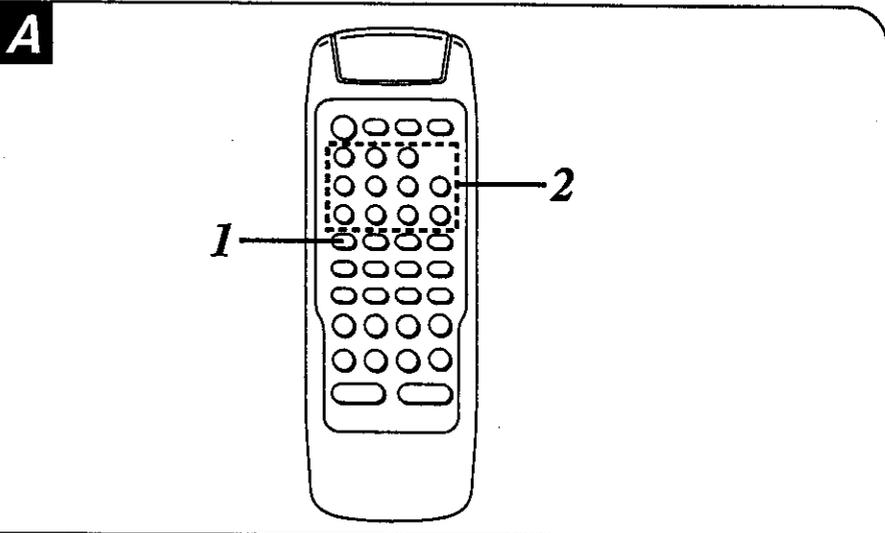
Press **RANDOM** once again.

RANDOM indicator will go out. The compact disc player resumes the sequential play mode.

For your reference:

In the program play mode, the programmed tracks will be played randomly.

(To be continued)



Listening to compact discs

(Continued)

Program play

(Available only from the remote control)

This function allows you to program up to 24 tracks on a disc in any order you choose.

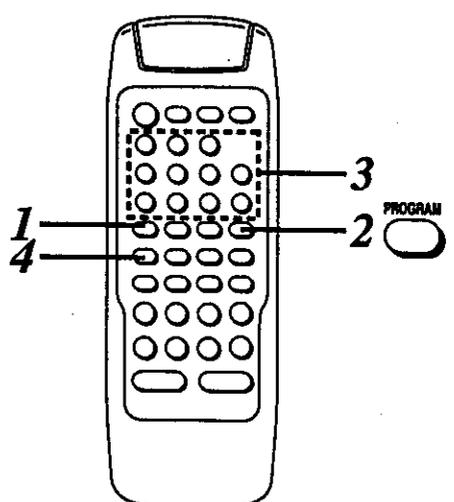
This example shows how to program tracks 3, 5 and 7 in sequence.

- 1 Press CD.
- 2 Press PROGRAM.
- 3 Press the numeric button to select the track you want to play in the desired sequence.
- 4 Press ►.

To cancel program play:
Press PROGRAM.

The compact disc player resumes sequential play mode.

(To be continued)



1



2



PROGRAM

Lights.
Se enciende.
亮起

3



Programmed track number
Número de melodía
programado
編排曲目數

Programmed order
Orden de programación
編排順序



Total playing time of the programmed tracks
Tiempo de reproducción total de las melodías programadas
編排曲目的全部放音時間

4



Playback

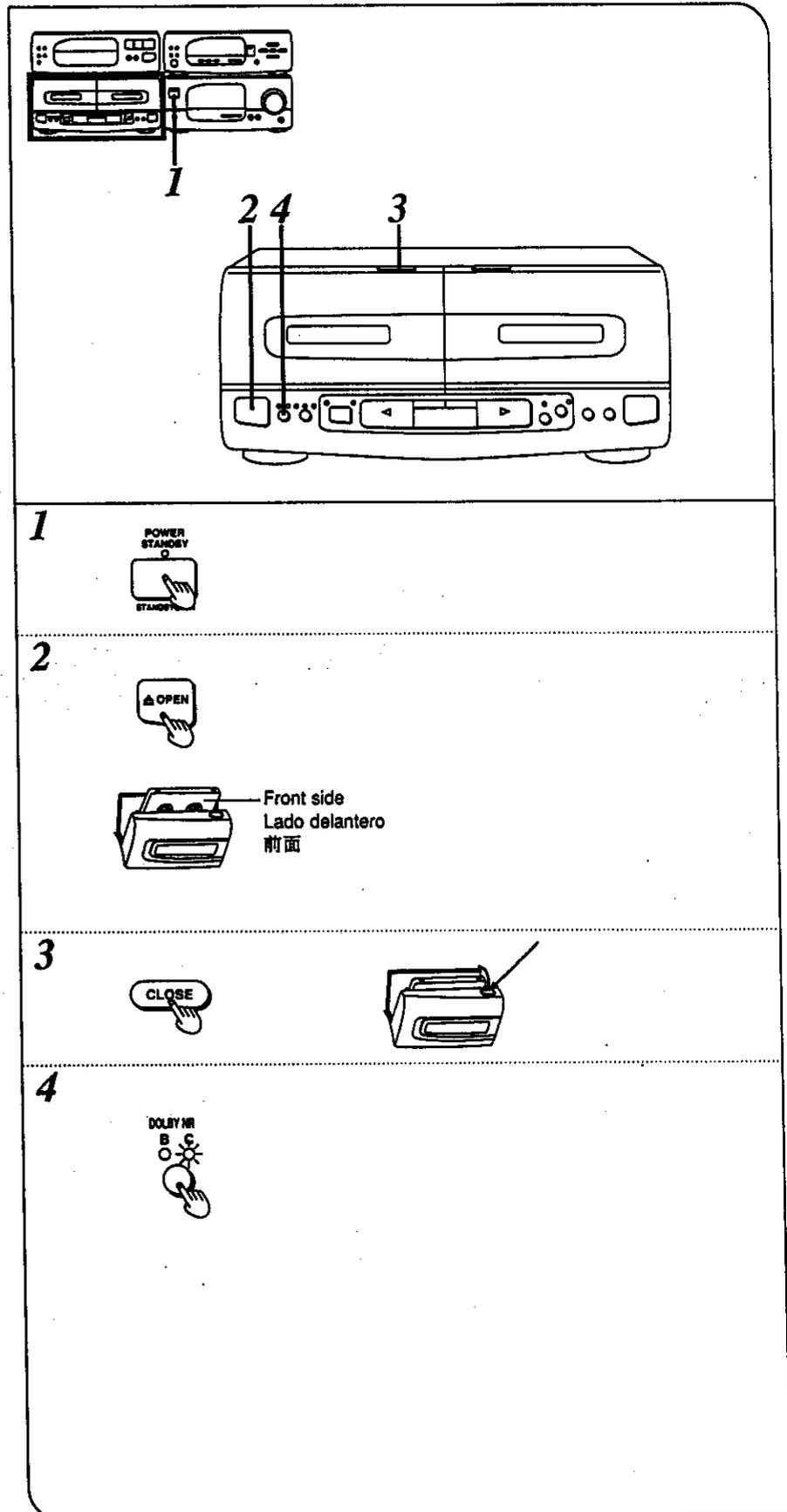
You can use either deck 1 or deck 2 for tape playback. This page shows an example using deck 1.

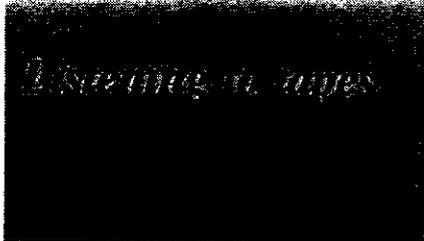
You can use normal, chrome and metal tapes for playback.

- 1** Switch on the power on the amplifier.
- 2** Press **▲ OPEN**, and then insert the cassette you wish to play. Insert the cassette with the exposed tape facing down.
- 3** Press **CLOSE** on deck 1 to close the cassette holder.
- 4** Press **DOLBY NR** if the cassette you want to play was recorded with Dolby noise reduction B or C mode.

If the tape was not recorded using Dolby NR, press DOLBY NR again so that the Dolby NR indicator (B or C) will go off.

(To be continued)





(Continued)

5 Press REVERSE MODE to select the reverse mode you want to use.

Each time you press REVERSE MODE, one of the indicators will light up to show which mode you selected.

 : The player plays one side only, and then the tape automatically stops.

 : The player plays both sides 8 times, and then the tape automatically stops.

 : The player plays both sides of the tape, then automatically stops.

When you load cassettes into both decks; sequential playback will be made. (See page 66.)

6 Press ▷ or ◁ to start playback.

▷: The forward side (front side) will play.

◁: The reverse side will play.

7 Adjust the volume level as you like on the amplifier.

To stop tape playback:

Press □.

To change the deck to be used:

Press DECK 1/2 to select the deck you want to use.

DECK 1 or DECK 2 indicator will illuminate to show which deck you can operate.

For your reference:

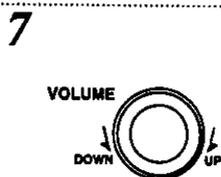
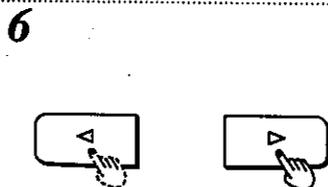
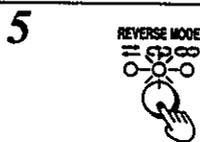
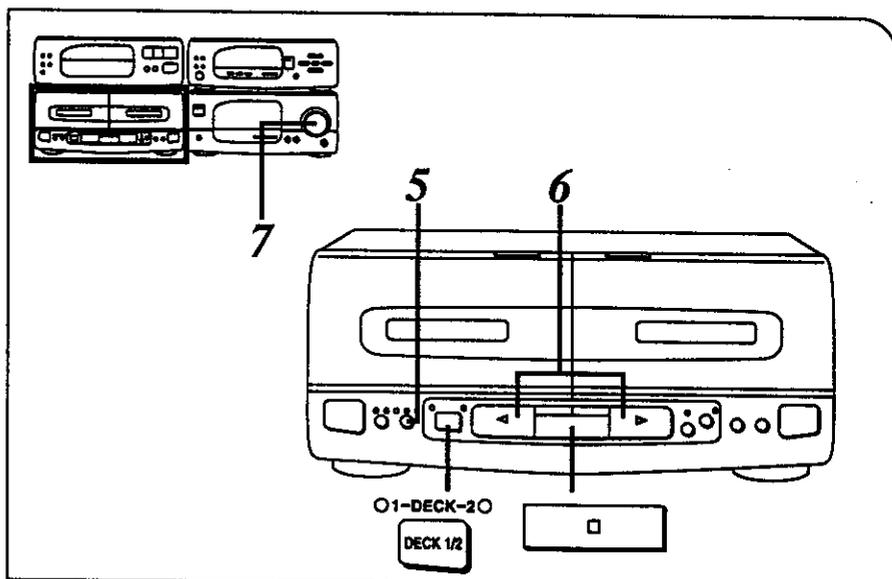
The tape will automatically stop when a different sound mode is selected during its operation.

About the ▷ and ◁ indicators:

While halted, fast forwarding, or rewinding:
Lights in orange.

While playing, recording or finding the beginning of a program:
Lights in green.

(To be continued)



Listening to tapes

(Continued)

To find the beginning of a program (TPS: tape program sensor)

Press (TPS) >>> or <<< (TPS) while the tape is playing.

If the forward side (>) is playing:

(TPS) >>> : The tape will play from the beginning of the next tune.

<<< (TPS) : The tape will rewind to the beginning of the present tune. Then the tune will play again.

If the reverse side (<) of the tape is playing:
The reverse operation should take place.

Note

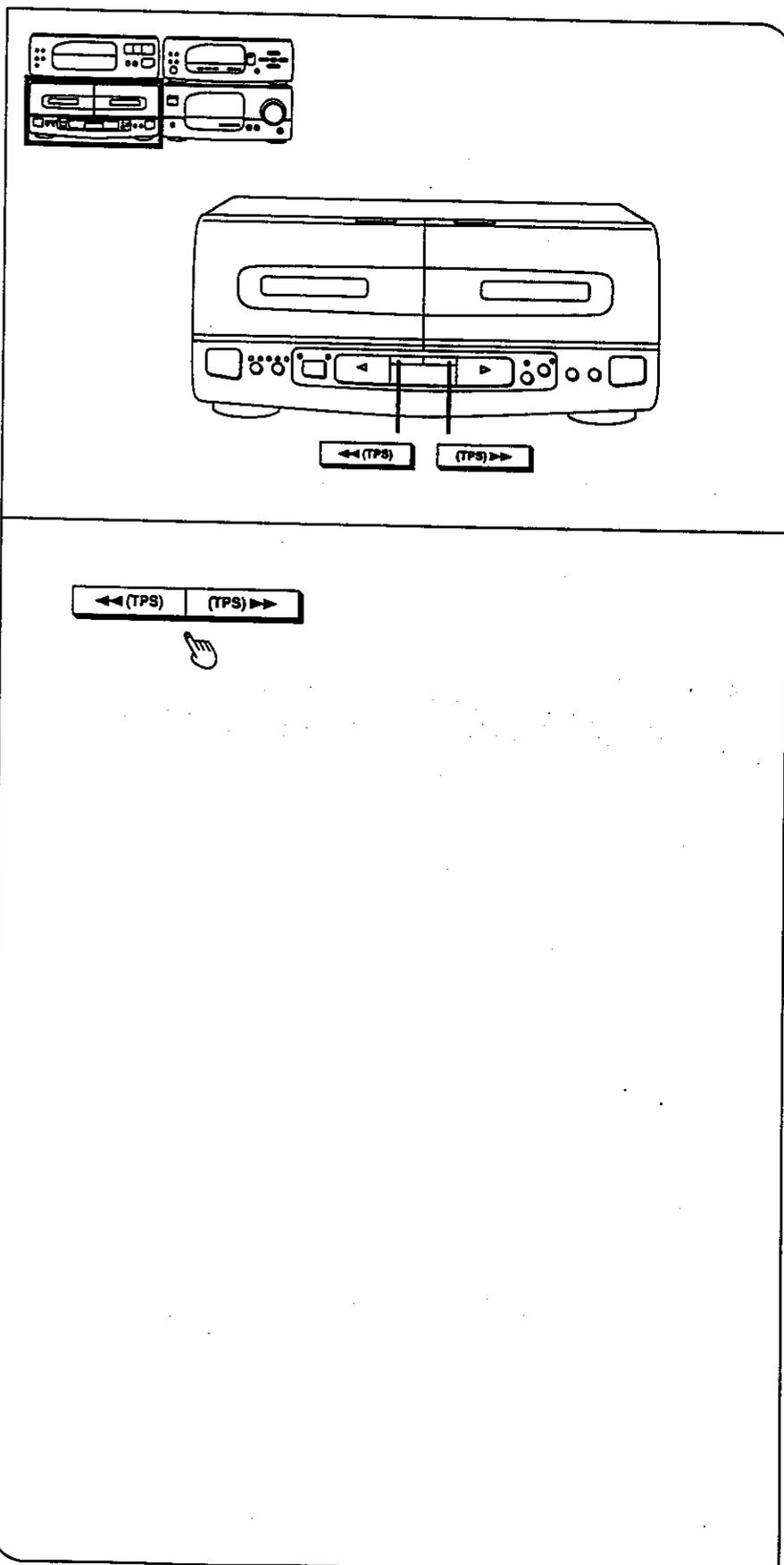
TPS (Tape Program Sensor) is the function that searches for the silent passage in a tape program. So, it may sometimes fail to operate correctly in the following situations:

- When there is no blank space between tape programs (for example, when you are playing a tape recorded from a microphone)
- When the interval between programs (blank space) is less than 4 seconds
- When there is a particular low-level passage or silent passage in the middle of a program (for example, classical music)
- When the program is less than 10 seconds, or when it is less than 10 seconds from the beginning of the program to the beginning of the next program
- When a tape has been recorded with fade-ins (the function that increases the volume level gradually at the beginning of a program) and fade-outs (the function that decreases the volume level gradually at the end of a program)

For your reference:

Each decks' play direction is stored in the system's memory.

(To be continued)



Listening to tapes

(Continued)

To fast forward or rewind the tape **A**

Press (TPS) **>>>** or **<<<** (TPS) while the tape is in the stop mode.

If the forward side (**>**) of the tape is playing:

>>> (TPS) : The tape will be fast forwarded.

<<< (TPS) : The tape will be rewound.

If the reverse side (**<**) of the tape is playing:
The reverse operation will take place.

High-speed rewind/fast-forward: **B**

On this unit, if there is less tape on the take-up side than on the supply side (refer to the illustration) at the time that **>>>** or **<<<** is pressed, the speed of the rewind/fast-forward operation will automatically be increased for approximately 1.5 times the normal speed. This function makes it possible to wind the tape faster when there is a large amount of tape to be wound.

Notes

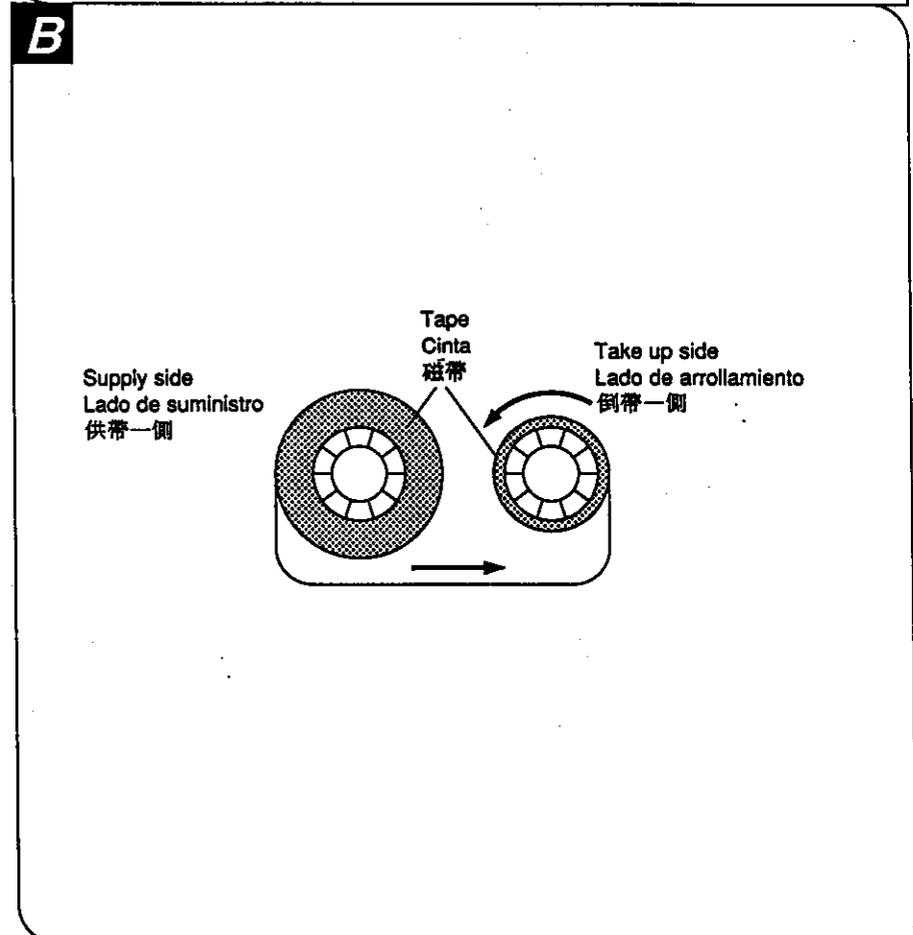
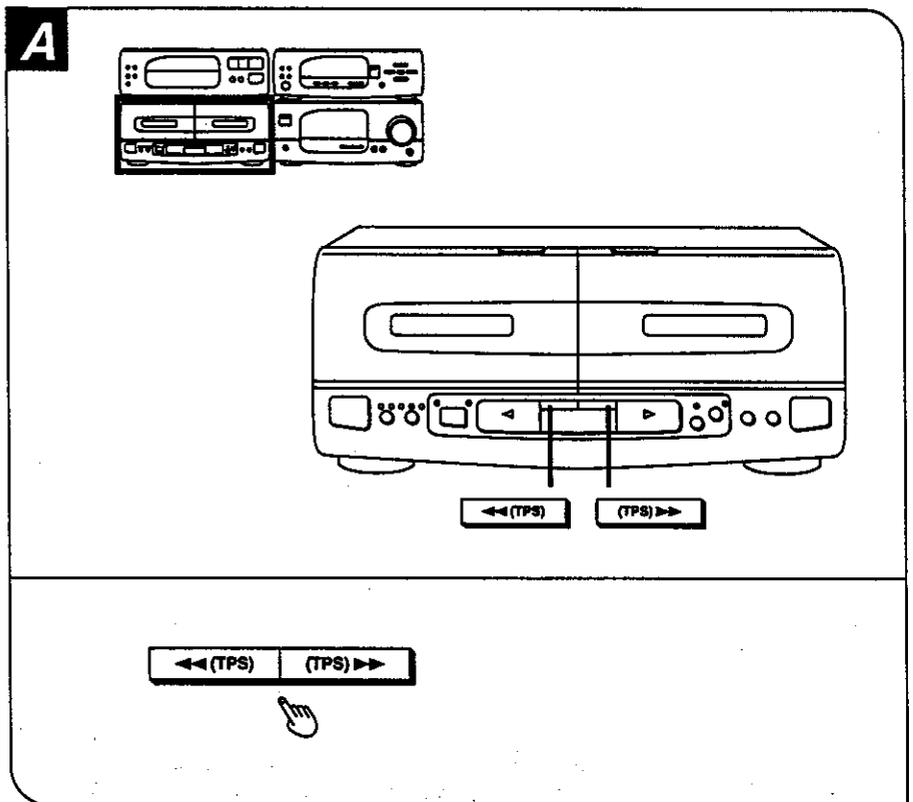
- When there is more tape on the take up side than on the supply side, the tape will be wound at the normal speed.
- If high speed winding is begun from a state in which the tape is partly wound, such as that shown in the illustration (for example, when the ratio of tape between the two sides is 1:3), high speed winding will continue until the ratio between the two sides reaches 3:1, and then the remaining winding will be done at the normal speed.
- When the winding is begun from either the end or the beginning, all winding will be performed at high speed.

