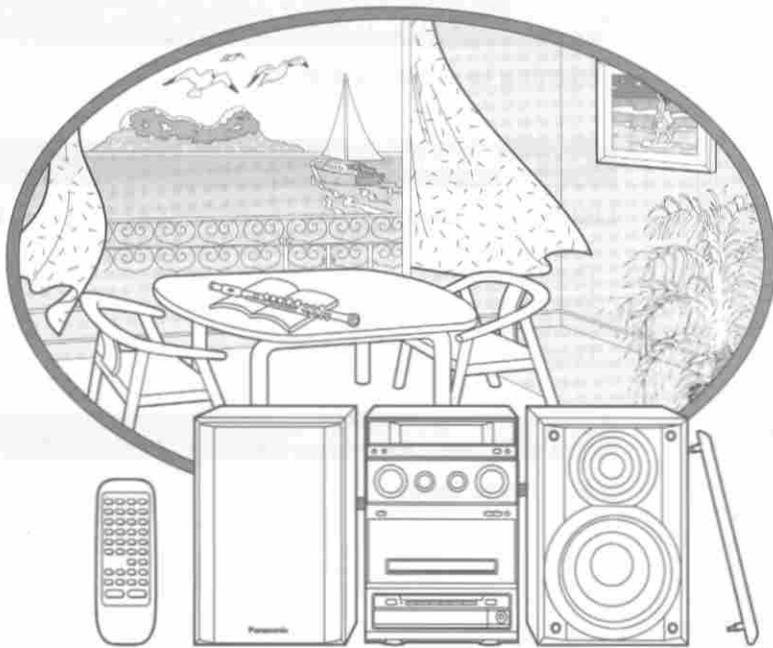


CD Stereo System

SC-PM15

Operating Instructions



Panasonic®

PP

COMPACT
disc
DIGITAL AUDIO

Before connecting, operating or adjusting this product, please read these instructions completely. Please save this manual.

RQT4049-P

Dear customer

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

These operating instructions are applicable to the following systems.

System	SC-PM15
Main unit	SA-PM15
Speakers	SB-PM15

The model number and serial number of this product can be found on either the back or the bottom of the unit.
Please note them in the space provided below and keep for future reference.

	MODEL NUMBER	SERIAL NUMBER
Main unit	_____	_____
Speakers	_____	_____

User memo:

DATE OF PURCHASE _____
DEALER NAME _____
DEALER ADDRESS _____
TELEPHONE NUMBER _____

CAUTION!

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

CAUTION:

TO PREVENT ELECTRIC SHOCK MATCH WIDE BLADE OF PLUG TO WIDE SLOT, FULLY INSERT.

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Supplied accessories

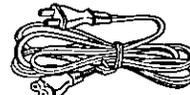


Please check and identify the supplied accessories.
Use numbers indicated in parentheses when asking for replacement parts.

(Only for U.S.A.)

To order accessories call PASC Accessory Dept.
1-800-332-5368

- AC power supply cord 1 pc.
(SJA172)



- FM indoor antenna (RSA0006) 1 pc.



- AM loop antenna set (RSA0022)
 • AM loop antenna 1 pc.
 • AM antenna holder 1 pc.



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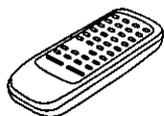
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Product service Back cover

- Remote control transmitter 1 pc. (EUR644851)
 Batteries 2 pcs.



CAUTION:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules.

These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

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

FCC Notice: This system complies with new Part 15, except for the radio receiver, which complies with old Part 15, Subpart C of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesirable operation. The radio receiver is not subject to above item (2).

Any unauthorized changes or modifications to this equipment would void the user's authority to operate this device.

WARNING:

TO REDUCE THE RISK OF FIRE, ELECTRIC SHOCK OR PRODUCT DAMAGE, DO NOT EXPOSE THIS APPLIANCE TO RAIN, SPLASHING, DRIPPING OR MOISTURE.



CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN



CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE SCREWS. NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Precautions

Before using this unit please read these operating instructions carefully. Take special care to follow the warnings indicated on the unit itself as well as the safety suggestions listed below. Afterwards keep them handy for future reference.

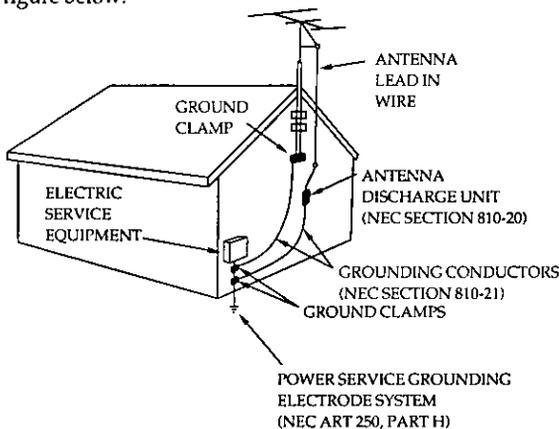
Safety

- 1. Power Source**—The unit should be connected to power supply only of the type described in the operating instructions or as marked on the unit.
- 2. Polarization**—If the unit is equipped with a polarized AC power plug (a plug having one blade wider than the other), that plug will fit into the AC outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug.
- 3. Power Cord Protection**—AC power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them. Never take hold of the plug or cord if your hand is wet, and always grasp the plug body when connecting or disconnecting it.
- 4. Nonuse Periods**—When the unit is not used, turn the power off. When left unused for a long period of time, the unit should be unplugged from the household AC outlet.