For your reference:

You can fast forward or rewind the tape while you are playing or recording a tape in another deck. Press DECK 1/2 to switch to the non playing deck, and then press **>>>** or **<<<**.

After above operation, be sure to press DECK 1/2 to select the deck in which you are playing a tape.

(To be continued)



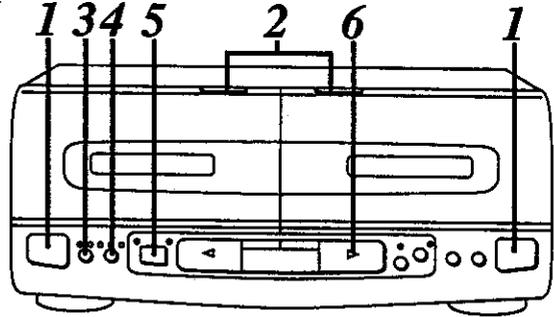
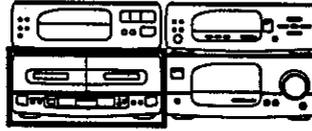
(Continued)

Sequential playback among 2 tapes

You can listen to two tapes consecutively with the procedure below.

- 1** Load cassettes in decks 1 and 2. Load with the side that you wish to listen to first facing you in deck 1.
- 2** Press CLOSE to close each deck's cassette holder.
- 3** Press DOLBY NR if the cassette you want to play was recorded with Dolby noise reduction B or C mode. If the tape was not recorded using Dolby NR, press DOLBY NR again so that the Dolby NR indicator (B or C) will go off.
- 4** Press REVERSE MODE to set to the  mode.
- 5** Press DECK 1/2 to select deck 1. The DECK 1 indicator lights to show you can select deck 1.
- 6** Press  to start playback. Two tapes will play back as described on page 68:

(To be continued)



1



2



3



4



5



6



Listening to tapes

(Continued)

Forward side of tape in deck 1

Reverse side of tape in deck 1

Forward side of tape in deck 2

Reverse side of tape in deck 2

After repeating above operation 8 times, the tape will automatically stop.

To stop sequential tape play: **A**
Press .

For your reference:

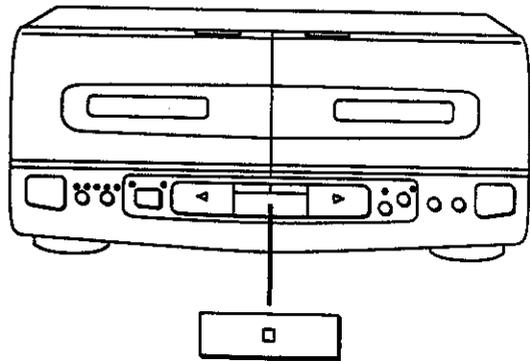
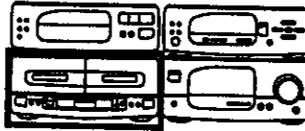
- You cannot select Dolby NR for deck 1 and deck 2 respectively. We recommend that you use cassette of the same type (Dolby noise reduction) in both decks.
- You can also start playback from a position other than the forward side of the tape in deck 1.

About priority of the deck:

When you load cassettes in both decks, DECK 1 or 2 indicator will light to show which deck you loaded last.

When you switch on the power, DECK 1 indicator will light.

A



Convenient functions

Easy play

(Available only from the remote control)

From the power standby condition, you can start play directly.

Listening to compact discs **A**

Press **▶**.

The play will start from the first track.

Listening to radio broadcasts **B**

Press **TUNER/BAND**.

You can receive the station last tuned in when the power was switched to standby condition.

Listening to tapes **C**

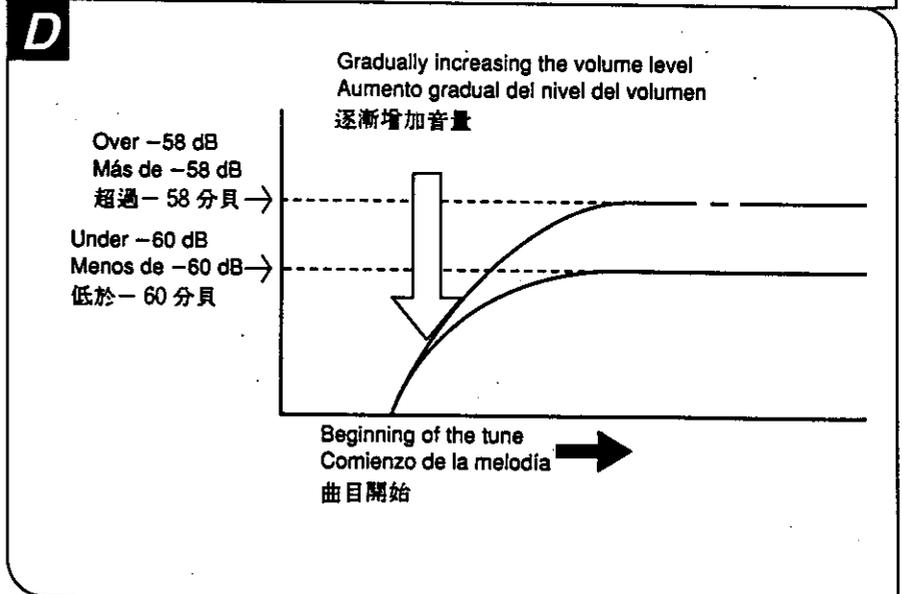
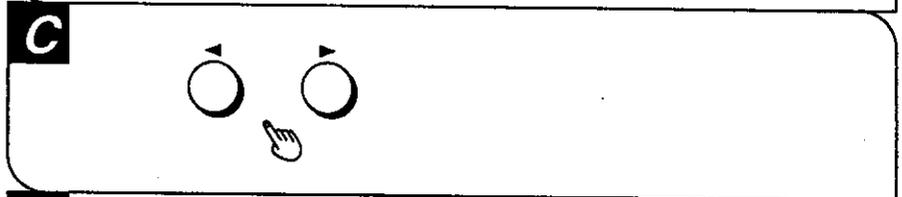
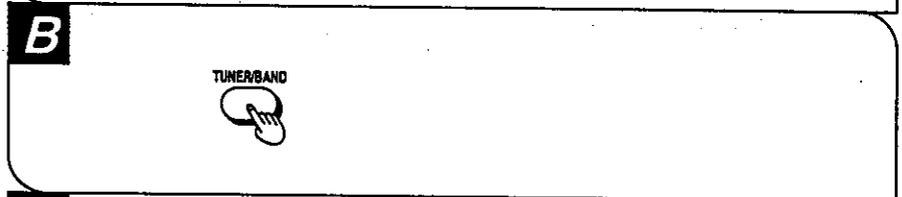
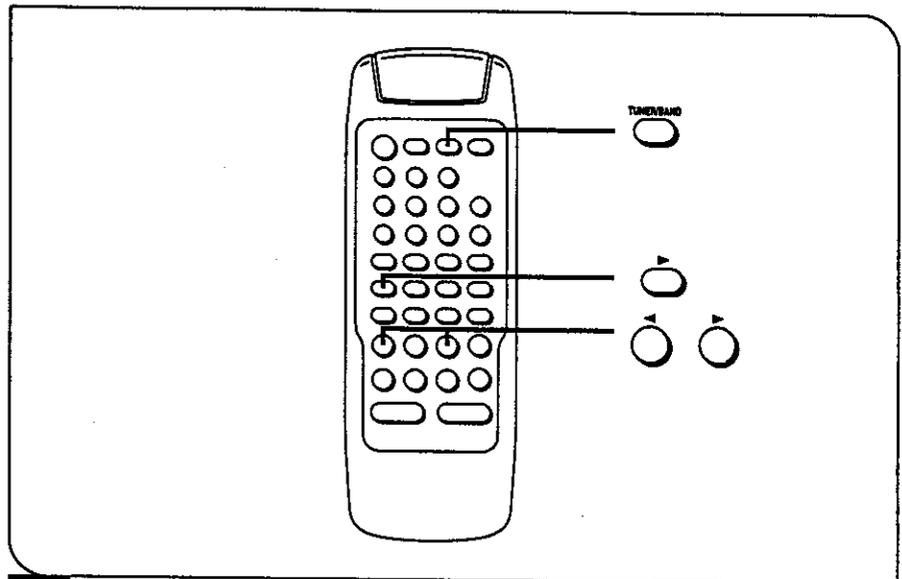
Press **▶** or **◀**.

- The playback will automatically start corresponding to the direction (▶ or ◀) you select.
- Playback will automatically start under the same conditions (reverse mode) as last set when the power was switched to the standby mode.
- When tapes have been loaded in both decks, deck 1 has priority.

About fade-in start in direct play: **D**

When you set the volume level under -60 dB last, the easy play will start with volume increasing to -60 dB gradually (fade-in). When you set the volume level over -58 dB last, the play will start with volume increasing gradually up to the volume level you set last.

(To be continued)





(Continued)

To mute the volume **A**

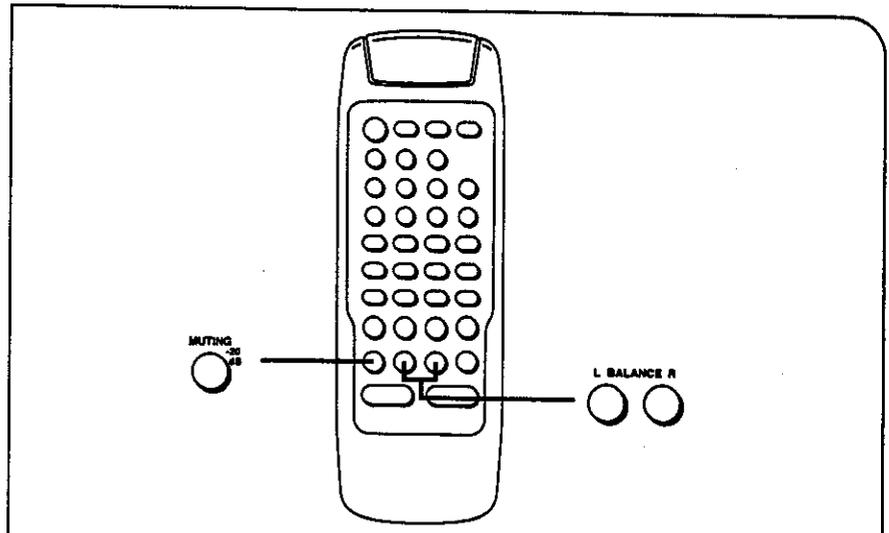
(Available only from the remote control)

Press **MUTING** -20 dB.

This feature is convenient when you have a telephone call, etc.

To cancel the muted state, press **MUTING** -20 dB once again.

To cancel from the amplifier, reduce the volume level to the minimum position (-∞ dB) and then reset to the desired volume.

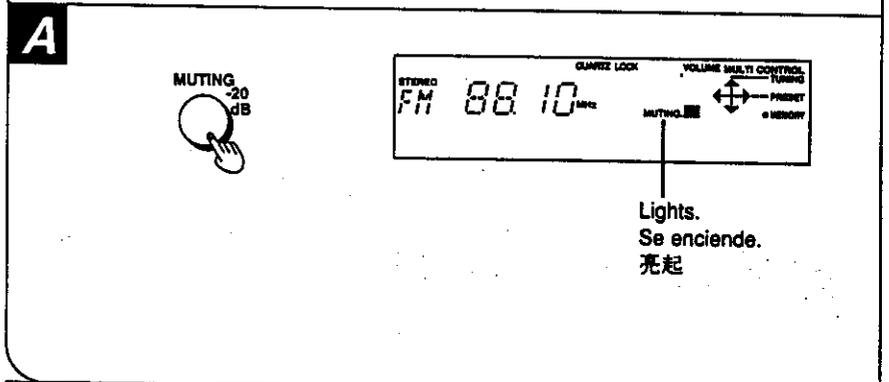


To adjust the left-right volume balance **B**

Press one of **BALANCE**.

Perform fine balance adjustment while playing the selected music source. The balance display is only a rough quick.

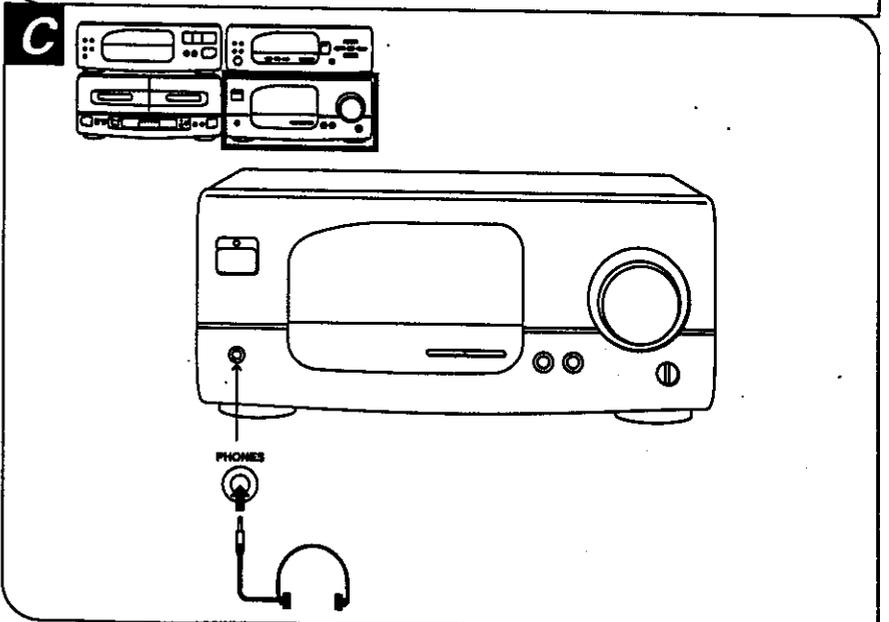
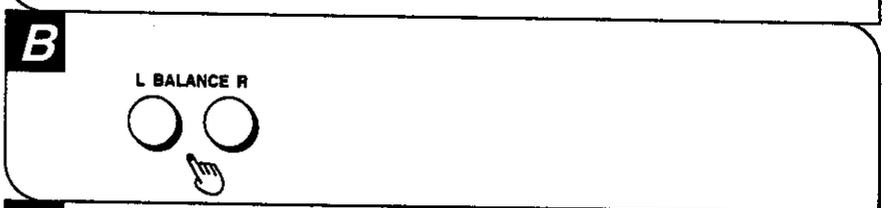
Pressing **BALANCE** simultaneously will restore the balance to the center position.



To use headphones **C**

Connect the headphones to the headphones jack.

- Before connecting, reduce the volume level.
- Avoid listening for prolonged periods of time to prevent hearing damage.
- Plug type: Stereo mini



Making a recording from radio broadcasts

You can use normal, chrome, and metal tapes for recording.

Check that the tape's erasure prevention tabs (see page 158) are intact, and then insert the cassette into deck 2.

The leader tape must be wound up beforehand. (See page 78.)

1 Press **▲ OPEN** on deck 2 to load a cassette.

2 Press **CLOSE** on deck 2 to close the cassette holder.

3 Press **DOLBY NR** to select Dolby noise reduction B or C mode.

If the tape will not be recorded using Dolby NR, press **DOLBY NR** again so that the Dolby NR indicator (B or C) will go off.

4 Press **REVERSE MODE** to select the reverse mode you want to use.

 : One side will record, and then the tape will stop automatically at the tape end.

 : Both sides will record (forward side → reverse side), and then the tape will stop automatically at the tape end.

5 Press **CCRT** to activate the **CCRT (Computer Control Record Tuning—see page 76)** function.

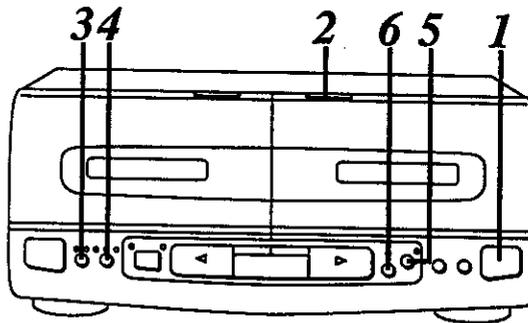
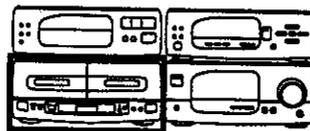
You can record without using the CCRT function.

When the CCRT function is activated, the test signal for adjustment will be recorded on the tape, so the previous recording will be automatically erased.

6 Press **REC PAUSE** to put the cassette deck into the recording standby mode.

REC PAUSE indicator lights.

(To be continued)



1



2



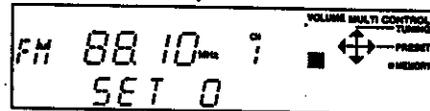
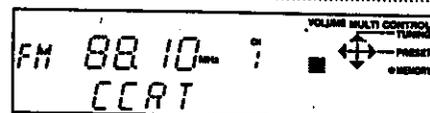
3



4



5



6



Making a recording from radio broadcasts

(Continued)

- 7 Press **TUNER/BAND**, and then **▶** or **◀** on the tuner/sound processor to tune in to the desired station.
- 8 Press **▶** or **◀** to start recording.
 - ▶: When recording on either the forward side or both sides
 - ◀: When recording only the reverse side

To stop recording:

Press **□**.

To cut an unnecessary part while recording:

1. Press **REC PAUSE**.
The cassette deck will go into the recording standby state.
2. To resume recording, press **▶** or **◀** corresponding to the direction in which recording is taking place.

CCRT recording function: **A**

CCRT (Computer Control Record Tuning) is the function which identifies the quality of the tape (concerning bias, level, equalizer) automatically and sets the most desirable recording condition. The CCRT indicator flashes while setting, and stops flashing after the setting has completed. The CCRT setting will remain in the system's memory even after the power is switched to the standby mode.

The display shows the CCRT setting conditions as follows:

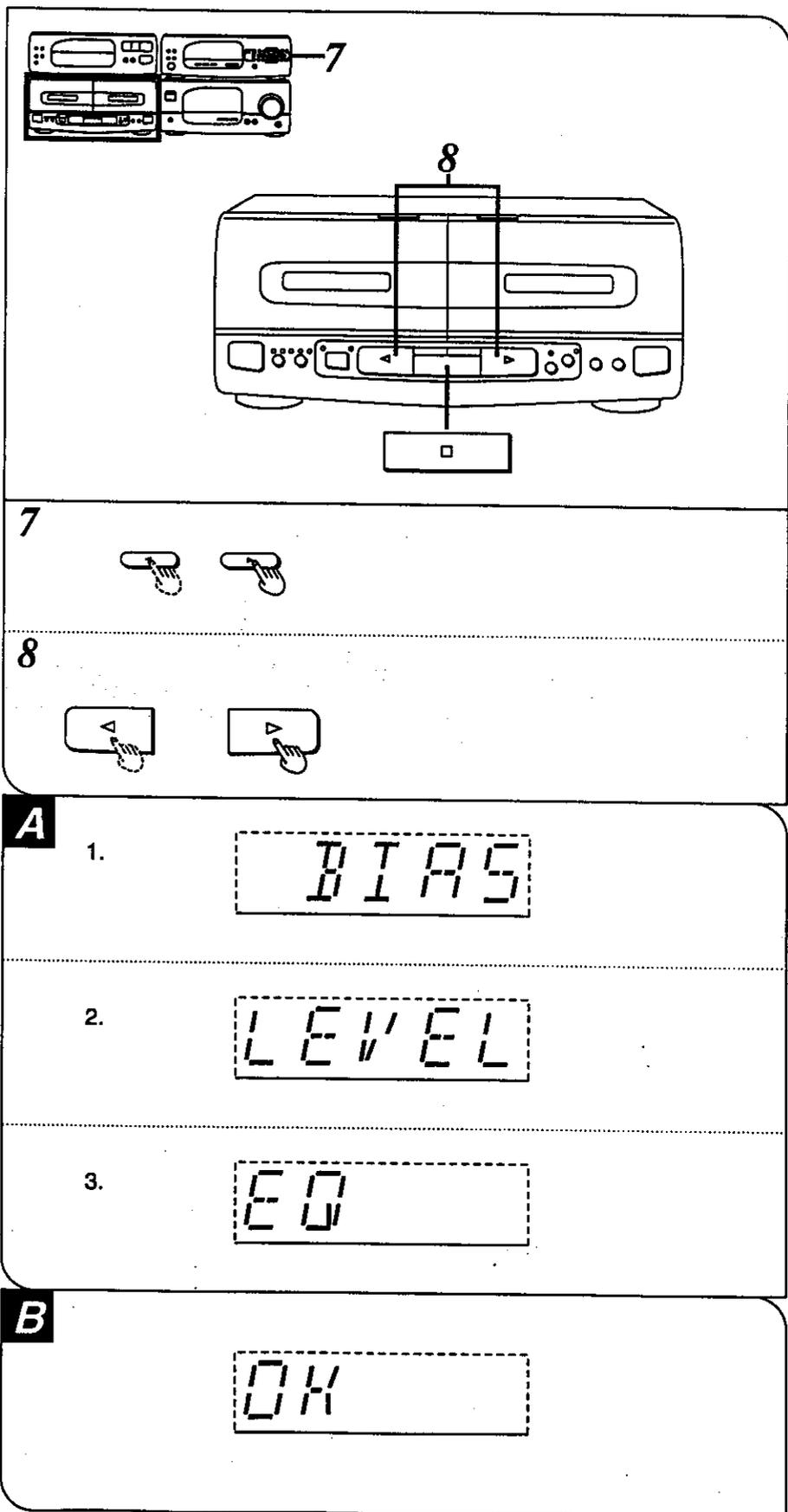
1. Bias setting
2. Recording level setting
3. Recording equalizer setting

CCRT settings completed:

"SET OK" **B**

- You can make recording in constant tone quality with use of CCRT function regardless of the different characteristics.
- When making an edit-recording from a CD, the CCRT function will be automatically activated.

(To be continued)



Making a recording from radio broadcasts

(Continued)

Notes

- Do not press INT or EXT while the CCRT setting.
- Do not insert or remove the cassette tape after the CCRT setting has completed. It cancels the CCRT setting.
- The CCRT setting may not be possible with the old cassette tape or at around the end of the cassette tape. (The CCRT indicator starts to flash in a high speed.) In this case, press □ to cancel the CCRT setting (the CCRT indicator goes out).
- Do not connect or disconnect the microphone while recording.

To cancel the CCRT setting on the way:
Press □.

To cancel the CCRT after the CCRT setting has completed:
Press CCRT.

To erase a recorded sound (Deck 2):
When you make a new recording on a previously recorded tape, the new recording will automatically erase what was previously recorded.

To erase a recorded sound without making a new recording, perform the following steps:

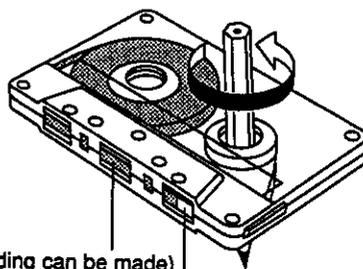
- 1) Disconnect the microphone if it was connected.
- 2) Press INT to select the tape mode.
- 3) Press DOLBY NR so that Dolby NR indicator goes off.
- 4) Insert the recorded tape into the cassette holder of deck 2.
- 5) Select the desired reverse mode.
- 6) Press REC PAUSE.
- 7) Press ▷ or ◁ corresponding to the side to be erased.

To take up the leader tape **A**

The leader tape is the first few revolutions that you cannot record on.

(To be continued)

A



Magnetic tape (recording can be made)
Cinta magnética
(en la que puede grabarse)
磁帶
(可以製作錄音)

Leader tape (no recordings can be made)
Cinta guía (en la que no puede grabarse)
引帶
(不能製作錄音)

Making a recording from radio broadcasts

(Continued)

To record with desired tone quality

To record with the desired tone quality, follow the procedure below.

1. Select the desired tone quality. (See pages 106, 108, 110, 112, 114 and 116.)
2. Follow the procedure of "Making a recording from the radio broadcasts" on pages 74 and 76.

Note

When playing back such recordings, press ON/FLAT on the tuner/sound processor section to set to "FLAT".

To record without any tonal effect

Press ON/FLAT on the tuner/sound processor to set to "FLAT". (See page 108.)

About Dolby Noise Reduction system

Using Dolby NR reduces tape hiss in the high-frequency range. It boosts the level of the high-frequency during recording, and lowers it by the same amount during playback, simultaneously reducing high-frequency interference incurred during the recording process.

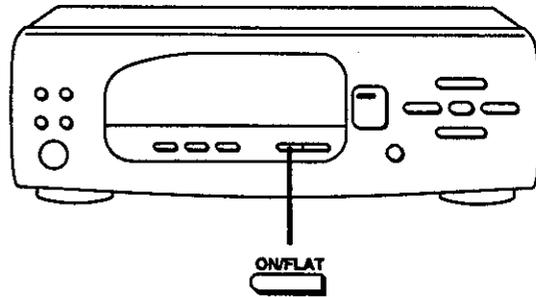
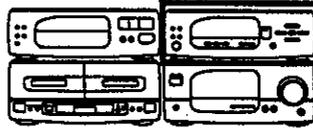
Dolby B NR type:

Noise is reduced to about $\frac{1}{3}$. Use this type when playing a tape in Dolby NR.

Dolby C NR type:

Noise is reduced to about $\frac{1}{10}$. Use this type when recording and playing back a high quality, high dynamic range source such as a CD or FM broadcast.

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



Recording from compact discs

There are 2 ways to record from compact discs, one-touch editing and synchro-recording. See below for the information.

One-touch editing

The system calculate the length of the tape used, and safeguards against a break in the continuity of sound when the recording changes from one side of the tape to the other.

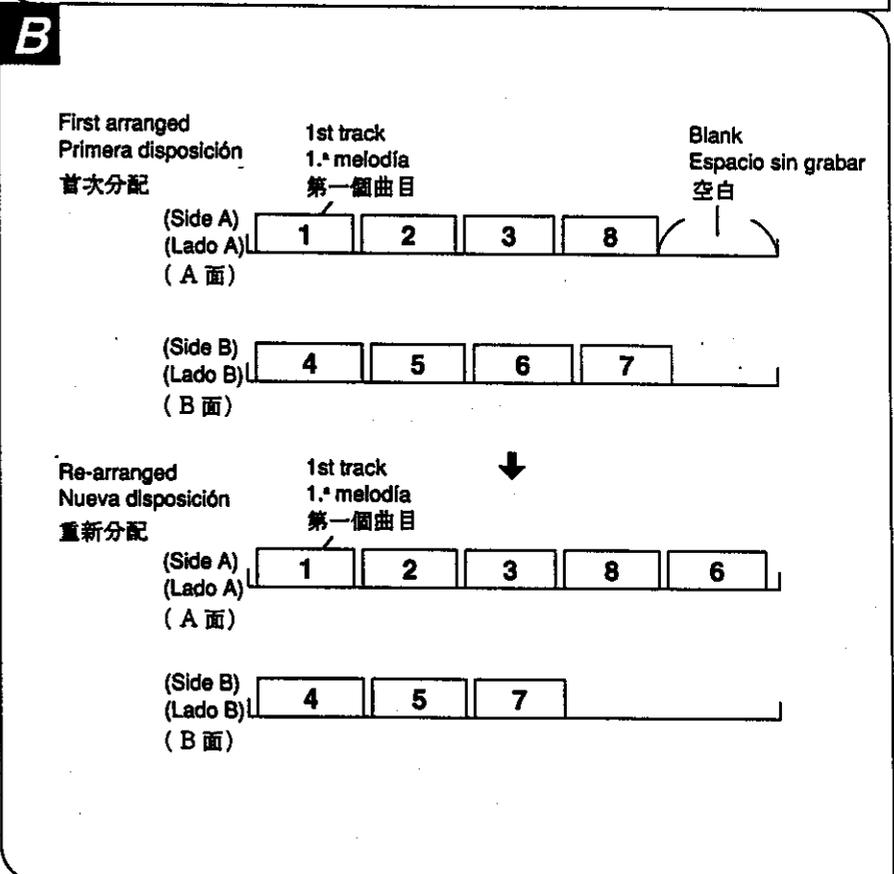
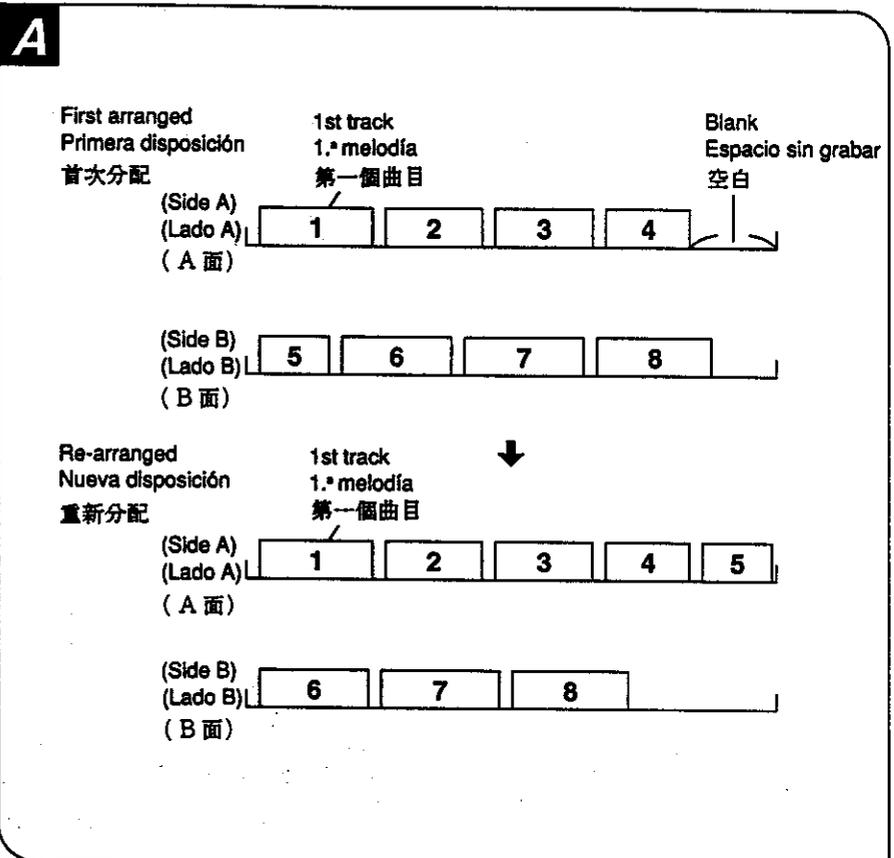
Editing of all tracks in their original sequence (ALBUM): **A**

If the system determines it is possible to record one more track on side A, the cassette deck rewinds the tape side A and the first track assigned on the tape side B will be recorded on the tape side A. Up to 24 tracks can be edited.

Allotting tracks to the tape without wasting tape space (J. FIT): **B**

If the amount of blank space is too great, the cassette deck rewind the tape end and the compact disc player selects a track which is the most appropriate fit for the end of tape side A. Up to 24 tracks can be edited.

(To be continued)



Recording from compact discs

(Continued)

Closing up the tape-end unrecorded sections (LAST FADE): **A**

At the end of side A of the tape, a track that cannot be recorded completely will be faded out, and then recorded from the beginning of side "B". During recording, silent gaps of approximately 4 seconds are automatically inserted between tracks (auto space function). You can edit as many tracks as you like using this mode.

Linking up several discs (LINK): **B**

This example shows when you use J. FIT edit.

After the edit-recording of a loaded disc has finished, you can subsequently edit-record another disc on the remaining blank portion of the tape.

This function is convenient when recording from 8 cm (3") compact discs successively. You can use the link function (ALBUM, J. FIT, or LAST FADE) after the edit recording has finished.

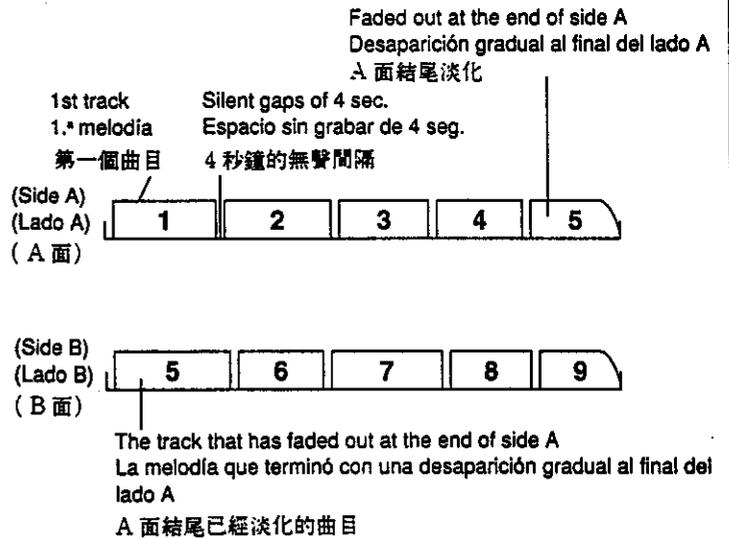
Synchro-recording

The system records tracks in the original sequence without calculating the tape length. You can record as many tracks as you like using this mode.

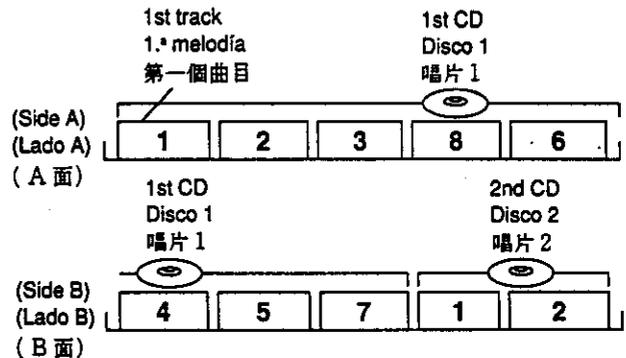
When you want to record on the remaining portion of the pre-recorded tape, use the synchro-recording.

(To be continued)

A



B





(Continued)

One-touch editing preparation **A**

You can use normal, chrome, and metal tapes for recording.

Check that the tape's erasure prevention tabs (see page 158) are intact, and then insert the cassette into deck 2.

- 1** Press **▲ OPEN** to load a cassette in deck 2.
When the edit-record starts, the cassette tape will automatically rewind the tape back to the beginning where the recording can be made. So you don't have to rewind the tape in advance.
- 2** Press **CLOSE** on deck 2 to close the cassette holder.
- 3** Press **DOLBY NR** to select Dolby noise reduction B or C mode.
If the tape will not be recorded using Dolby NR, press **DOLBY NR** again so that the Dolby NR indicator (B or C) will go off.
- 4** Press **REVERSE MODE** to select "↔" for automatic two-sided recording.
- 5** Press **▲ OPEN/CLOSE** on the compact disc player to load a disc, and then press it again.

To start one-touch editing **B**

There are 3 types of one-touch editing.

Be sure to finish the procedure of "One-touch editing preparation" above.

Editing of all tracks in their original sequence (ALBUM) **C**

Press **ALBUM**.

The recording will start after the system completes the "One-touch editing operation" on page 90.

Notes

- Use a tape of under 99 minutes.
- You cannot edit-record tracks numbering higher than 24.

(To be continued)

A

B

C

ALBUM

The tracks assigned on tape side A
Las melodías asignadas al lado A
分配在磁帶 A 面的曲目

Lights.
Se enciende.
亮起

The tracks assigned on tape side B
Las melodías asignadas al lado B
分配在磁帶 B 面的曲目

Recording from compact discs

(Continued)

Allotting tracks to the tape without wasting tape space (J. FIT) **A**

Press J. FIT.

The recording will start after the system completes the "One-touch editing operation" on page 90.

Notes

- Use a tape of under 99 minutes.
- You cannot edit-record tracks numbering higher than 24.

Closing up the tape-end unrecorded sections (LAST FADE) **B**

Press LAST FADE.

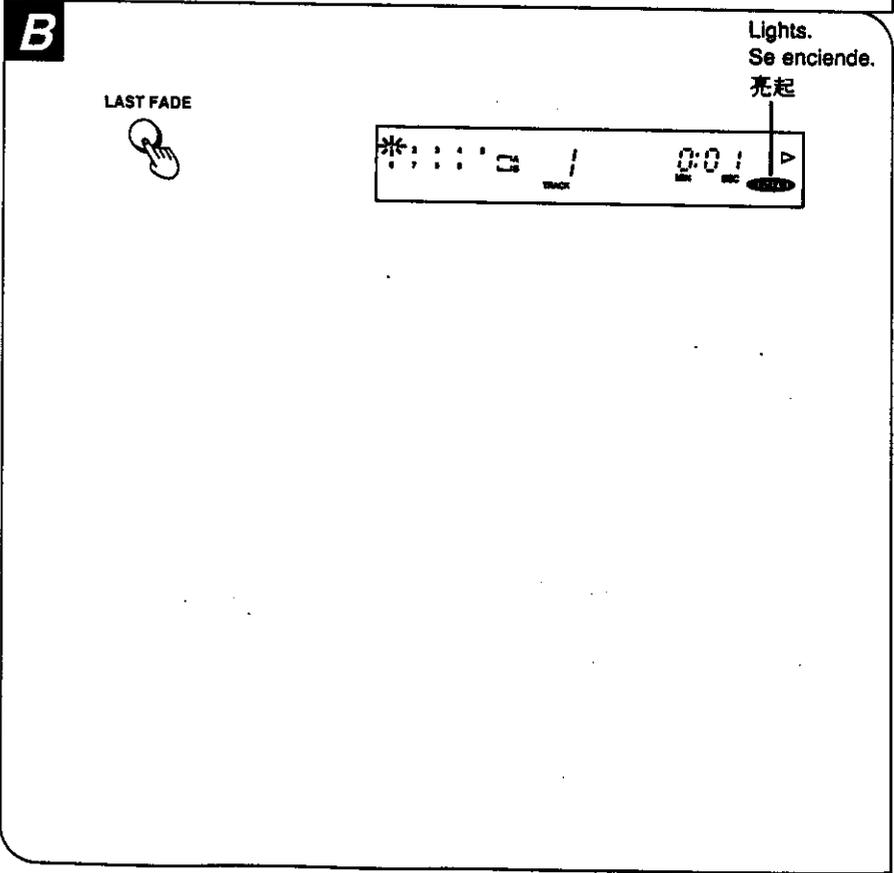
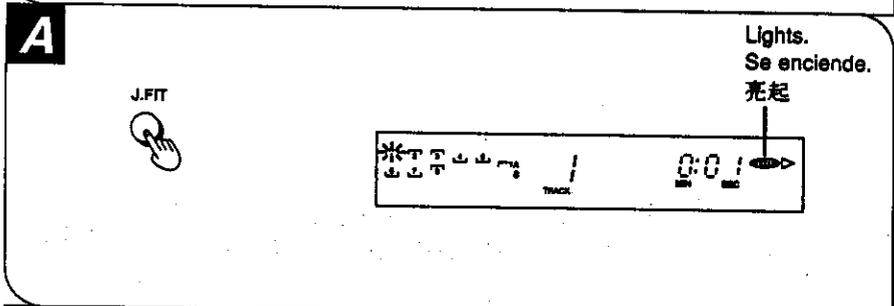
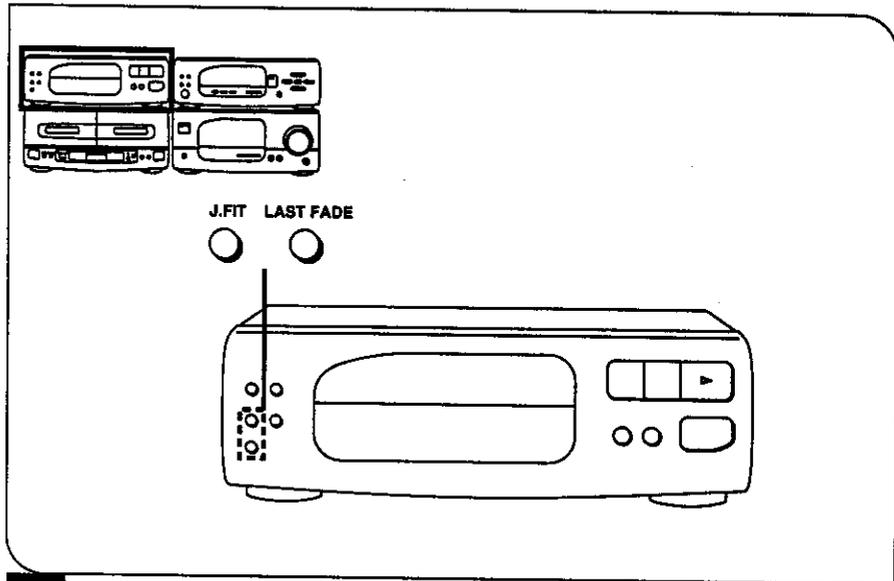
The recording will start after the system completes steps 2-3 of "One-touch editing operation". (See page 90.)