Installation

Environment

- 1. Outdoor Antenna Grounding**—If an outside antenna is connected to the receiver, be sure the antenna system is grounded so as to provide some protection against voltage surges and built-up static charges. Section 810 of the National Electrical Code, ANSI/NFPA No. 70-1990, provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna-discharge unit, connection to grounding electrodes, and requirements for the grounding electrode. See figure below.



NEC—NATIONAL ELECTRICAL CODE

- 2. Water and Moisture**—Do not use this unit near water—for example, near a bathtub, washbowl, swimming pool, or the like. Damp basements should also be avoided.

- 3. Heat**—The unit should be situated away from heat sources such as radiators and the like. It also should not be placed in temperatures less than 5°C (41°F) or greater than 35°C (95°F).
- 4. Condensation**—Moisture may form on the lens in the following conditions...
 - immediately after a heater has been turned on.
 - in a steamy or very humid room.
 - when the unit is suddenly moved from a cold environment to a warm one.
 If moisture forms inside this unit, it may not operate properly. To correct this problem, turn on the power and wait about one hour for the moisture to evaporate.

Placement

- 1. Ventilation**—The unit should be situated so that its location or position does not interfere with its proper ventilation. Allow 10 cm (4") clearance from the rear of the unit.
- 2. Foreign Material**—Care should be taken so that objects do not fall into and liquids are not spilled into the unit. Do not subject this unit to excessive smoke, dust, mechanical vibration, or shock.
- 3. Magnetism**—The unit should be situated away from equipment or devices that generate strong magnetic fields.
- 4. Stacking**—Do not place heavy objects, other than system components, on top of the unit.
- 5. Surface**—Place the unit on a flat, level surface.
- 6. Carts and Stands**—The unit should be used only with a cart or stand that is recommended by the manufacturer. The unit and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the unit and cart combination to overturn.
- 7. Wall or Ceiling Mounting**—The unit should not be mounted to a wall or ceiling, unless specified in this operating instructions.



Maintenance

(See page 31 for details.)

Clean the cabinet, panel and controls with a soft cloth lightly moistened with mild detergent solution. Do not use any type of abrasive pad, scouring powder or solvent such as alcohol or benzine.

Service

- 1. Damage Requiring Service**—The unit should be serviced by qualified service personnel when:
 - (a) The AC power supply cord or the plug has been damaged; or
 - (b) Objects have fallen or liquid has been spilled into the unit; or
 - (c) The unit has been exposed to rain; or
 - (d) The unit does not appear to operate normally or exhibits a marked change in performance; or
 - (e) The unit has been dropped, or the enclosure damaged.
- 2. Servicing**—The user should not attempt to service the unit beyond that described in the operating instructions. All other servicing should be referred to an authorized service personnel. (Only for U.S.A.)
Call 1-800-545-2672 for the address of an authorized factory servicer.

Listening caution



Selecting fine audio equipment such as the unit you've just purchased is only the start of your musical enjoyment. Now it's time to consider how you can maximize the fun and excitement your equipment offers. This manufacturer and the Electronic Industries Association's Consumer Electronics Group want you to get the most out of your equipment by playing it at a safe level. One that lets the sound come through loud and clear without annoying blaring or distortion—and, most importantly, without affecting your sensitive hearing.

We recommend you to avoid prolonged exposure to excessive noise.

Sound can be deceiving. Over time your hearing "comfort level" adapts to higher volumes of sound. So what sounds "normal" can actually be loud and harmful to your hearing.

Guard against this by setting your equipment at a safe level BEFORE your hearing adapts.