Use this editing mode when you record more than 24 tracks.

To cancel one-touch editing:

Press on the cassette deck.
The compact disc player also stops.

(To be continued)



Recording from compact discs

(Continued)

One-touch editing operation:

1. The cassette deck will fast-forward and rewind to measure its length. At the same time, CCRT function will be activated. (See page 76.)
2. The cassette deck will automatically advance the tape beyond the leader tape, and then stop.
3. The compact disc player automatically scans for the peak (highest) level of the entire disc (**Automatic Tape Level Setting—ATLS**), then recording will start. ATLS is the function which scans (fast search) for the peak (highest) level of the disc, and sets the appropriate recording level. When ATLS is activated, no sound will be heard. It takes about 70 seconds to complete ATLS for a compact disc of 60 minutes.

When there are tracks allotted on tape side B:

After recording tracks allotted on tape side A, the cassette deck will continue recording making the blank portion on tape side A to measure the tape length.

To record with desired tone quality:

A Select the desired tone quality (see pages 106, 108, 110, 112, 114 and 116), and start editing. To play back such recordings, press ON/FLAT on the tuner/sound processor to set to FLAT.

To specify the tracks to be edited:

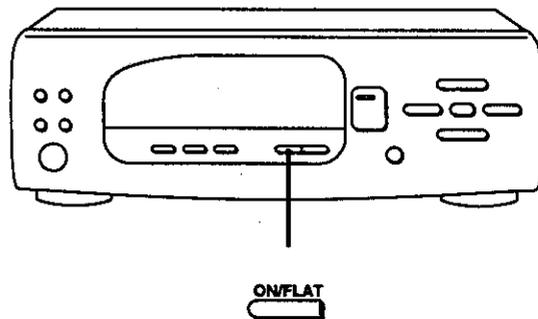
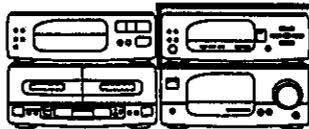
B You can specify the tracks to be edited using the program play procedure. (See page 54.)

After completing step 5 on page 86:

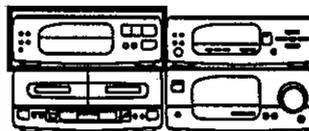
1. Press PROGRAM on the remote control, and then specify the tracks to be recorded in the desired sequence.
2. Press one of the one-touch editing button (ALBUM, J. FIT, LAST FADE) to start editing.

(To be continued)

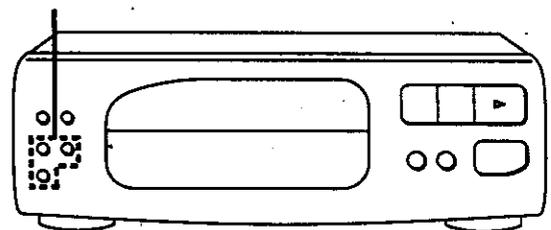
A



B



J.FIT ALBUM LAST FADE



Recording from compact discs

(Continued)

Note

You can program up to 24 tracks. "FULL" appears on the display if you try to program more than 24 tracks.

After the edit recording has finished:
The deck automatically enters the recording standby mode. When "LINK" indicator flashes, it means you can edit tracks from same or another disc in succession. (See below.)

To stop the edit-recording:
Press \square on the CD player.

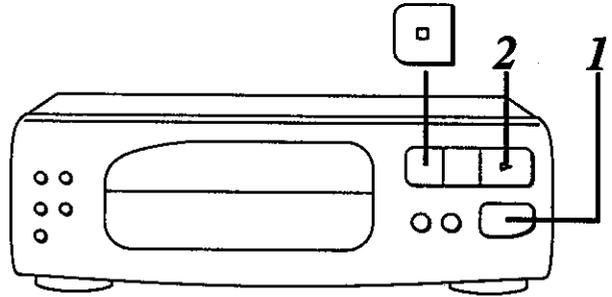
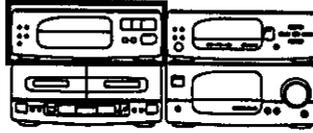
Linking up several discs (LINK)

You can link up another disc when LINK indicator flashes after editing a compact disc.

- 1 Press \blacktriangle OPEN/CLOSE to replace the disc with another disc. Press \blacktriangle OPEN/CLOSE again to close the disc tray.
- 2 Press \blacktriangleright to start recording. The recording will start with the same editing mode of the first disc. The system will assign tracks to be recorded on the remainder of the tape and display the results. The recording will start after the system completes the ATLS (see "One-touch editing operation" on page 90) setting.
- 3 Repeat steps 1-2 to record more discs.

To cancel the LINK function:
Press \square .

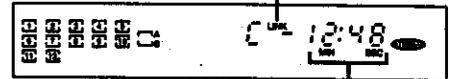
(To be continued)



1



LINK indicator
Indicador LINK
"LINK (接力)" 指示燈



The time remaining on tape
El tiempo restante de la cinta
磁帶剩餘時間

2



Tracks to be recorded on tape side B
Melodías que van a grabarse en el lado B de la cinta
需要錄製在磁帶 B 面的曲目



3

Recording from compact discs

(Continued)

To specify the tracks to be edited:

1. Replace the CD.
2. Press PROGRAM on the remote control, and specify the track number you want to record using the program play procedure. (See page 54.)
3. Press ▷ to start recording.

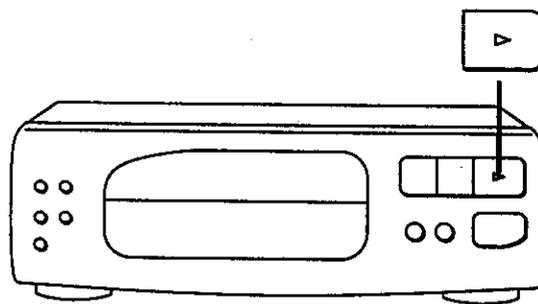
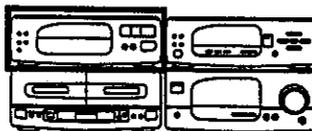
To record from the same disc in succession:

1. Press PROGRAM on the remote control, and specify the track number you want to record using the program play procedure. (See page 54.)
2. Press ▷ to start recording.

Notes

- When you record the first compact disc using LAST FADE, tracks to be recorded will not be displayed. However, it is possible to record from another disc.
- When the display shows "0:00", you cannot record from another disc. Press □ on the compact disc player to cancel the edit mode.
- If the time remaining on the tape is shorter than the length of the tracks to be recorded, you cannot record the tracks. Replace the disc with the tracks shorter than the time remaining on the tape or press □ on the compact disc player to cancel the edit mode.

(To be continued)



Recording from compact discs

(Continued)

Synchro recording

You can use normal, chrome, and metal tapes for recording.

Check that the tape's erasure prevention tabs (see page 158) are intact, and then insert the cassette into deck 2.

The leader tape must be wound up beforehand. (See page 78.)

- 1 Press **▲ OPEN** to load a cassette in deck 2.
- 2 Press **CLOSE** to close deck's cassette holder.
- 3 Press **DOLBY NR** to select Dolby noise reduction B or C mode.
If the tape will not be recorded using Dolby NR, press **DOLBY NR** again so that the Dolby NR indicator (B or C) will go off.

- 4 Press **REVERSE MODE** to select the reverse mode you want to use.

 : One side will record, and then the tape will stop automatically.

 : Both sides will record (forward side/reverse side), and then the tape will stop automatically.

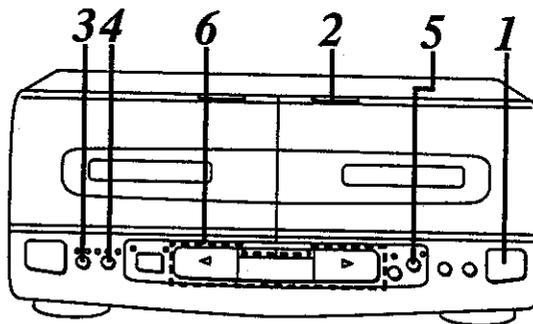
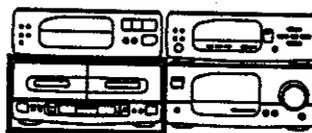
- 5 Press **CCRT** to activate the CCRT function.

You can record without using the CCRT function. (See page 76.)

- 6 Set the tape direction.
To change the tape travel direction, first press **▷** or **◁** on the cassette deck, then **□**.

▷: Recording from the forward side
◁: Recording from the reverse side

(To be continued)



1



2



3



4



5



6



Recording from compact discs

(Continued)

- 7 Press **▲ OPEN/CLOSE** on the CD player to load a disc.
Press **▲ OPEN/CLOSE** on the CD player again to close the disc.
- 8 Press **REC PAUSE** on the cassette deck.
The cassette deck will enter the recording standby state.
- 9 Press **▷** on the CD player to start recording.
The recording will automatically start corresponding to the tape travel direction indicator.

To stop recording:

Press **□** on the cassette deck.

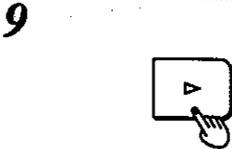
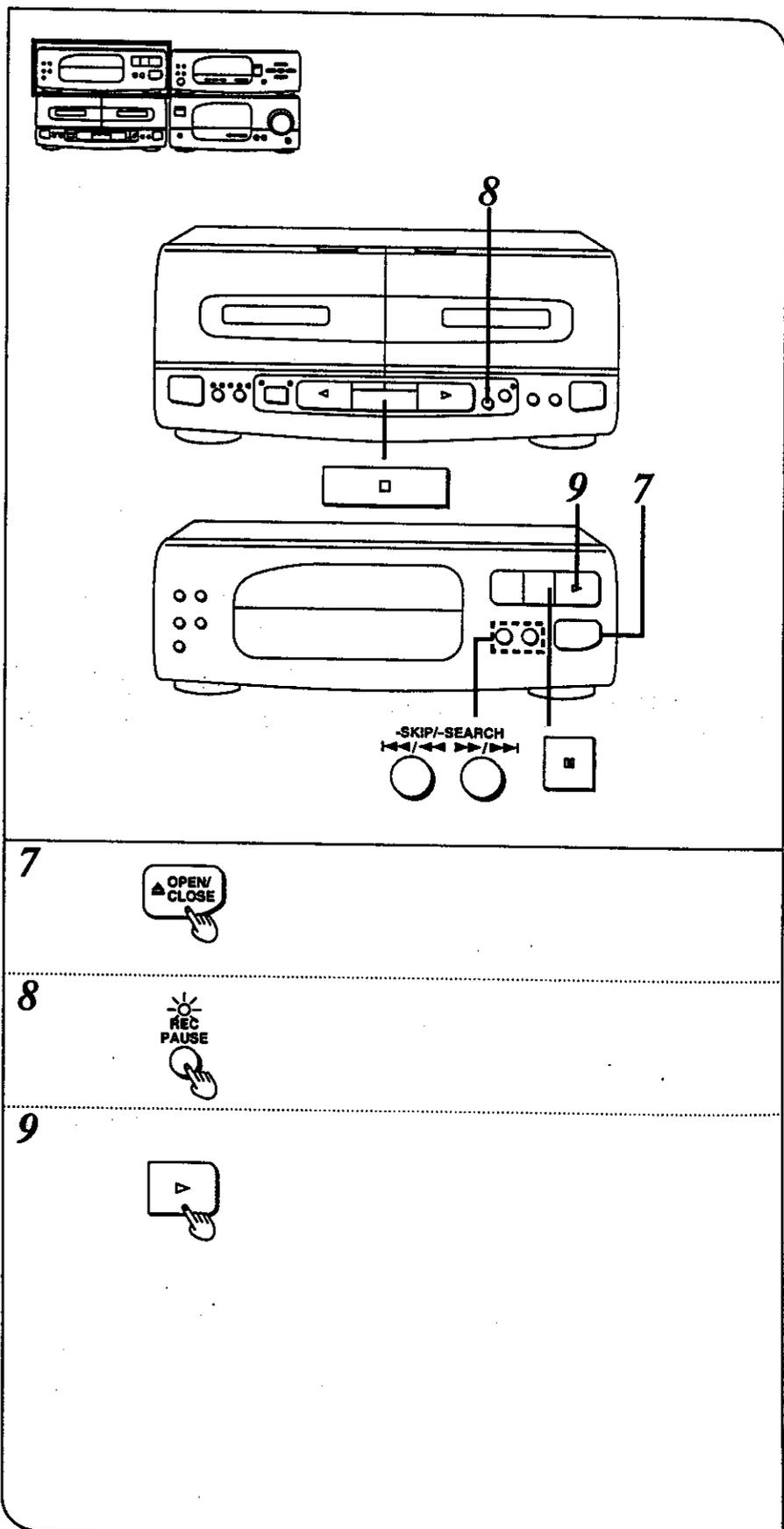
After the compact disc play finishes:

The cassette deck will create a non-recorded passage of about 4 seconds, and then go into the recording standby state.

When you want to cut an unnecessary track while recording:

Before an unnecessary track play will start,

1. Press **□□**.
The cassette deck will create a non-recorded passage of about 4 seconds, and then go into the recording standby state.
2. Press **▶▶/▶▶** or **◀◀/◀◀** to skip to the desired track.
3. Press **▷** on the compact disc player to resume recording.



Tape-to-tape recording

You can use normal, chrome and metal tapes for recording.

The recording level and the noise reduction effect of the original (playback) tape will be recorded on the new tape just as they were in the original recording.

Press INT on the tuner/sound processor to select "TAPE".

Check that the tape's erasure prevention tabs (see page 158) are intact, and then insert the cassette into deck 2.

The leader tape must be wound up beforehand. (See page 78.)

1 Load cassettes.

For playback: Into deck 1

For recording: Into deck 2

Insert both cassette with the starting side facing in front.

2 Press CLOSE to close each deck's cassette holder.

3 Select the desired reverse mode.

 : Single-sided recording

 : Two-sided recording (forward side→reverse side)
In case the tape length loaded in deck 2 is longer than a tape in deck 1, deck 1 repeats the playback until deck 2 completes the two-sided recording. (8 times max.)

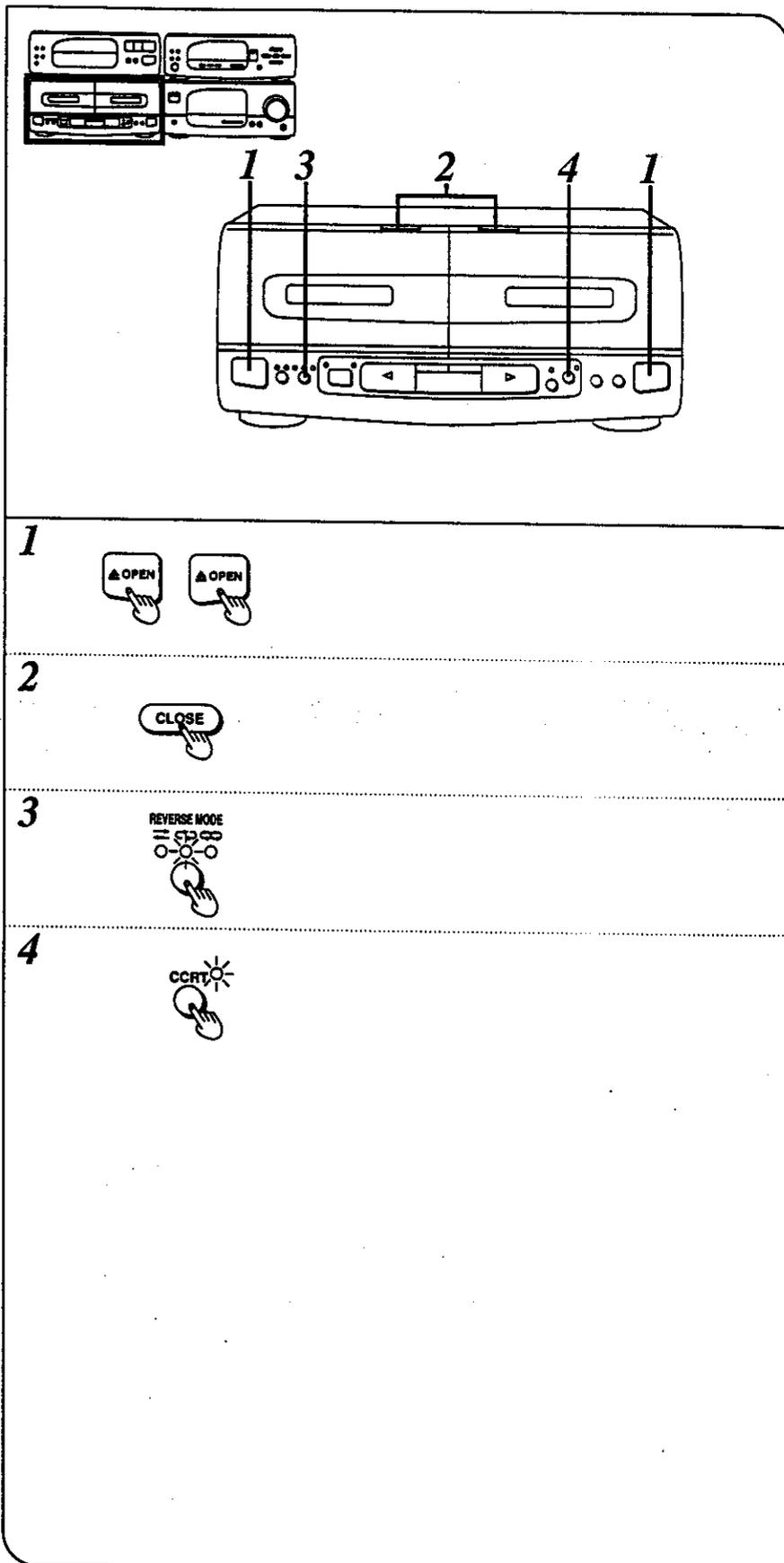
 : Two-sided recording (forward side→reverse side)

4 Press CCRT to activate the CCRT function.

(See page 76.)

You can record without using the CCRT function.

(To be continued)



Tape-to-tape recording

(Continued)

5 Set the tape direction to (>) of deck 1 and deck 2.

Press DECK 1/2 and confirm both deck's tape direction are (>).

To change the tape direction, first press >, and then □.

To record on the reverse side, set deck 2 to (<) tape direction. (In this case, be sure to rewind the tape to the beginning of the reverse side.)

6 Press one of ONE TOUCH TAPE EDIT (NORMAL or HIGH) to start recording with the desired editing speed.

NORMAL: When you wish to monitor the sound while recording

HIGH: When you wish to record at high speed (about 2.0 times normal speed)

While recording, both DECK 1 and DECK 2 indicators light. Tape direction indicator shows the tape direction of deck 2.