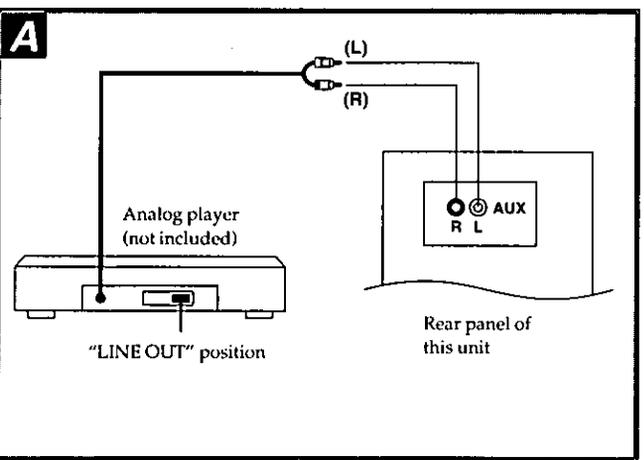
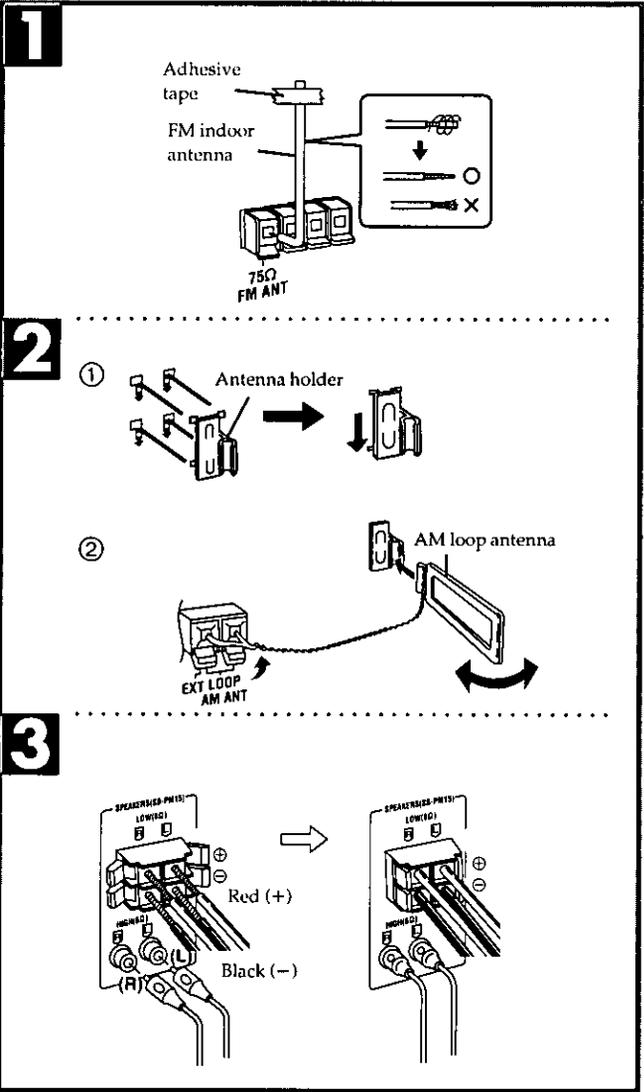
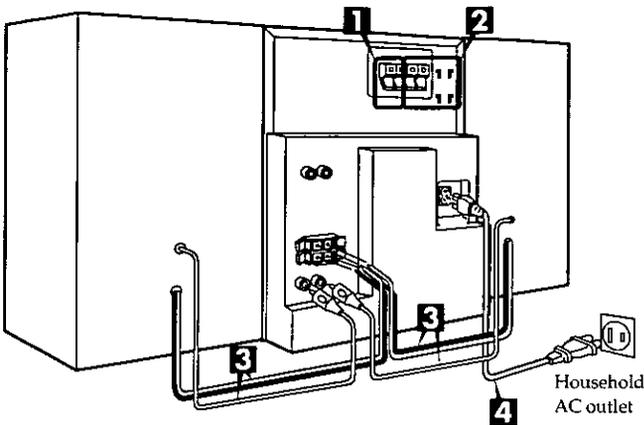
To establish a safe level:

- Start your volume control at a low setting.
- Slowly increase the sound until you can hear it comfortably and clearly, and without distortion.

Once you have established a comfortable sound level:

- Set the dial and leave it there.

Taking a minute to do this now will help to prevent hearing damage or loss in the future. After all, we want you listening for a lifetime.



Connections

- Plug the AC power cord into a household AC outlet only after all other connections have been made.
- To prepare the AM loop antenna wire and speaker cords, twist the vinyl cover tip and pull off.
- For your listening pleasure, keep your speakers from touching the system.
- Speakers are designed identically so that no left or right channel orientation is necessary.
- You can take the front net off speakers.

1 Connect the FM indoor antenna.

Tape the antenna to a wall or column, in a position where radio signals are received with the least amount of interference.

Note

For best reception sound quality:

An FM outdoor antenna is recommended. (See page 7.)

2 Connect the AM loop antenna.

After attaching the antenna, turn on the system and tune in a broadcast station. Then, turn the antenna to the angle of best reception and least interference.

3 ① Connect the right (R) and left (L) speaker cords (pin type).

② Connect the right (R) and left (L) speaker cables.

Note

• To prevent damage to circuitry, never short-circuit positive (+) and negative (-) speaker wires.

• Be sure to connect only positive (red) wires to positive (+) terminals and negative (black) wires to negative (-) terminals.