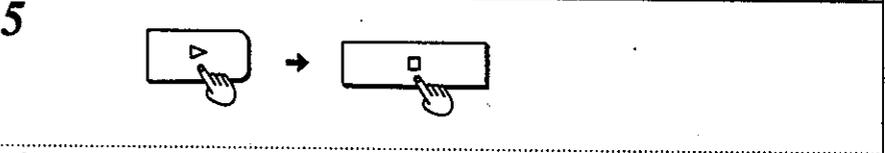
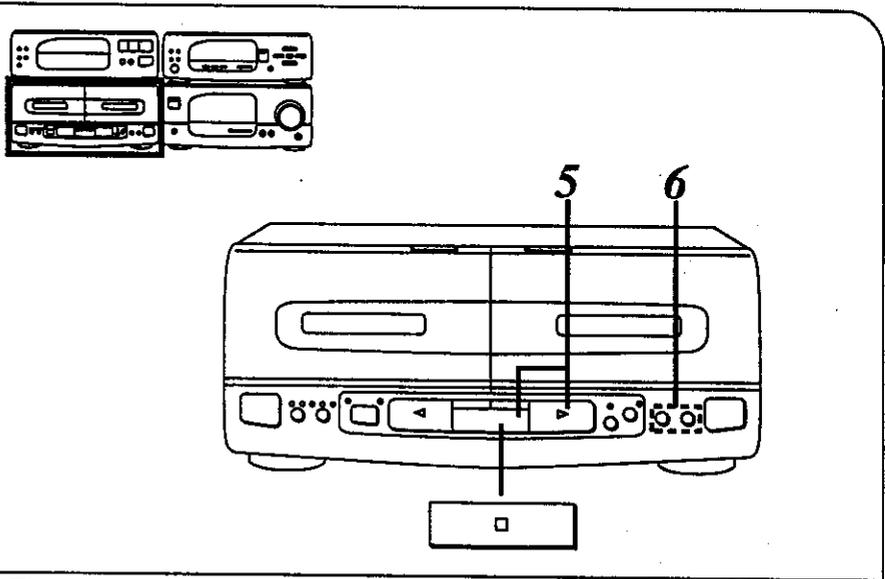
After recording has finished, both decks will stop.

To stop recording:

Press □.

Both decks will stop.

(To be continued)





(Continued)

To record on the reverse side of the tape:

Set the deck 2 tape direction to <, and then press NORMAL or HIGH.

To enjoy another source while recording:

Press > on the compact disc player or TUNER/BAND on the tuner/sound processor, and start the sound source.

You can change the volume level and tone quality without affecting the recording.

For your reference:

For optimum results, use an editing tape of the same or higher quality than the playback tape.

Notes

- Some TV sets generate noise that could be recorded during tape-to-tape recording. To prevent the possibility of this, do not use this system close to a TV set.
- Do not press CD edit recording buttons (J. FIT, ALBUM, LAST FADE) while tape-to-tape recording is in progress. It changes the tape-to-tape recording to the CD edit recording mode.
- You cannot expect special tone quality and equalization effects for tape-to-tape recording.

Changing the tone

About equalization curves (EQ)

Use this sound mode when you want to change the tone according to the type of music.

There are 5 equalization curves preprogrammed to this system. (See page 108.)

About simulated listening environments (SPACE)

Use this sound mode when you want to create the "live" performance sound.

There are 3 simulated listening environments preprogrammed to this system. (See page 110.)

You can adjust equalization curves and simulated listening environment as you like, to store them as "USER" mode. (See page 114.)

To retrieve the preprogrammed equalization curves (EQ mode) **A**

5 types of equalization curves preprogrammed to this system.

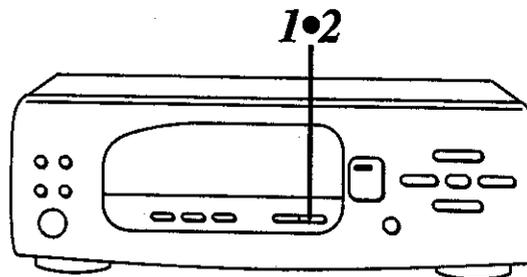
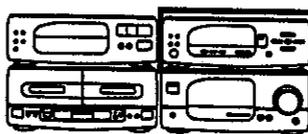
- 1 Press MODE to select EQ mode.**
Each time you press MODE, EQ and SPACE mode will be alternately switched.
EQ → SPACE

The display shows one of the EQ mode (HEAVY, CLEAR, SOFT, CAR, HP ST) which is previously retrieved.

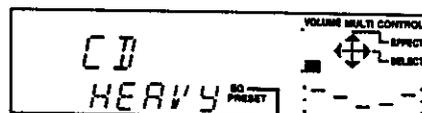
- 2 Press and hold MODE to select PRESET mode.**
Each time you press and hold MODE, PRESET and USER mode will be alternately switched.

(To be continued)

A

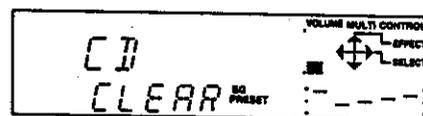


1



Lights.
Se enciende.
亮起

2



(Continued)

To retrieve the preprogrammed simulated listening environments (SPACE mode)

3 types of simulated listening environments are preprogrammed to this system.

1 Press MODE to select SPACE mode.

Each time you press MODE, EQ and SPACE mode will be alternately switched.

EQ → SPACE

The display shows one of the SPACE mode (DISCO, LIVE, HALL) which is previously retrieved.

2 Press and hold MODE to select PRESET mode.

Each time you press and hold MODE, PRESET and USER mode will be alternately switched.

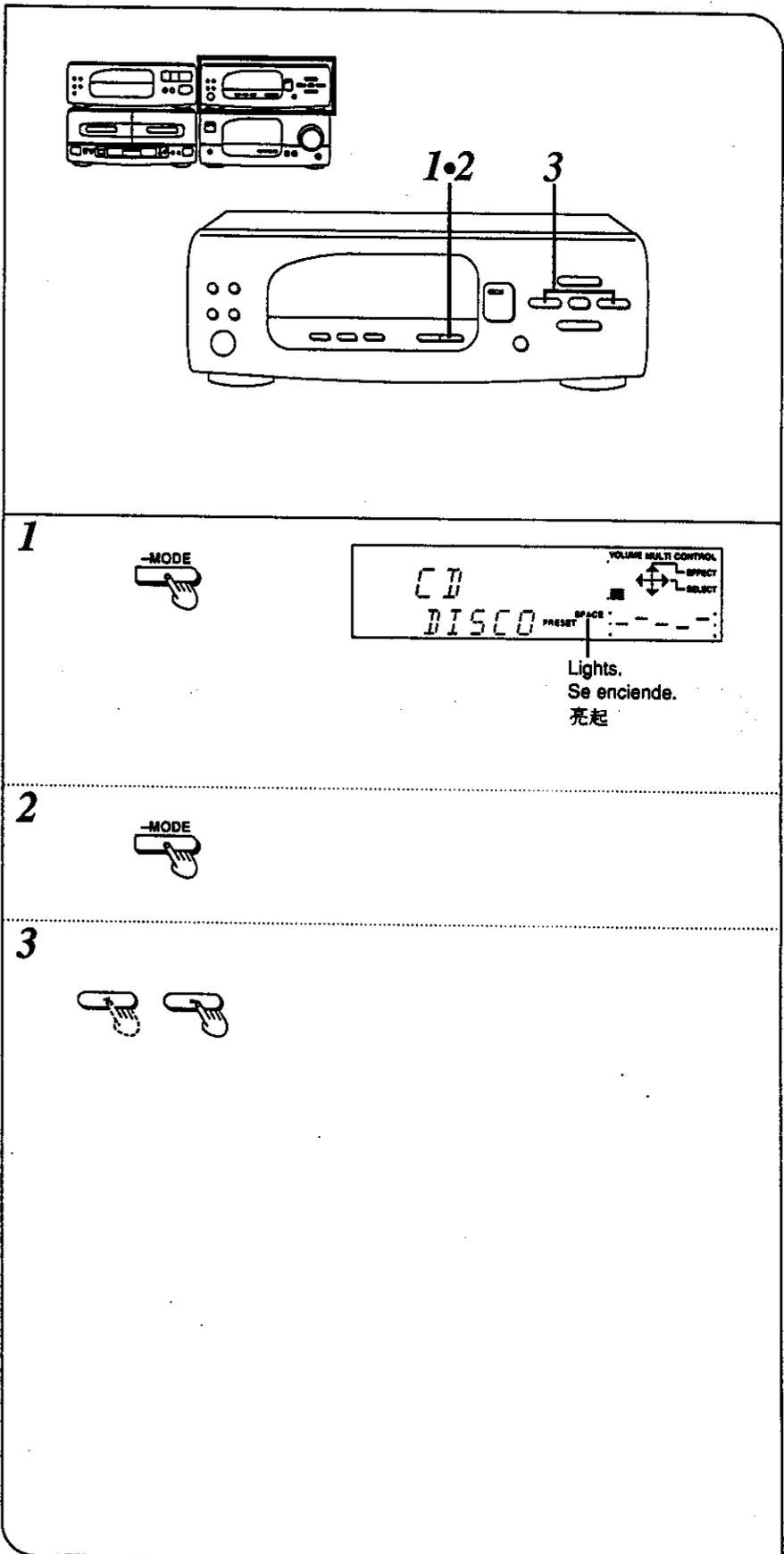
3 Press ► or ◀ to select the desired simulated listening environments.

Each press of ► advances the simulated listening environments setting as follows.

DISCO → LIVE → HALL

Pressing ◀ advances the equalization setting conversely.

(To be continued)



Changing the tone

(Continued)

About the pre-programmed simulated listening environments

1 DISCO

Use to create powerful bass sounds found in discos.

2 LIVE

Use primarily for vocal pieces to add gloss to the vocals.

3 HALL

Use to impart a deep bass and spread which will make you feel as if you were in a large concert hall.

To cancel the SPACE mode:

Press ON/FLAT to select FLAT.

For your reference:

You can record with desired simulated listening environments. To playback such recordings, press ON/FLAT to select FLAT.

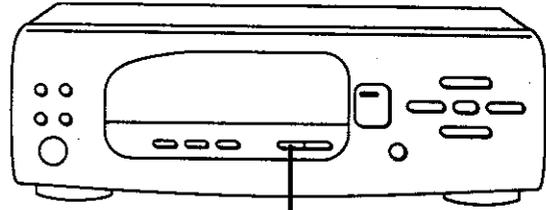
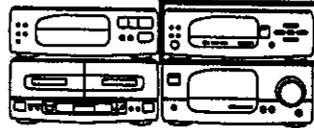
When listening to the radio broadcast:

After pressing MODE (on steps 1 and 2), proceed to the next step within 10 seconds. If not, the display will return to the tuning/preset mode. In this case, press MODE twice, and proceed to the next step.

Note

During CD edit recording, you cannot alter the SPACE mode.

(To be continued)

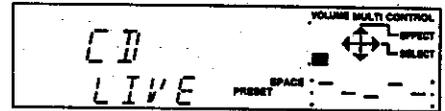


ON/FLAT

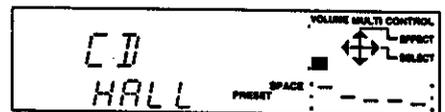
1 DISCO



2 LIVE



3 HALL



Changing the tone

(Continued)

To adjust EQ and SPACE

You can adjust equalization curves and simulated listening environment as you like, and store them as the USER mode in its memory.

- 1 Select the equalization curve or simulated listening environment of which you want to adjust the tone.
(See pages 106, 108, 110 and 112.)

- 2 Press ▲ or ▼ to adjust the equalization curve or simulated listening environment.

▲: To increase the effect
▼: To decrease the effect

Once you have made the adjustment, the system automatically stores the simulated listening environment or equalization curve as the USER mode in its memory.

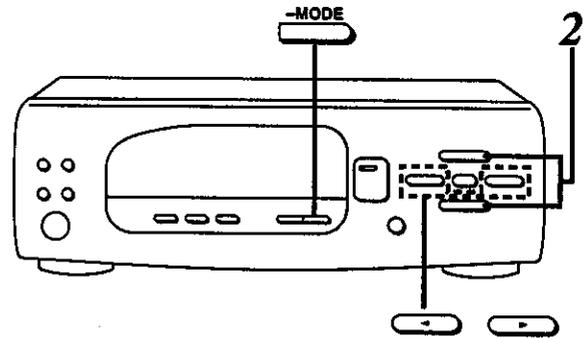
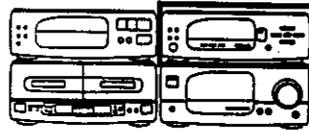
To retrieve the USER mode:

1. Press MODE to select EQ or SPACE mode.
2. Press and hold MODE to select USER.
3. Press ► or ◀ to select the desired equalization curve or simulated listening environment.

For your reference:

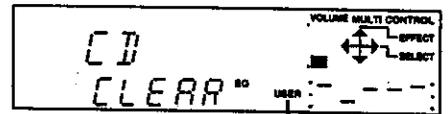
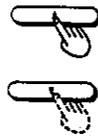
- Any adjustment will not affect the PRESET modes (equalization curves or simulated listening environments preprogrammed to this system).
- USER modes will stay in the system's memory for approximately 2 weeks even if the power supply cord is disconnected.

(To be continued)



1

2



Lights.
Se enciende.
亮起

Changing the tone

(Continued)

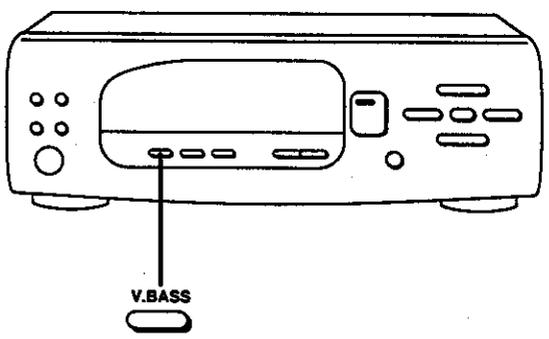
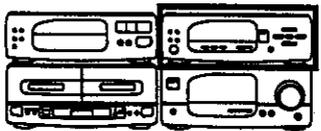
To listen with augmented bass (V. BASS)

Press V. BASS to ON.

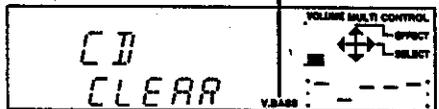
To cancel the V. BASS effect:
Press V. BASS once again.

Notes

- You cannot make a recording with the V. BASS effect. While recording, V. BASS mode cannot be activated.
- V. BASS indicator goes out while recording, and lights when recording finishes.



V. BASS indicator lights.
El indicador V. BASS se encenderá.
V. BASS 指示燈會亮起。



About the types of timer operation

Make sure that you have completed "Setting the time" on page 34.
There are 3 types of timer operation.

Play timer
(see pages 120, 122 and 124): **A**

Select this timer when you want to use the timer as an alarm clock. You can wake up with listening to music (CD, tuner, tape) at a desired volume level and time.

Record timer
(see pages 126, 128 and 130): **B**

Select this timer when you want to use the timer to record a midnight program or while you are out. The system will record a desired radio broadcast at a desired time.

Sleep timer (see page 132): **C**

Select this timer when you want to use the timer to switch off the music automatically as you can fall asleep while listening. The system will go into power standby condition after assigned time has passed.

You can use above timer mode in conjunction. (See pages 134 and 136 for details.)

(To be continued)

A

Well, at 6:30, play a CD with a little louder volume...

A las 6:30 me despertaré escuchando un disco compacto con el volumen un poco más alto...

好的, 在 6:30, 用稍微大一點的聲音欣賞 CD

Good morning!

¡Buenos días!

早上好!



B

Before going out, set the broadcast station and time.

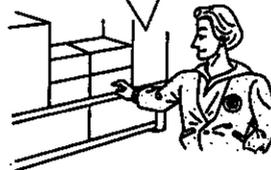
Antes de salir pondré la emisora de radiodifusión y la hora.

在出門前, 設定好收音機電台和定時器。

The recording will be made while you are out.

La grabación se realizará estando usted ausente.

在您外出時可進行錄音。



C

Set the system to go into standby mode after 30 minutes.

Prepararé el sistema para que se ponga en el modo de espera después de 30 minutos.

將本機設定在 30 分鐘後處於待命狀態。

OFF!

¡APAGADO!

關機!



Using the timer

(Continued)

Setting the play timer

The following example shows how to set the play timer for playing a CD at -48 dB every day from Monday through Friday 6:30 to 7:40.

- 1 Adjust the volume level for the timer play on the amplifier.
- 2 ① Press **CLOCK/TIMER** three times to select **PLAY**.
Within 10 seconds
② Press **SET**.
- 3 ① Press **▶** or **◀** to select the day.
② Press **SET**.
- 4 ("ON" time setting)
① Press **▶** or **◀** to select the hour.
② Press **SET**.
③ Press **▶** or **◀** to select the minutes.
④ Press **SET**.
- 5 ("OFF" time setting)
① Press **▶** or **◀** to select the hour.
② Press **SET**.
③ Press **▶** or **◀** to select the minutes.
④ Press **SET**.
- 6 ① Press **▶** or **◀** to select the desired source.
② Press **SET**.
When you select tuner, select a desired preset channel using **▶** or **◀**, and then press **SET**.

(To be continued)

1 VOLUME DOWN UP

2 ① CLOCK/TIMER → ② SET

3 ① → ② SET

4 ① → ② SET → ③ → ④ SET

5 ① → ② SET → ③ → ④ SET

6 ① → ② SET

Display: -48dB FLAT, ON PLAY, 000, 6:00, 6:30, 7:30, 7:40, CD

Buttons: VOLUME MULTI CONTROL, PRESET, MEMORY, MULTI CONTROL, SELECT, SET

Using the timer

(Continued)

7 Prepare for the play.

When you play a CD: Load a disc.
When you play a tape: Load a tape.

8 Press POWER on the amplifier to switch the power to standby mode.

Please confirm PLAY appears on the display. The timer play will start at the preset time with volume increasing gradually up to the volume level you preset.

To cancel the timer:

Press PLAY to go out PLAY on the display.

The play timer will not function, but the play timer setting will stay in the memory.

If you make an error:

Press CLOCK/TIMER to return to step 1.

About the variation of the day setting:

One day from

Sunday to Saturday: SUN...SAT

Everyday from

Sunday to Saturday: SUN-SAT

Everyday from

Monday to Saturday: MON-SAT

Everyday from

Monday to Friday: MON-FRI

Saturday and

Sunday only: SUN, SAT

To confirm the play timer:

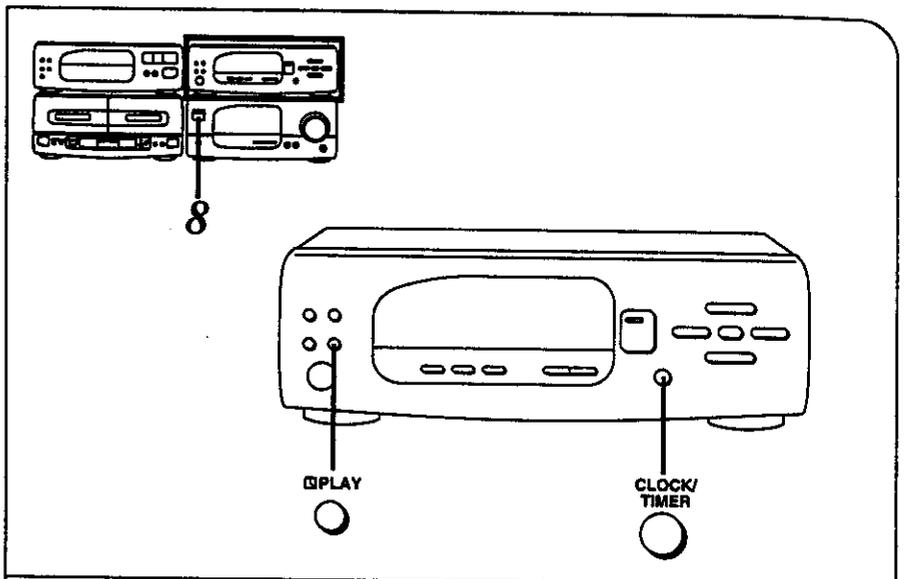
Press CLOCK/TIMER to show " PLAY" on the display.

The display will show the ON time, OFF time, the source you select, and the volume level in 2 seconds steps.

To change the play timer setting:

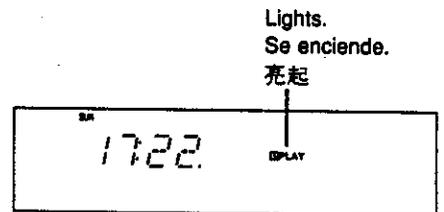
Follow the procedure from the first step.
(See pages 120 and 122.)

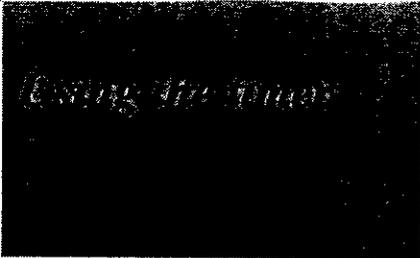
(To be continued)



7

8





(Continued)

Using the timer at the same time setting continuously:

You can accomplish this even if the system is in the standby mode.