Caution
Use the speakers only with the recommended system. Failure to do so may lead to damage to the amplifier and/or the speakers, and may result in the risk of fire. Consult a qualified service person if damage has occurred or if you experience a sudden change in performance.

4 Connect the AC power cord.

External unit connection A

- For details, refer to the instruction manual of the units which are to be connected.
- This example shows how to connect the analog player with the PHONO OUT/LINE OUT switch.
- When units other than the one described to the left are to be connected, please consult with your audio dealer.

Note

- Only an analog player with a built-in phono equalizer can be connected.
- Set the switch to the "LINE OUT" position at the back of the analog player.

Connections

Optional antenna connections

You may need an outdoor antenna if you use this system in a mountainous region or inside a reinforced-concrete building, etc.

FM outdoor antenna **A**

Disconnect the FM indoor antenna if an FM outdoor antenna is installed.

Note

An outdoor antenna should be installed by a qualified technician only.

AM outdoor antenna **B**

Connect the outdoor antenna without removing the AM loop antenna. Run 5 to 12 m of vinyl-covered wire horizontally along a window or other convenient location.

Note

When the unit is not in use, disconnect the outdoor antenna to prevent possible damage that may be caused by lightning. Never use an outdoor antenna during an electrical storm.

Concerning the remote control

Battery installation **C**

Use of batteries

- Do not mix old and new batteries, or batteries of different types (manganese 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 manganese batteries.
- Do not use rechargeable type 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.

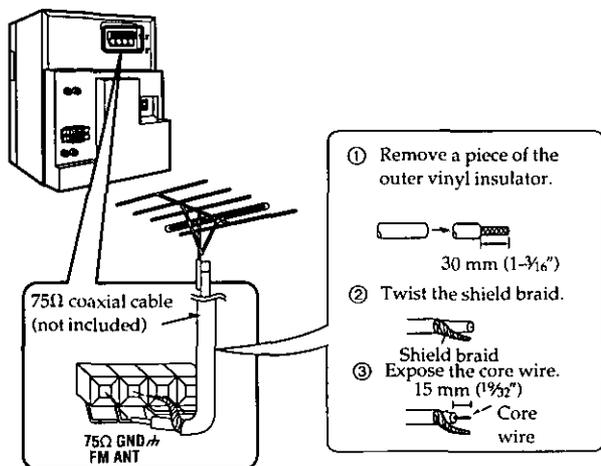
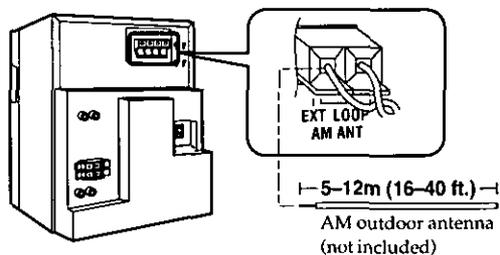
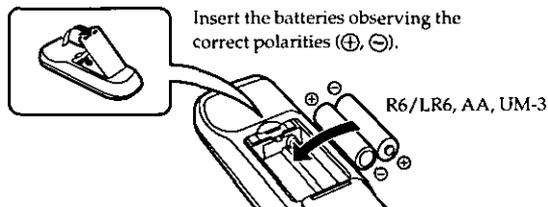
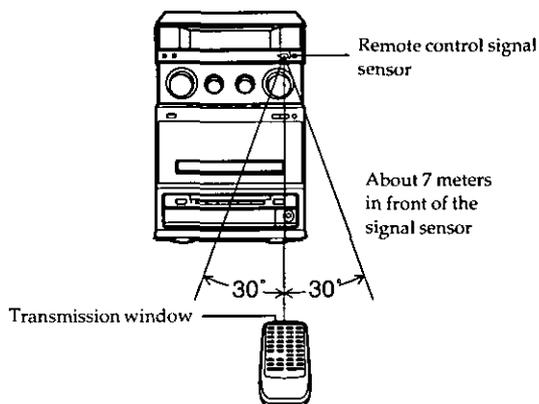
Correct method of use **D**