1. Press **[] PLAY** to show **[] PLAY** on the display.
2. Press **POWER** on the amplifier to switch the power to standby mode.

To enjoy the desired source after the timer setting is completed:

1. Start playing the desired source.
Even if you change the volume level or music source, the timer play will start with the preset condition.
2. Press **POWER** on the amplifier to standby mode after enjoying the play.

Notes

- This system retains the ON/OFF time settings until you make a new setting. In case you make a new ON time setting which is later than the previous OFF time setting, the system automatically advances the day you set on the step 3. (See page 120.) When you reset the OFF time, the day setting will return to the original setting.
- You cannot make the ON time and OFF time same setting.
- If the power is on, the timer will not function. The system must be in the standby mode.
- The play timer will function until you cancel the play timer mode.
- If you switch the power to standby mode while play timer is functioning, the OFF time setting will be cancelled.

For your reference:

When you insert cassettes in both deck 1 and deck 2, deck 1 has priority for timer play on tape.

(To be continued)

Using the timer

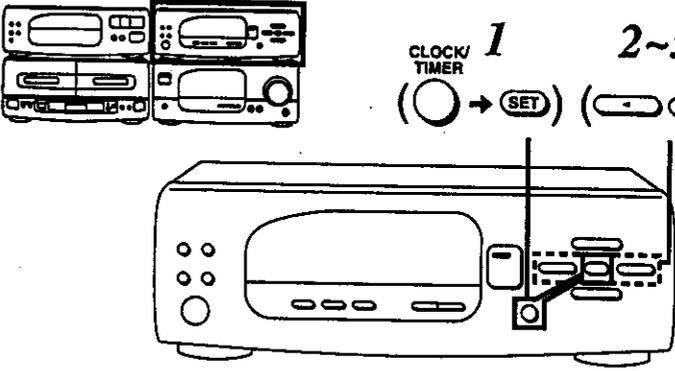
(Continued)

Setting the record timer

The following example shows how to set the record timer for; recording FM preset channel no. 1 on Saturday from 18:30 to 20:00.

- 1
 - ① Press **CLOCK/TIMER** twice to select **REC**.
Within 8 seconds
 - ② Press **SET**.
- 2
 - ① Press **▶** or **◀** to select the day.
 - ② Press **SET**.
- 3 ("ON" time setting)
 - ① Press **▶** or **◀** to select the hour.
 - ② Press **SET**.
 - ③ Press **▶** or **◀** to select the minutes.
 - ④ Press **SET**.
- 4 ("OFF" time setting)
 - ① Press **▶** or **◀** to select the hour.
 - ② Press **SET**.
 - ③ Press **▶** or **◀** to select the minutes.
 - ④ Press **SET**.
- 5
 - ① Press **▶** or **◀** to select the desired preset channel.
 - ② Press **SET**.
- 6 Prepare for recording.
 1. Insert a cassette into deck 2.
 2. Select the Dolby NR.
 3. Select the reverse mode.
 4. Select the tape travel direction.

(To be continued)



CLOCK/TIMER 1 2-5
 ((○) → SET) ((- -) → SET)

1

① **CLOCK/TIMER** → ② **SET**

2

① **▶** → ② **SET**

3

① **▶** → ② **SET**

③ **▶** → ④ **SET**

4

① **▶** → ② **SET**

③ **▶** → ④ **SET**

5

① **▶** → ② **SET**

6

The diagram illustrates the steps to set the record timer. It shows a car stereo unit with a cassette deck and various control buttons. The steps are numbered 1 through 6, corresponding to the instructions on the left. Each step is accompanied by a visual representation of the stereo's display and the actions to be taken. Step 1 shows the display changing from 'FM 88.10' to 'REC'. Step 2 shows the display changing to 'SAT'. Step 3 shows the display changing to '18:00'. Step 4 shows the display changing to '18:30'. Step 5 shows the display changing to '20:30'. Step 6 shows the display changing to '20:00'. The display also shows 'FM 88.10' and 'MULTI CONTROL' buttons.

Using the timer

(Continued)

7 Press POWER on the amplifier to switch the power to standby mode.

Please confirm REC appears on the display.

The sound will be automatically muted during timer recording.

To cancel the timer:

Press REC to go out REC on the display.

The record timer will not function, but the record timer setting will stay in the memory.

If you make an error:

Press CLOCK/TIMER to return to step 1.

About the variation of the day setting:

One day from

Sunday to Saturday: SUN...SAT

Everyday from

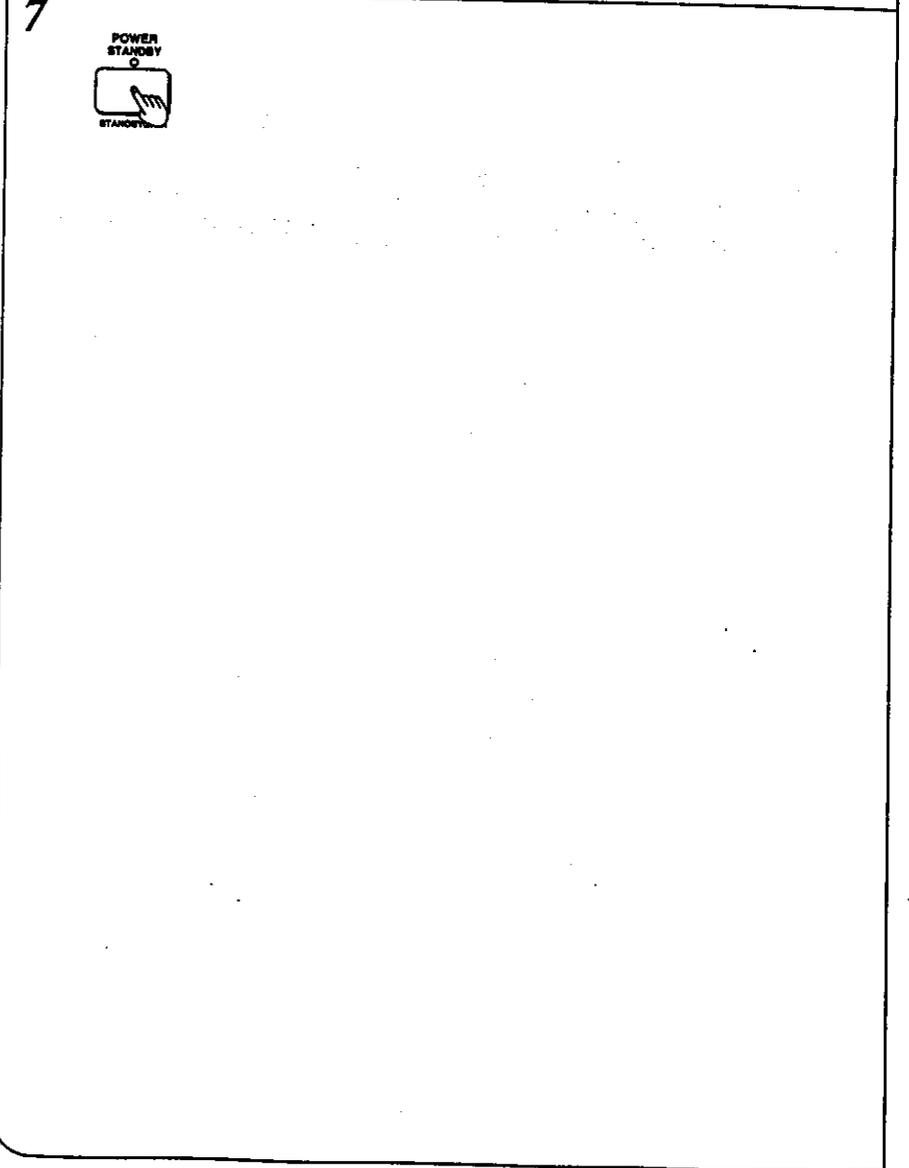
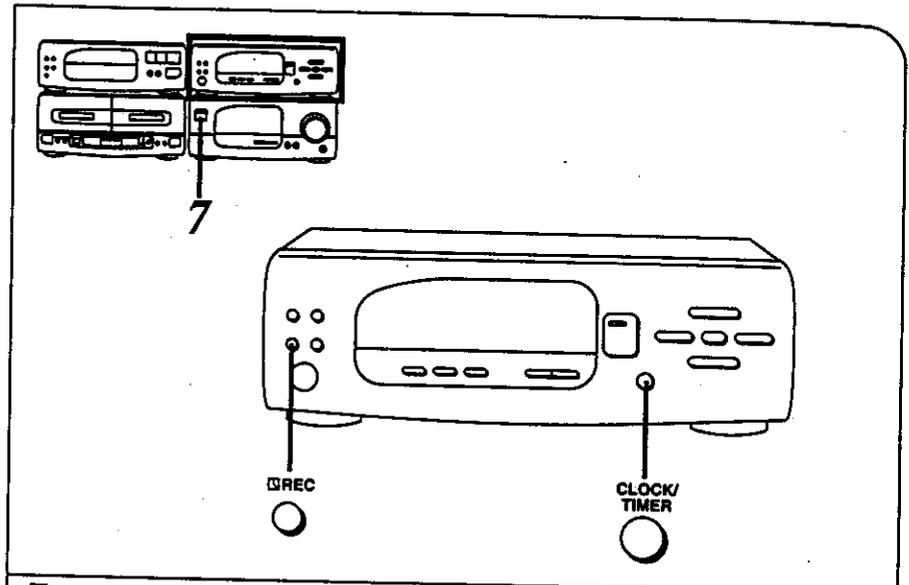
Sunday to Saturday: SUN-SAT

To confirm the record timer:

Press CLOCK/TIMER to show REC on the display.

The display will show the ON time, OFF time, the broadcast station you select, in 2 seconds steps.

(To be continued)



Using the timer

(Continued)

To change the record timer setting:

Follow the procedure from the first step.
(See pages 126 and 128.)

Using the timer at the same time setting continuously:

You can accomplish this even if the system is in the standby mode.

1. Press **REC** to show **REC** on the display.
2. Press **POWER** on the amplifier to switch the power to standby mode.

To enjoy the desired source after the timer setting is completed:

1. Start playing the desired source.
When listening to a cassette tape, use the deck 1.
Even if you change the music source, the timer recording will start with the preset condition.
2. After enjoying the source, prepare for recording, and then press **POWER** on the amplifier to standby mode.

Notes

- This system retains the ON/OFF time settings until you make a new setting. In case you make a new ON time setting which is later than the previous OFF time setting, the system automatically advances the day you set on the step 3. (See page 126.) When you reset the OFF time, the day setting will return to the original setting.
- You cannot make the ON time and OFF time same setting.
- If the power is on, the timer will not function.
- Once the record timer operation finishes, it clears the record timer mode (except for "everyday from Sunday to Saturday" mode).
- When you want to record a same program over several weeks (except when you select "everyday from Sunday to Saturday" mode), press **REC** to show **REC** on the display after the timer recording has finished.

For your reference:

While timer recording is taking place, the volume level will be automatically muted.

(To be continued)

Using the timer

(Continued)

To use the sleep timer

You can use this timer function to switch the power to the standby mode at a specified time (within a range of 1 minute to 120 minutes from the present time).

The following example shows how to set the system to standby mode after 30 minutes.

1 While enjoying the desired source

① Press **CLOCK/TIMER** four times to select "SLEEP".

Within 7 seconds

② Press **SET**.

2 ① Press **▶** or **◀** to select the desired length of time.

② Press **SET**.

Please confirm "SLEEP" appears on the display.

To cancel the sleep timer mode: **B**

Press **SLEEP** to go out the "SLEEP" on the display.

The time setting will remain in the unit's memory.

To confirm the time remaining on the sleep timer:

Press **CLOCK/TIMER** four times.

To change the time setting while sleep timer is functioning:

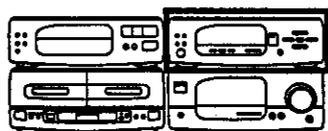
Follow procedure from the beginning.

If you want to operate the system again on the same sleep time:

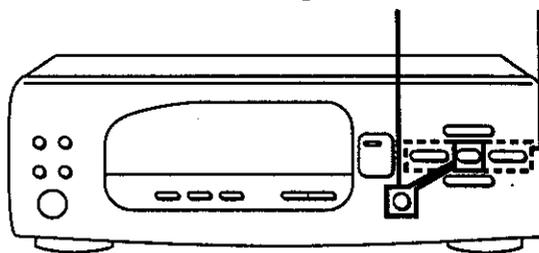
Press **SLEEP** on the remote control to show "SLEEP" on the display.

(To be continued)

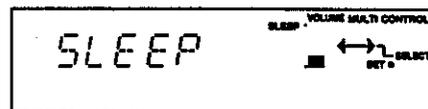
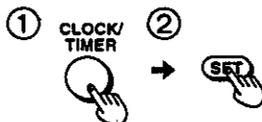
A



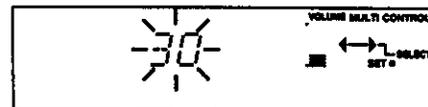
1 (CLOCK/TIMER) → (SET) **2** (◀) → (SET)



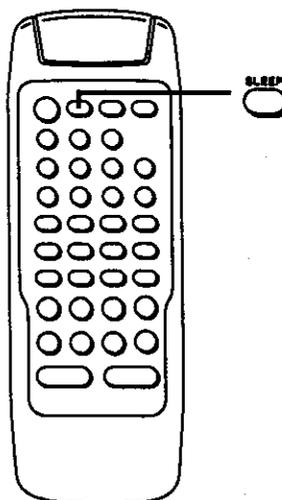
1



2



B



Using the timer

(Continued)

To use each timer mode in conjunction

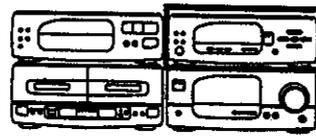
To go to sleep listening to a tape, and wake up the next morning listening to a compact disc, and record from a radio broadcast while going out

1. Make a record timer setting.
(See pages 126, 128 and 130.)
2. Make a play timer setting for a compact disc. (See pages 120, 122 and 124.)
Be sure to set the timer play to off before the timer recording will start.
3. Play back the tape in deck 1, and adjust the volume level.
(Select "←→" of the reverse modes.)
4. Press CLOCK/TIMER to select SLEEP timer, and set the sleep time.
(See page 132.)

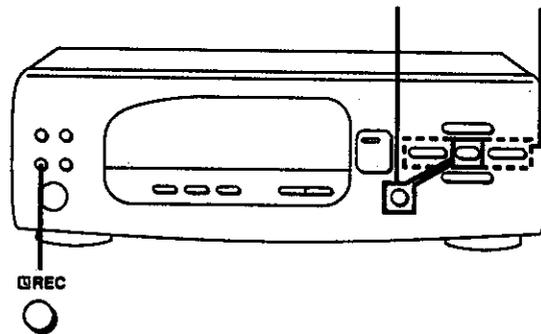
To go to sleep listening to a compact disc, and then to make a timer recording from a radio broadcast

1. Make a record timer setting.
(See pages 126, 128 and 130.)
2. Play a compact disc, and adjust the volume level.
3. Press CLOCK/TIMER to select SLEEP timer, and set the sleep time.
(See page 132.)
Be sure to set the sleep timer to off before the timer recording will begin.

(To be continued)



CLOCK/
TIMER



REC



Enjoying the microphone mixing

This function mutes the vocal track but leaves the accompaniment allowing you to enjoy "KARAOKE" (singing with an accompaniment).

- 1 Connect the microphone plug to the MIC jack after reducing the volume level.
Plug type: M6 MONO type

(For areas except Australia and New Zealand)
You can connect another microphone jack to the second one.

- 2 Start playing a compact disc.
- 3 Press KARAOKE to ON.
"VOICE MUTE", "L ONLY", "R ONLY" and light off (FLAT) will be displayed in order each time you press KARAOKE.

| | |
|------------------|---|
| VOICE MUTE | You can use a normal CD. |
| L ONLY or R ONLY | You can use a sound multiplex CD, or CD graphics. |
| Light off (FLAT) | You can use normal karaoke tape, a normal karaoke CD, or CD graphics. |

- 4 Start microphone mixing, and adjust the microphone level.

To adjust the reverb sound

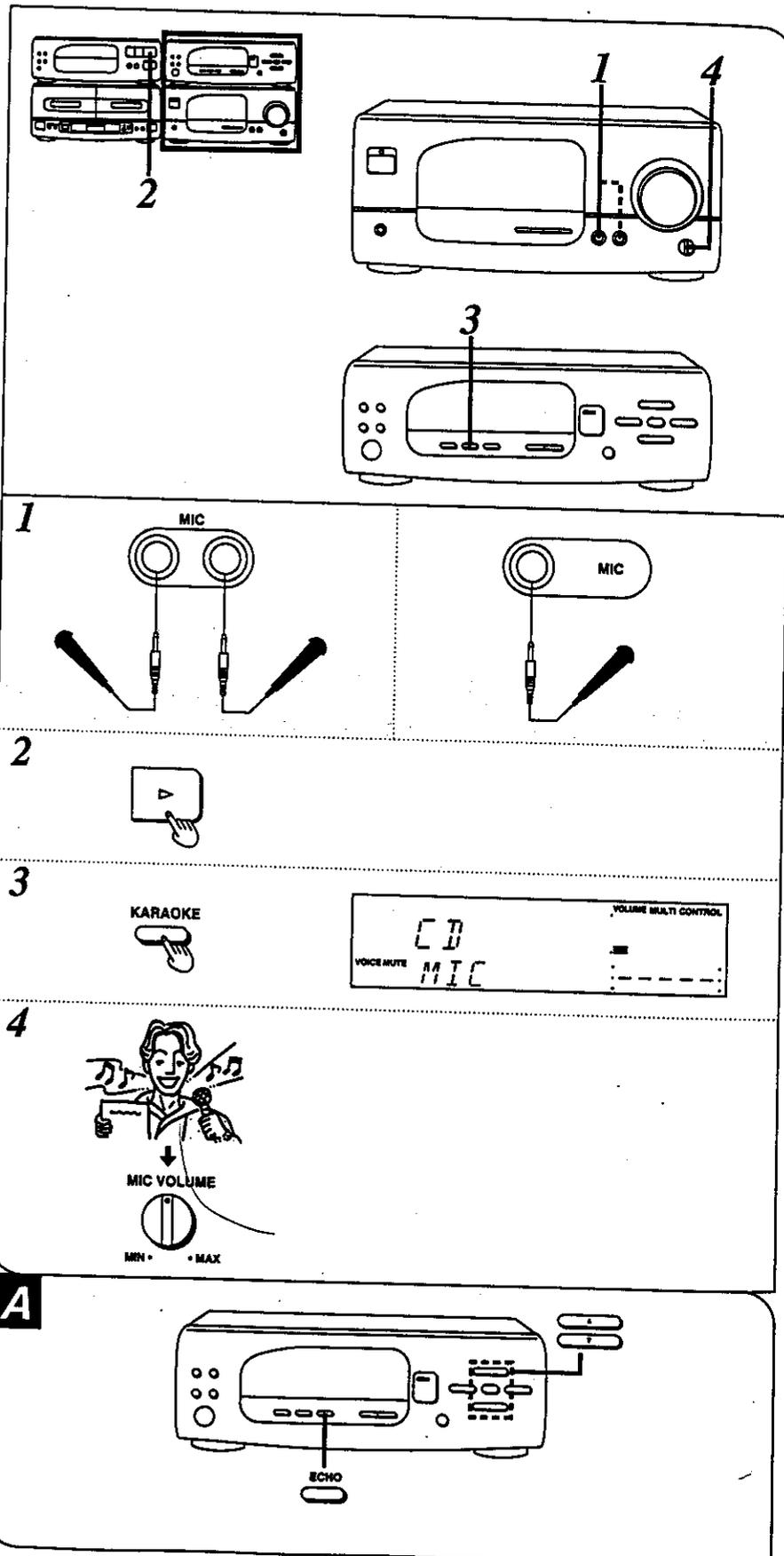
(For areas except Australia and New Zealand)

1. Press ECHO.
The ECHO indicator will light.
2. Adjust the reverb sound using ▲ or ▼.
You can adjust the reverb sound within the range of 1.0 seconds to 1.6 seconds.
To cancel, press ECHO again.

Notes

- During CD edit recording, you cannot alter the ECHO mode.
- The ECHO mode cannot be activated when you select FM or MW or LW.
- You cannot alter the ECHO mode without the microphone.

(To be continued)



*Enjoying the
microphone
mixing*

(Continued)

To cancel the "KARAOKE" mode:

Press KARAOKE to go out the indicator.

When VOICE MUTE lights:

Press 3 times.

When L ONLY lights:

Press twice.

When R ONLY lights:

Press once.