Operations notes

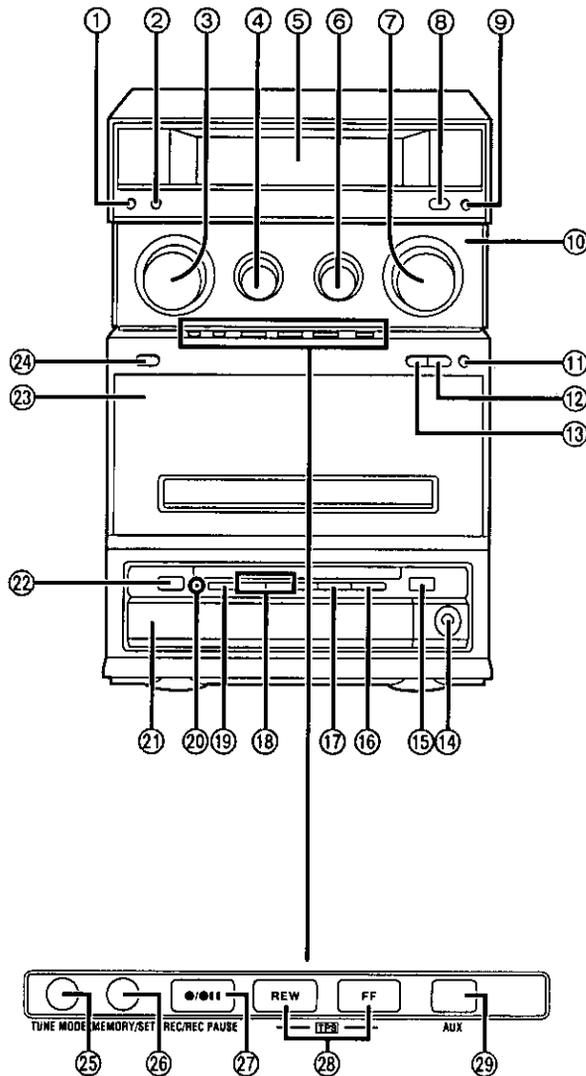
- Do not place obstacles between the remote control signal sensor and remote control unit.
- Do not expose the remote control signal sensor to direct sunlight or to the bright light of an inverter fluorescent light.
- Take care to keep the remote control signal sensor and end of the remote control unit free from dust.
- 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.

To prevent damage

- Do not place heavy items.
- Do not disassemble or reconstruct.
- Do not spill water or other liquids.

A**B****C****D**

Front panel controls



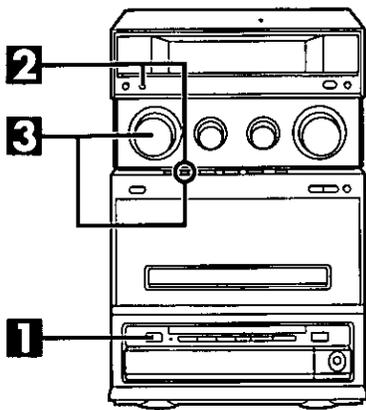
- ① Play timer/record timer button (Ⓢ PLAY/Ⓢ REC)
- ② Clock/timer button (CLOCK/TIMER)
- ③ Tune/time adjust control (TUNE/TIME ADJ)
- ④ Bass control (BASS)
- ⑤ Display
- ⑥ Treble control (TREBLE)
- ⑦ Volume control (VOLUME)
- ⑧ Remote control signal sensor
- ⑨ Glide panel open/close button (OPEN/CLOSE)
- ⑩ Glide panel
- ⑪ Cassette holder open button (▲ OPEN)
- ⑫ Cassette play/direction button (◀▶ PLAY/DIR)
- ⑬ Cassette stop button (■ STOP)
- ⑭ Headphone jack (📎)
- ⑮ CD tray open/close button (▲/CLOSE)
- ⑯ CD play/pause button (▶/⏸ PLAY/PAUSE)
- ⑰ CD stop button (■ STOP)
- ⑱ Skip/search buttons (◀◀ ▶▶ SKIP)
- ⑲ CD edit button (CD EDIT)
- ⑳ Power indicator
This indicator illuminates to indicate the power is supplied to this unit when the unit is connected to the household AC outlet.
- ㉑ CD tray
- ㉒ Power "⏻/⏼" switch (POWER, ⏻/⏼)
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.
- ㉓ Cassette holder
- ㉔ Tuner/band select button (TUNER/BAND)
- ㉕ Tuning mode select button (TUNE MODE)
- ㉖ Memory/set button (MEMORY/SET)
- ㉗ Record/record pause button (●/● || REC/REC PAUSE)
- ㉘ Fast forward/rewind/tape program sensor buttons (⏮ REW FF)
- ㉙ AUX button (AUX)

Opening/closing the glide panel

When the power is turned on, the glide panel retracts automatically enabling access to the operation buttons (25-29).

When the power is turned off, the glide panel closes automatically. If you want to open/close the glide panel manually, press OPEN/CLOSE (⑨) when the power is on. When the glide panel is closed manually, the display light dims.

Setting the time



This is a 12-hour display clock.

This example in the figure shows how to set the time for 6:25 p.m..

1 Switch on the power.

The glide panel retracts enabling access to the operation buttons.

2 ① Press CLOCK/TIMER to select "CLOCK".

Every time you press the button;

CLOCK → → PLAY → → REC

↑ Previous display ↓

② (within 5 seconds or so)

Press MEMORY/SET.

3 ① Turn TUNE/TIME ADJ to the right or left to show the present time.

② Press MEMORY/SET to finish setting the time.

The display will return to the previous display setting after about 4 seconds.

To display the time

• To check

Press CLOCK/TIMER to select "CLOCK".

The time will be displayed for about 5 seconds and then the display will return to whatever was previously displayed.

• To display the time continuously **by remote control only**

Press DISPLAY to select present time.

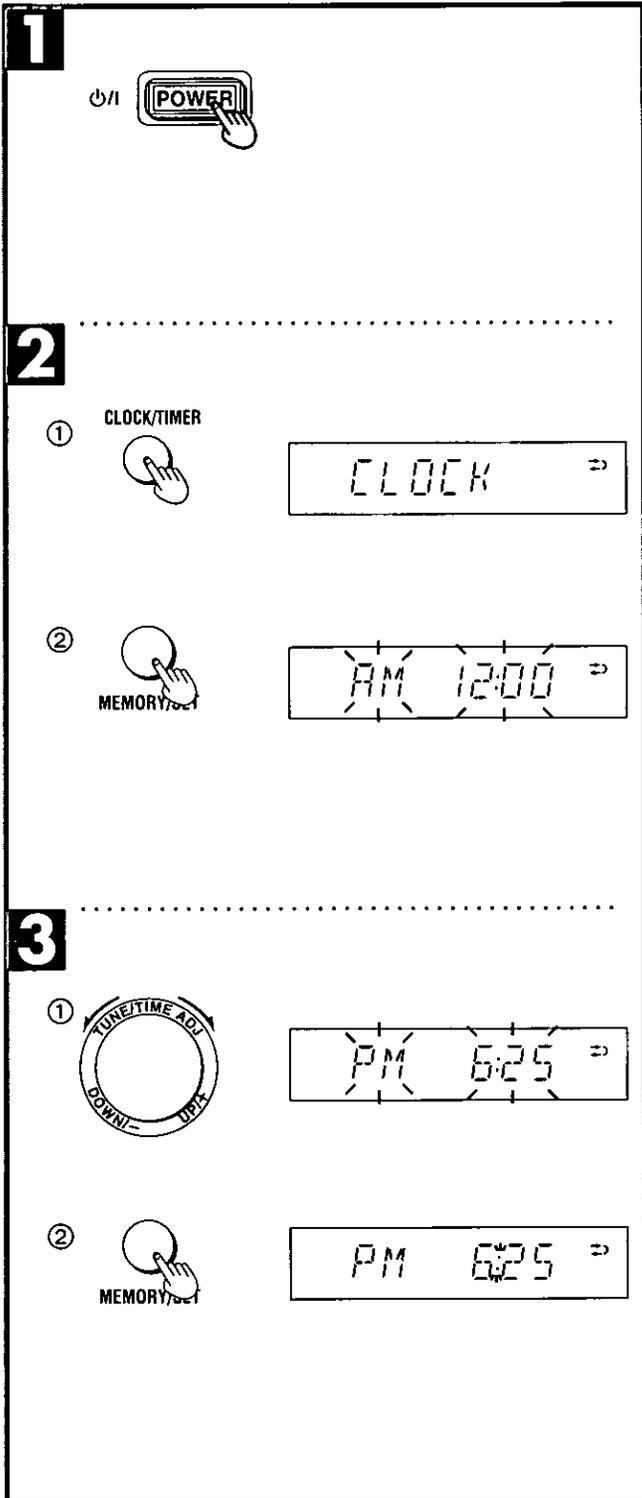
Every time you press the button:

Present time → → Tape counter

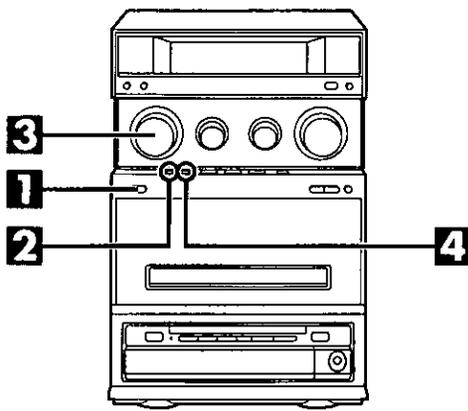
↑ Previous display ↓

For your reference

If the time has been set, the display will default to present time when in standby mode.



Presetting radio broadcasts



- Up to 12 stations can each be set in the FM and AM bands automatically.
- If broadcast frequencies are preset in the memory, you can easily tune in any of these frequencies from the system or remote control unit.
- You can also preset just those stations you like. (See "Presetting only your favorite stations" below.)

Preset each station in the FM and AM bands in the following procedures.

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

The power will come on automatically.

The glide panel retracts enabling access to the operation buttons.

Every time you press the button; "FM" ↔ "AM".

2 Press TUNE MODE to select "MANUAL".

Every time you press the button; "MANUAL" ↔ "PRESET".

3 Turn TUNE/TIME ADJ to the right or left until the display shows the frequency from which you want to begin automatic memory presetting.