To record of your "KARAOKE" performance:

Start recording on deck 2, then start "KARAOKE". To playback the tape recorded in "KARAOKE" mode, press KARAOKE to go out the "KARAOKE" mode indicator (VOICE MUTE, L ONLY, R ONLY).

To record your voice:

1. Connect the microphone to the MIC jack.
2. Press REC PAUSE to put the cassette deck into the recording standby mode.
3. Press > or < to start recording.
4. Start "KARAOKE".

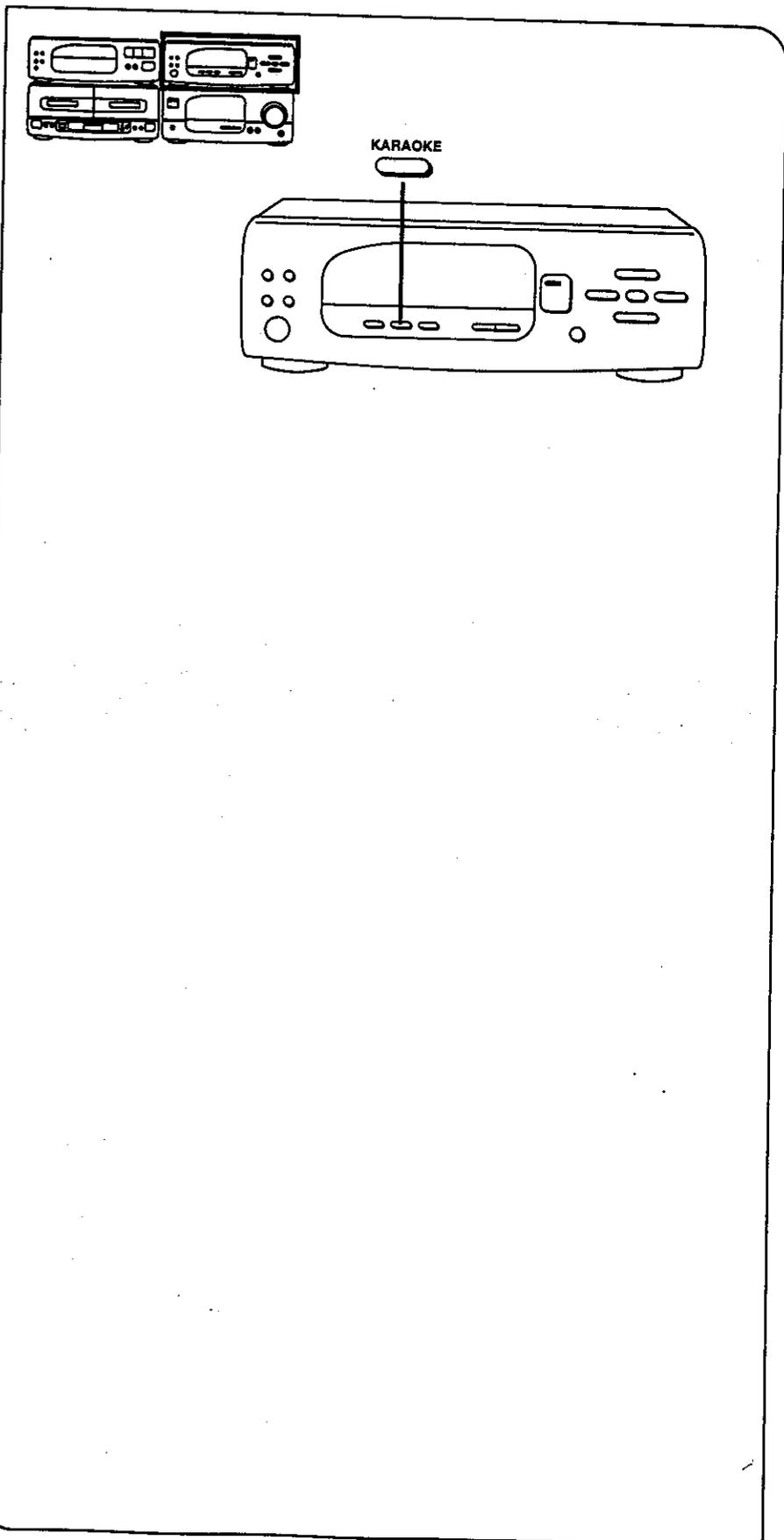
You cannot record in "KARAOKE" mode using:

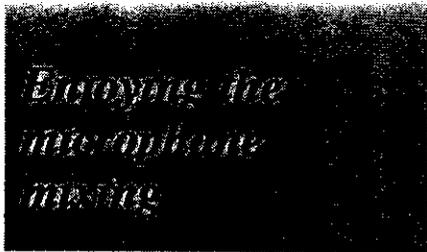
- a tone quality effect (equalization curve, simulated listening environment, and V. BASS effect)
- a cassette tape originally made for KARAOKE use

You cannot use "KARAOKE" function with:

- a tone quality effect (equalization curve, simulated listening environment effect)
- a monaural source
- Recording with "KARAOKE" mode on a DCC tape.

(To be continued)





(Continued)

Notes

- The KARAOKE mode cannot be activated when you select FM or MW or LW.
- During CD edit recording, you cannot alter the KARAOKE mode.
- This function may not be effective according to the type of music.
- If you hear strange noises (squealing or howling) during mixing, move the microphone farther away from the speakers or turn down the volume and microphone volume on the power amplifier.
- When you are not using the microphone, disconnect it from the MIC jack, and turn down the microphone volume level to MIN.
- Do not press KARAOKE when recording on a DCC or DAT.

Changing the display

Changing the output level display **A**

The display will change in 3 steps. Select the desired display.

Press DISPLAY.

Each time you press DISPLAY, the display will change as shown in the illustration:

Note

You can change the output level scale only when the display shows same as ① and ②.

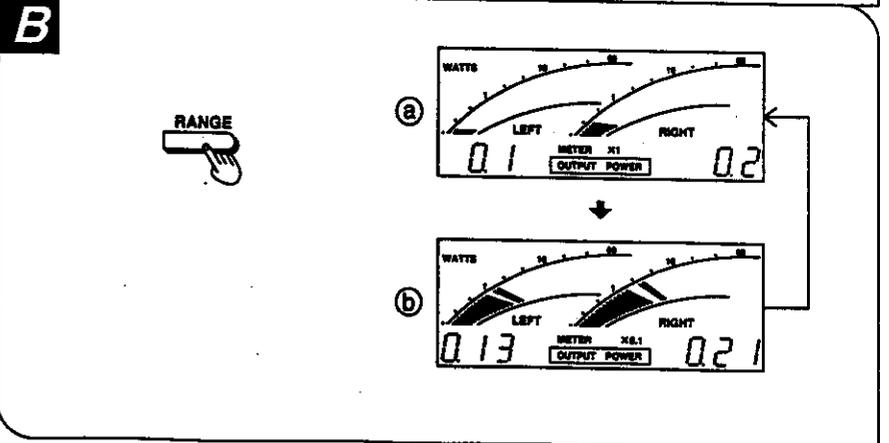
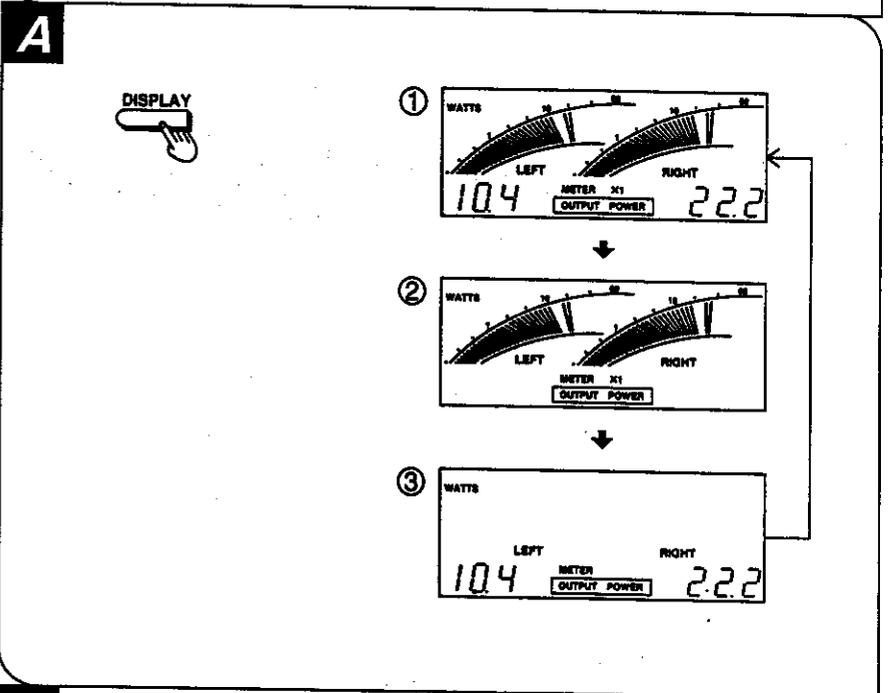
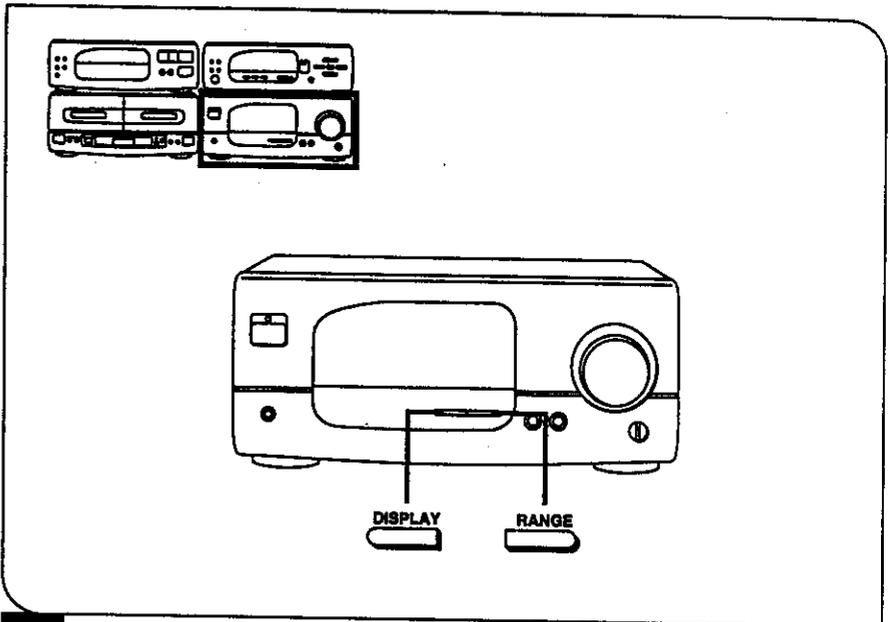
Changing the output level scale **B**

Change the output level scale of the source you are listening to.

Press RANGE.

Each time you press RANGE, the display will change as follows:

- ① Shows the output level scale, up to 60 W max. When the output level scale is more than 60 W, "OVER" lights.
- ② Shows the output level scale, up to 6 W max. When the output level scale is more than 6 W, "OVER" lights.



Using an external unit

Listening to an external source **A**

You can connect DCC, DAT or analog turntable to this system.

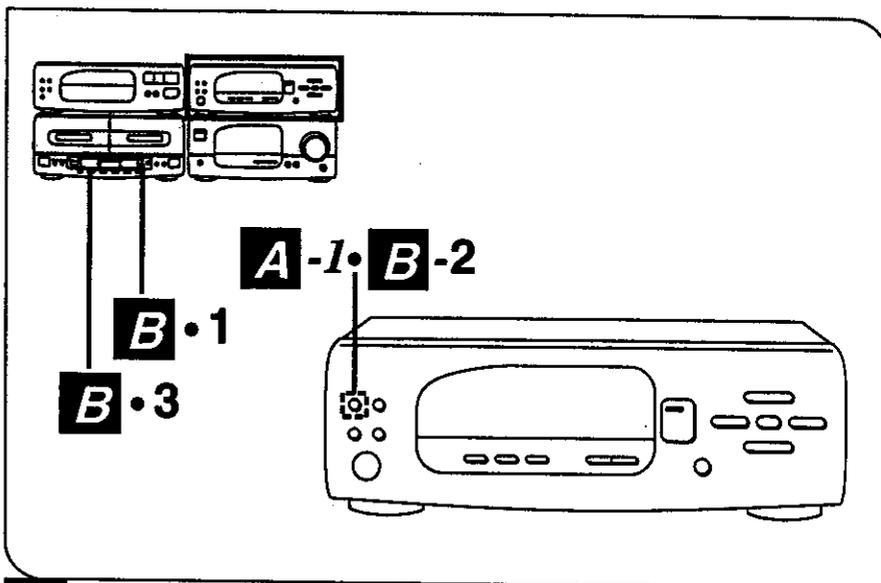
The following example shows when you select analog turntable.

- 1 Press EXT to select the external source.

Note

Each time you press EXT, "DCC" and "AUX" will be alternately displayed.

- 2 Operate the unit which is connected to the system.
See the instruction manual of the unit concerned for operating instructions.

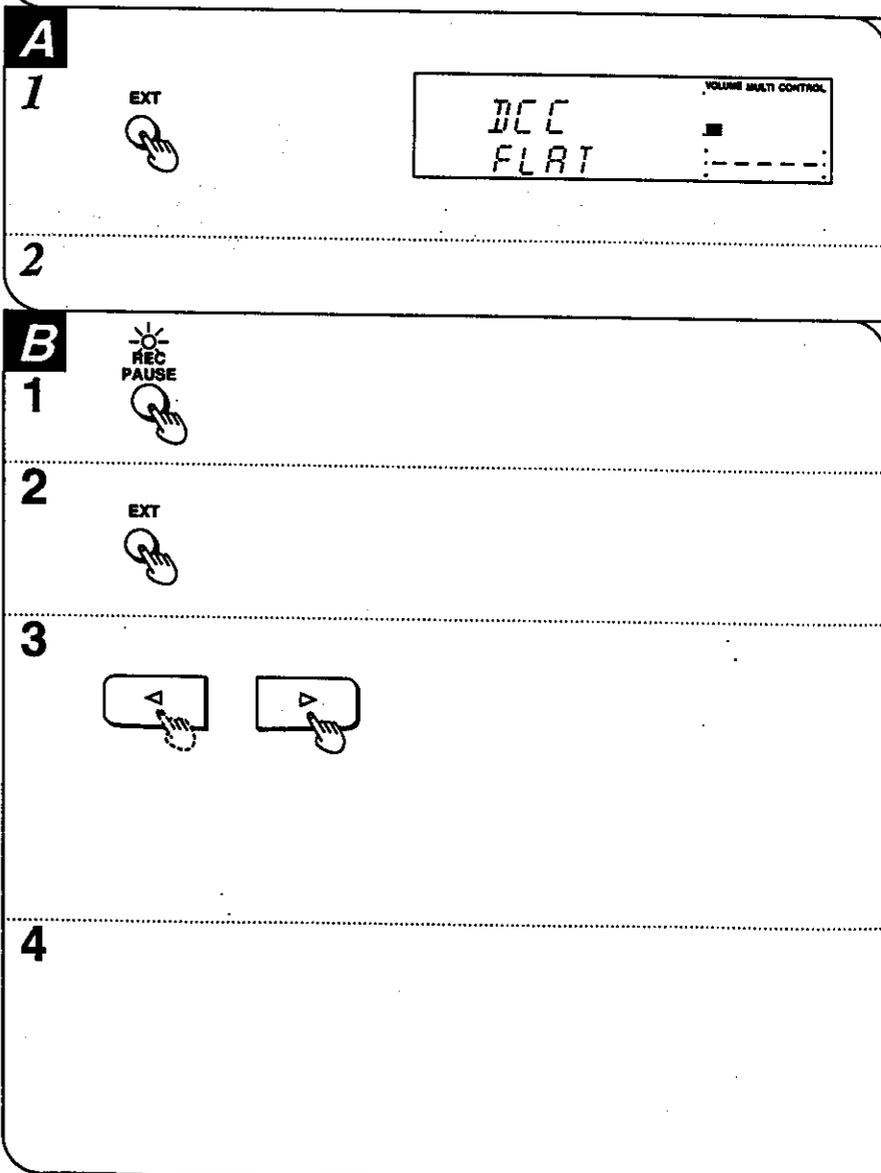


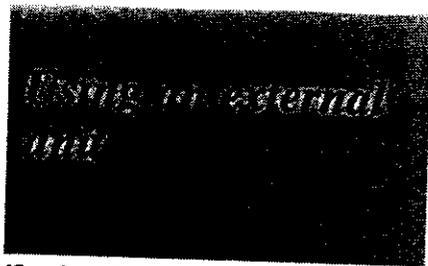
Recording from an external source **B**

The following example shows when you record from an analog player.

- 1 Press REC PAUSE on the cassette deck to put the cassette deck into the recording standby mode.
- 2 Press EXT to select the external source.
- 3 Press one of the playback buttons (▷ or ◁) on the cassette deck to start recording.
- 4 Start playing the source to be recorded.
See the instruction manual of the unit concerned for the operation.

(To be continued)





(Continued)

To stop recording:

Press  on the cassette deck.

To briefly interrupt recording:

Press REC PAUSE on the cassette deck.
The cassette deck will go into the recording standby state.

To resume recording:

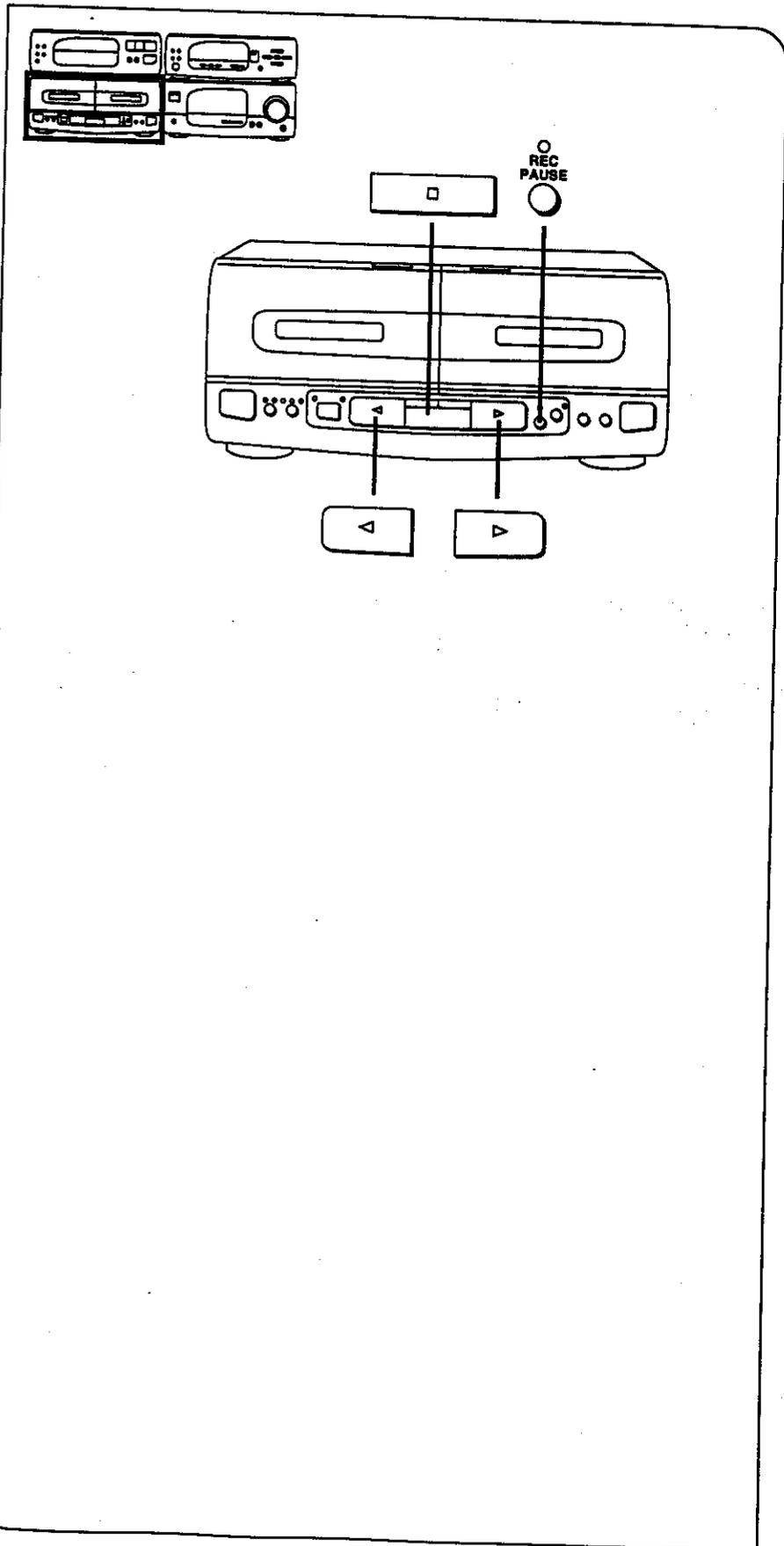
Press one of the playback buttons ( or ) corresponding to the direction in which recording is taking place.