Tips on tuning in radio stations

- ① Turn and hold TUNE/TIME ADJ to the right or left until the frequency starts scrolling. Continue to hold TUNE/TIME ADJ.
- ② When nearing the desired frequency, partially turn TUNE/TIME ADJ to stop scrolling and then fine tune the broadcast with slight adjustments to the right or left.

4 Press and hold down MEMORY/SET until the frequency begins to change.

This will start presetting automatically. When finished, the radio will tune in last station memorized.

If auto presetting is not possible because radio signals are weak or for some other reason, do the following.

Presetting only your favorite stations

Preset the stations one at a time.

1. Perform above steps 1 and 2. Then, select a station with TUNE/TIME ADJ, and press MEMORY/SET. "MEMO" will flash on the display.
2. While "MEMO" is flashing, select a preset channel with TUNE/TIME ADJ, and press MEMORY/SET again. "MEMO" will go out and the station will be stored in memory.

FM allocation setting

The FM frequency step is set to 0.2 MHz at the time of shipment. By adjusting the allocation as shown below, you can enable the system to receive FM broadcasts allocated in 0.1 MHz steps.

1. Press and hold TUNER/BAND for approximately 5 seconds. The frequency display will be returned to the minimum frequency of the FM band and the display will begin to flash. Keep holding for approximately 5 more seconds.
2. When the display stops flashing and indicates a different frequency number (the frequency step is changed to 0.1 MHz.), release TUNER/BAND.

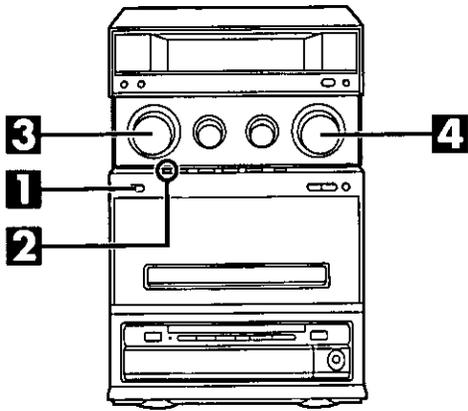
To return to the original frequency, repeat steps 1 to 2 above.

Note

After changing the "allocation" setting, the frequencies you previously preset in the memory will be cleared.

Memory retention

Your preset frequencies are retained in memory for about 2 weeks while the system is unplugged.



Listening to radio broadcasts

- 1** Press **TUNER/BAND** to select "FM" or "AM".
The power will come on automatically.
The glide panel retracts enabling access to the operation buttons.
Every time you press the button; "FM" ↔ "AM".
- 2** Press **TUNE MODE** to select "PRESET" or "MANUAL".
Every time you press the button; "MANUAL" ↔ "PRESET".
PRESET: For preset stations
MANUAL: For non-preset stations
- 3** Turn **TUNE/TIME ADJ** to the right or left to select the desired broadcast.
"STEREO" lights when an FM stereo broadcast is being received. "TUNED" lights when you precisely tune in a broadcast station.
- 4** Adjust the volume level.

For tuning by remote control

Before tuning, make sure that the desired stations have been preset. Specify the channel you want with the numeric buttons (see page 28).

To designate channels 1-9

Press the appropriate (1-9) numeric button.

To designate channels 10-12

(Example: Channel 12)

≥10 → 1 → 2
(within 10 sec.) (within 10 sec.)

One-touch play

When the system is OFF, the broadcast station last tuned will be received automatically when you press TUNER/BAND.

Auto tuning

Auto tuning is an easy way to tune in non-preset stations (select "MANUAL" in step 2).

Turn and hold TUNE/TIME ADJ to the right or left, and release the TUNE/TIME ADJ when the frequency starts scrolling.

The radio frequency will stop automatically on the first station it picks up.

- When there is outside interference, the radio may stop on a non-broadcast frequency. Turn and hold TUNE/TIME ADJ to the right or left to resume auto tuning.

To stop auto tuning

Partially turn TUNE/TIME ADJ to the right or left to stop scrolling.

If noise is excessive in the FM stereo mode

by remote control only

Press FM MODE/BP. ("MONO" will light up.)

Sound will be produced in monaural, but this also reduces noise. Press the button again to cancel. "MONO" will go out.