To record on a DCC or DAT tape:

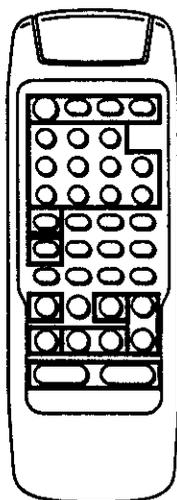
Start recording on a DCC or DAT, and then start playing the source to be recorded. You cannot record the sound with the equalization curve, simulated listening environment, and V. BASS effect on a DCC or DAT tape.

Note

Do not press KARAOKE when recording on a DCC or DAT.



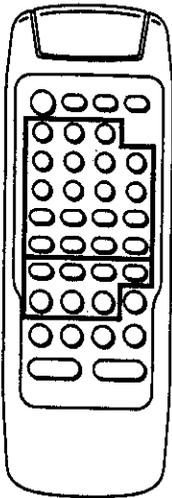
Quick reference of remote control operations



| <i>Common operation</i> | |
|---|--|
| Switching the system on and power standby mode | POWER |
| Starting play directly from the power standby condition | TUNER/PAUSE |
| Selecting the input source | TUNER/PAUSE CD |
| Adjusting the volume | - VOLUME + |
| Adjusting the left-right volume balance | L BALANCE R |
| Muting the volume temporarily | MUTING |
| <i>Tuner/timer operation</i> | |
| Listening to the radio broadcasts | TUNER/PAUSE → |
| Switching between FM stereo mode and monaural | FM MODE |
| Operating/releasing the sleep timer | SLEEP |
| <i>Tone control section</i> | |
| Switching between equalization curve and simulated listening environments | EQ SPACE MODE |
| Switching equalization curve or simulated listening environment on or off | ON/PLAT |
| Switching between PRESET and USER mode | EQ SPACE MODE Press and hold. |

Quick reference of remote control operations

(Continued)



Compact disc section

| | |
|--|---------|
| Starting play | |
| Temporarily stopping play | |
| Stopping tracks | |
| Skipping tracks | |
| Starting play from a particular track | → |
| Playing the particular track you programmed | → → → |
| Cancelling the particular track you programmed | → → → |

Tape section

| | |
|---------------------------------------|-----------------|
| Switching between deck 1 and deck 2 | |
| Starting playback | |
| Finding the beginning of a track | During playback |
| Fast forwarding or rewinding the tape | In stop mode |
| Stopping playback | |
| Recording | → |

Concerning compact discs

To remove a disc from its case

A

Press the center holder and lift the disc holding by the edges.

To hold the disc

Hold the disc by the edges so the surface is not soiled with fingerprints. Fingerprints, dirt and scratches can cause skipping and distortion.

To store a disc in its case

Insert the disc with label facing upwards and press downward at the center.

If the surface is soiled

Wipe gently with a soft, damp (water only) cloth.

If the disc is brought from a cold to a warm environment, moisture may form on the disc

Wipe this moisture off with a soft, dry, lint-free cloth before using the disc.

Improper disc storage:

You can damage discs if you store them in the following places:

- Areas exposed to direct sunlight
- Humid or dusty areas
- Areas directly exposed to a heat outlet or heating appliance

Handling precautions:

- Do not write on the label side with a ball-point pen or other writing utensils.
- Do not use record cleaning sprays, benzene, thinner, static electricity prevention liquids or any other solvent.
- Do not soil with fingerprints.

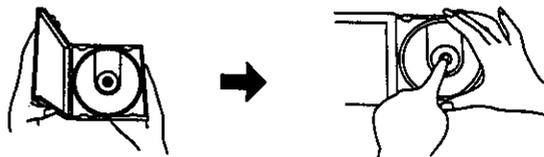
**COMPACT
disc
DIGITAL AUDIO**

Only compact discs having this mark can be used with this unit.

En este aparato sólo podrán reproducirse los discos compactos que tengan esta marca.

本機僅可使用帶有此種標誌的激光唱片。

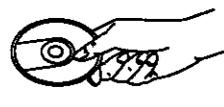
A



B

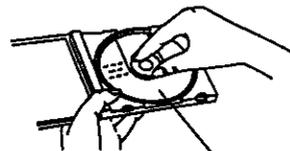


(Correct)
(Bien)
(正確)



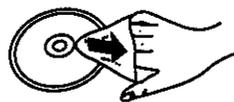
(Incorrect)
(Mal)
(不正確)

C



Label
Etiqueta
標識面

D



(Correct)
(Bien)
(正確)



(Incorrect)
(Mal)
(不正確)

Maintenance of external surfaces

To clean this unit, use a soft, dry cloth. If the surfaces are extremely dirty, use a soft cloth dipped in a soap-and-water solution or a weak detergent solution.

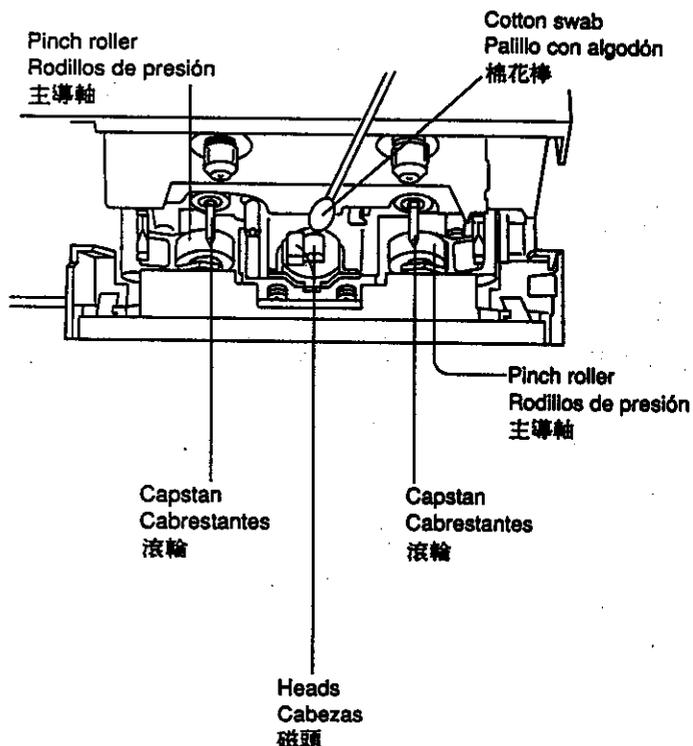
Wring the cloth well before wiping the unit. Wipe once again with a soft, dry cloth. Never use alcohol, paint thinner, benzene, or chemically treated cloths to clean this unit. Such chemicals may damage the finish of your system.

Tape head care

To assure sound quality for recording and playback, be sure to clean the tape heads after approximately every 10 hours of use.

- 1 Press **POWER** on the amplifier to **ON**.
- 2 Press **▲ OPEN** to open the cassette holder.
- 3 Press **POWER** on the amplifier and **CLOSE** at the same time. The system will go into power standby mode leaving the cassette holder open.
- 4 Clean the tape heads, pinch rollers and the capstan shafts with a cotton swab (or a soft, lint-free cloth) slightly moistened with isopropyl alcohol. Do not use any solution other than alcohol for head cleaning.

A



Concerning cassette tapes

Selection of cassette tapes

You can use normal, chrome, and metal tapes for recording:

- The deck automatically identifies the kind of tape loaded, and sets the bias (for recording) and equalization accordingly.
- The deck automatically sets the recording level.

Cassette tape exceeding 90 minutes:

These tapes are handy for their long playback and recording time but be careful about repeatedly stopping, starting, rewinding and fast forwarding these tapes in short intervals as they are thin, tend to stretch and may become entangled in the machine.

Do not use the Fe-Cr tapes (TYPE III) in this system:

If you use this tape, it is impossible to obtain the required flat frequency response.

If the tape loosens, take up the slack **A**

Tape slack may cause the tape to break.

To prevent erasure of recorded sounds

Remove the erase-prevention tabs with a screwdriver or a similar object. **B**

To re-record on a protected cassette, cover the slot with adhesive tape. **C**

Do not cover the detection holes on chrome and metal tapes.

Improper tape storage:

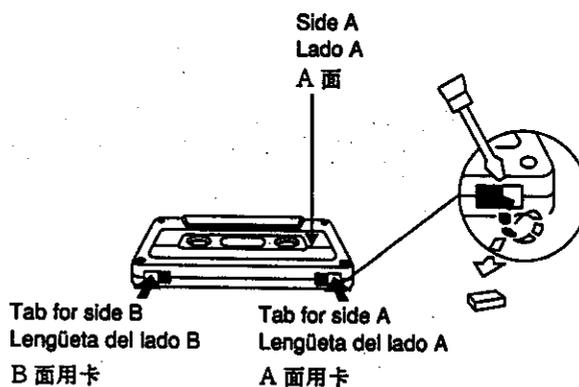
You can damage tapes if you store them in the following places:

- In high temperature [35°C (95°F) or higher] or high humidity (80% or higher) areas
- In a strong magnetic field (near a speaker, on top of a TV, etc.)
This can erase a recording.
- Areas exposed to direct sunlight

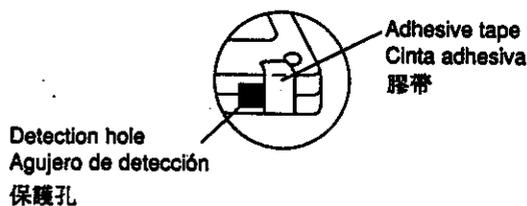
A



B



C



Troubleshooting guide

Before requesting service for this unit, check the chart below for a possible cause of the problem you are experiencing. Some simple checks or a minor adjustment on your part may eliminate the problem and restore proper operation. If you are in doubt about some of the check points, or if the remedies indicated in the chart do not solve the problem, refer to the directory of Authorized Service Centers (enclosed with this unit) to locate a convenient service center, or consult your dealer for instructions.

| Problem | Probable cause(s) | Suggested remedy |
|---|---|--|
| Problems common to all systems | | |
| There is no sound when the power is ON. | Volume is set too low. | Adjust the volume level with the volume control on the amplifier. |
| The location of the various musical instruments is not well defined. | The (+) and (-) connections to one of the speakers are reversed. | Connect the speaker cord correctly. |
| The left and right sounds are reversed. | The left and right connections to the speaker are reversed. | Connect the speaker cord correctly. |
| When listening to the external unit, the left and right sounds are reversed. | The left and right connections to the external unit are reversed. | Connect the external unit's cord correctly. |
| Only one speaker is emitting sound. | One of the wires of the speaker cord is disconnected. | Connect the speaker cord correctly. |
| There is no sound when a source is being played. | The (+) and (-) wire of the speaker cords are shorted. | Switch the system to the standby mode, and reconnect the speaker cords so that they are not shorted. Then switch on the power. |
| "U-70" display appears on the compact disc player or tuner/sound processor display. | Flat cables are not connected steadily. | Connect the flat cable steadily. |

| While listening to FM broadcasts | | |
|--|--|--|
| There is a "rushing noise" during a stereo broadcast which is not audible during a monaural broadcast. | The transmitting station is a long distance away. | <ul style="list-style-type: none"> ● if you are using an indoor antenna, change to an outdoor antenna. ● if you are using a high-grade outdoor antenna, try changing the installation location, height, and orientation. |
| You hear excessive noise during a stereo broadcast, and occasionally the sound disappears. | The installation location and orientation of the antenna are unsuitable. | |
| The stereo indicator flickers and does not light completely. | The transmitting station is a long distance away. | Try switching off the TV set or VCR. |
| | The power of the TV set or VCR is ON. | |
| The sound during a stereo broadcast is highly distorted. | There is a building or mountain nearby. [Distortion is caused by interference between the signal from the transmitting station (direct wave) and the signal reflected from the building or mountain (reflected wave).] | Use a high-grade outdoor antenna, and install it in a good location, height, and orientation for reception. |

| While listening to MW/LW broadcasts | | |
|--|---|--|
| You hear an unusual beat sound. | You are using the system at the same time you are playing a TV set. | Switch off the TV set, or use the system further away from it. |
| You hear a low-frequency hum. | The antenna wire is near the power cord. | Separate the antenna wire from the power cord. |

(To be continued)

(Continued)

| Problem | Probable cause(s) | Suggested remedy |
|---------|-------------------|------------------|
|---------|-------------------|------------------|

When there is a television set nearby

| | | |
|---|--|---|
| The picture on the TV disappears or stripes appear on the screen. | The location and orientation of the antenna are incorrect. | If you are using an indoor antenna, change to an outdoor antenna. |
| | The wiring at the back of the system is unsuitable. | Separate the antenna wire of the TV set from the system. |

While listening to tapes

| | | |
|--|--|--|
| Sound is low, intermittent, or poor quality, noisy, scratchy, or unsteady. | Heads are dirty. | Clean the heads. |
| | Dolby noise reductions is set in the wrong position. | Set it to match the Dolby NR recording mode. |
| The deck does not enter the recording mode. | The erase-prevention tabs are removed from the cassette. | Attach tape to cover the space left by removal of the erase-prevention tabs. |

While listening to compact discs

| | | |
|--|--|--|
| The display will not show the correct indication. Disc play does not start when you press the play button. | The disc is not positioned correctly in the disc tray. | Load the disc on the tray correctly. |
| | The disc is loaded upside down. | Reload the disc. |
| | The disc is dirty. | Wipe the disc with a soft cloth. |
| | The disc is scratched. | Replace the disc with a new one. |
| | The disc is badly warped. | |
| | The disc is a nonstandard one. | Replace the disc with a different one. |
| | There is condensation inside the disc player. | Switch the power ON, and then wait or 60 minutes before using the disc player. |

While using the remote control

| | | |
|--|--|--|
| The system cannot be operated with the remote control. | The batteries are installed in the reverse polarity. | Re-insert the batteries in the correct polarity. |
| | The batteries are worn. | Replace the batteries with new batteries. |

Technical specifications

TUNER/SOUND PROCESSOR

■ Pre-amplifier section

| | |
|-----------------------------|-----------------------|
| Input sensitivity/impedance | |
| AUX | 250 mV/15 k Ω |
| DCC | 250 mV/15 k Ω |
| Output level | |
| DCC RECOUT | 150 mV/1.5 k Ω |
| Frequency response | |
| AUX | 30 Hz–20 kHz |
| DCC | 30 Hz–20 kHz |

■ EQ, SFP section

| | |
|--|---|
| Center frequency | |
| | 80, 250, 1 k, 4 k, 12.5 k(Hz) |
| Fixed mode | |
| SPACE | 3 modes (DISCO, LIVE, HALL) |
| GEQ | 5 modes (HEAVY, CLEAR, SOFT, CAR, HP ST) |
| Mic echo | |
| (For areas except Australia and New Zealand) | |
| | 1.0–1.6 sec |

■ FM tuner section

| | |
|-------------------------|--------------------------------------|
| Frequency range | |
| | 87.50–108.00 MHz (0.05 MHz steps) |
| Sensitivity | |
| | 1.8 μ V (IHF usable) |
| S/N 26 dB | 1.5 μ V |
| S/N | MONO 70 dB (75 dB, IHF) |
| Stereo separation 1 kHz | |
| | 35 dB |
| Antenna terminal(s) | |
| | 75 Ω (unbalance) |

■ AM tuner section

| | |
|-------------------------|----------------------------|
| Frequency range | |
| MW | 522–1611 kHz (9 kHz steps) |
| | 530–1620 Hz (10 kHz steps) |
| LW | 144–288 kHz (9 kHz steps) |
| Sensitivity (S/N 20 dB) | |
| MW | 500 μ V/m |
| LW | 50 μ V |

■ Timer section

| | |
|----------|---|
| Clock | |
| | Quartz-lock type |
| Function | |
| | 24-hour programmable; Play timer (1 time), Rec timer (1 time), Sleep (120 min., 1 min. intervals) |
| Setting | |
| | 1 minute–23 hours 59 minutes (1 min. intervals) |

■ General

| | |
|--------------------|---------------|
| Dimensions (W×H×D) | |
| | 270×89×274 mm |
| Weight | |
| | 1.75 kg |

AMPLIFIER

| | |
|--|----------------------|
| Power output | |
| DIN 1 kHz, THD 1%, both channel driven | |
| | 2×50 W (6 Ω) |
| Total harmonic distortion | |
| Rated power at 1 kHz | 1% (6 Ω) |
| Half power at 1 kHz | 0.09% (6 Ω) |
| Load impedance | |
| MAIN | 6–8 Ω |
| SURROUND | 8 Ω |
| S/N (rated power) | |
| | 84 dB |

■ General

| | |
|---------------------------------|--------------------------------|
| Power consumption | |
| | 170 W |
| Power supply | |
| (For Australia and New Zealand) | |
| | 230–240 V, AC 50/60 Hz |
| (For others) | |
| | 110/127/220/240 V, AC 50/60 Hz |
| Dimensions (W×H×D) | |
| | 270×118.5×335 mm |
| Weight | |
| | 4.4 kg |

CD PLAYER

| | |
|--|------------------------------|
| ■ Audio | |
| DA converter | 1 bit 2 DAC MASH |
| ■ CD Graphics | |
| Video format | |
| (For areas except Australia and New Zealand) | |
| | NTSC (M)/PAL (B, D, G, H, I) |
| ■ Pickup | |
| Wavelength | 780 nm |

■ General

| | |
|--------------------|---------------|
| Dimensions (W×H×D) | |
| | 270×89×262 mm |
| Weight | |
| | 1.9 kg |

CASSETTE DECK

| | |
|-----------------------------|-------------------------|
| Deck system | Stereo cassette deck |
| Track system | 4 track, 2 channel |
| Recording system | AC bias |
| Bias frequency | 80 kHz |
| Erasing system | AC erase |
| Heads | |
| Deck 1 (Playback head) | Permalloy head |
| Deck 2 (Recording/Playback) | Permalloy head |
| (Erasure) | Double gap ferrite head |

Motors

| | |
|---|---|
| Deck 1, 2 (Capstan/reel table drive) | |
| | DC servo motor |
| (Reel table drive) | |
| | DC motor |
| Tape speed | |
| | 4.8 cm/sec |
| Wow and flutter | |
| | 0.1% (WRMS) |
| Fast forward and rewind times | |
| | Approx. 45 seconds with C-80 cassette tape |
| Frequency response (Dolby NR off, CCRT on) | |
| NORMAL | 20 Hz–17 kHz |
| | 30 Hz–15 kHz (+0 dB, –7 dB, DIN) |
| CrO ₂ | 20 Hz–18 kHz |
| | 30 Hz–17 kHz (+0 dB, –7 dB, DIN) |
| METAL | 20 Hz–20 kHz |
| | 30 Hz–19 kHz (+0 dB, –7 dB, DIN) |
| S/N (Signal level=max recording level, CrO ₂) | |
| NR off | 56 dB (A weighted) |
| Dolby B NR on | 66 dB (CCIR) |
| Dolby C NR on | 74 dB (CCIR) |
| Input sensitivity and impedance | |
| LINE IN | 126 mV/17.6 k Ω |
| Output voltage and impedance | |
| LINE OUT | 400 mV/220 Ω |

■ General

| | |
|--------------------|------------------|
| Dimensions (W×H×D) | |
| | 270×118.5×263 mm |
| Weight | |
| | 2.85 kg |

SPEAKER SYSTEM

| | |
|-----------------------------|---|
| Type | 3 way, 3 speakers |
| Speaker(s) | |
| Woofer | 20 cm active air coupling woofer; 20 cm passive radiator, 17 cm cone type driver unit |
| Main unit | 8 cm cone type |
| Tweeter | Dome type |
| Impedance | |
| | 6 Ω |
| Input power | |
| | 100 W (music), 50 W (DIN) |
| Output sound pressure level | |
| | 83 dB/W (1.0 m) |
| Cross over frequency | |
| | 159 Hz, 5.5 kHz |
| Frequency range | |
| | 28 Hz–22 kHz (–16 dB) |

■ General

| | |
|--------------------|------------------|
| Dimensions (W×H×D) | |
| | 230×414.5×294 mm |
| Weight | |
| | 5.1 kg |

Notes:

- Specifications are subject to change without notice.
Weight and dimensions are approximate.
- Total harmonic distortion is measured by the digital spectrum analyzer.

MASH is a trademark of NTT.