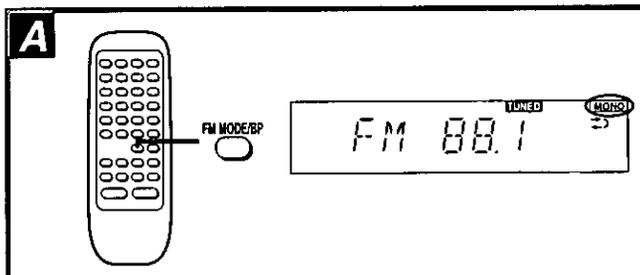
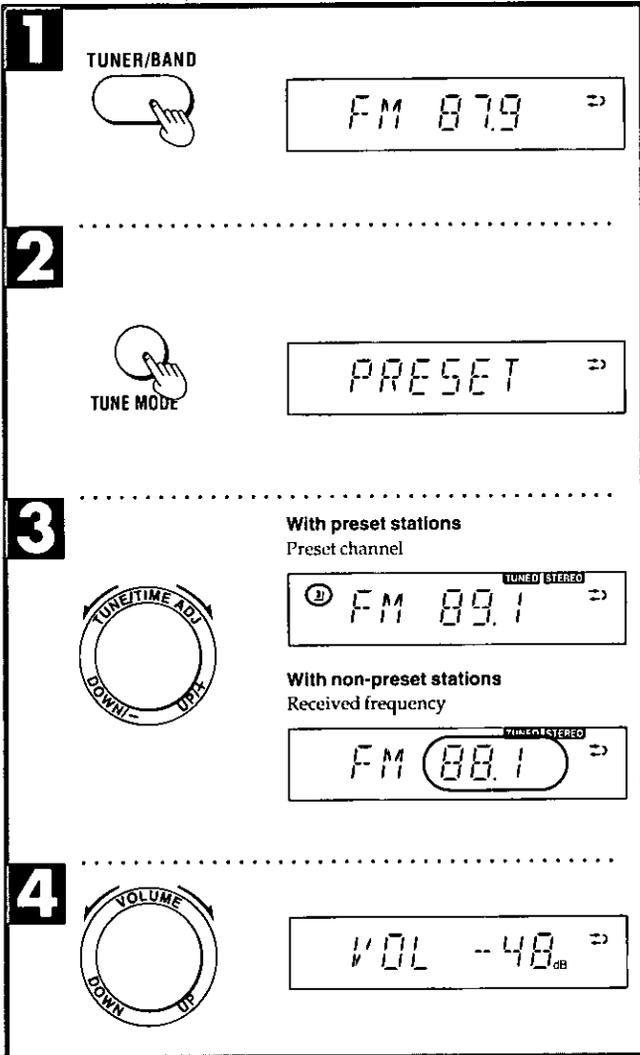
For your reference

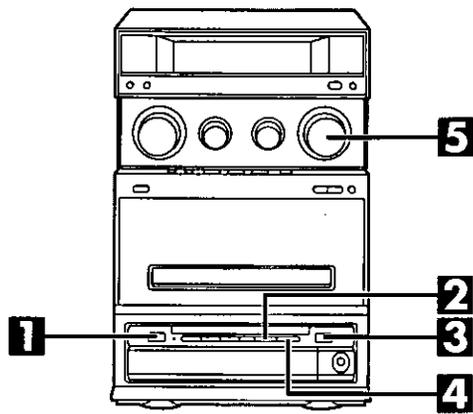
You can preset FM stations in monaural. Make sure "MONO" lights up. Then follow "Presetting only your favorite stations" on page 10 to preset FM stations in monaural.

Normally, you'll want to listen in stereo, so leave "MONO" off. This way, you can listen to stereo broadcasts in stereo, and monaural broadcasts in mono.

Note

Sound is momentarily interrupted if you operate the cassette deck while listening to an AM broadcast.





1 POWER

2 STOP CD

↓

NO DISC

3 /CLOSE

Label

Total playing time
16 48:52

Total number of tracks

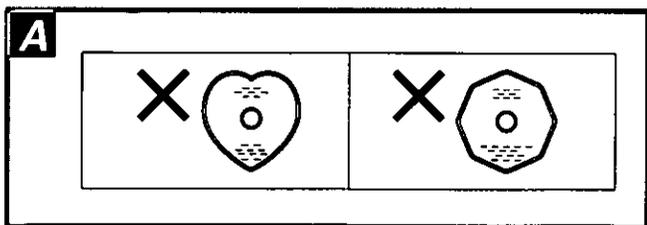
4 PLAY/PAUSE

Elapsed playing time
1 0:01

Track number

5 VOLUME

VOL -48



Listening to CDs

Normal play

- 1 Switch on the power.**
The glide panel retracts enabling access to the operation buttons.
- 2 Press ■ STOP to select the CD mode.**
- 3 Press ▲/CLOSE to open the CD tray.**
Insert the CD with label facing upward.
Press ▲/CLOSE to close the CD tray.
Total number of tracks and total playing time will appear on the display.
- 4 Press ►/|| PLAY/PAUSE.**
Play will start from the first track on the CD.
Play will stop automatically when the last track on the CD finishes playing.
- 5 Adjust the volume level.**

To stop the CD play

Press ■ STOP.

To pause	Press ►/ PLAY/PAUSE during playback. To resume playback, press ►/ PLAY/PAUSE.
To search forward/backward	Hold down ◀◀ SKIP (backward) or ▶▶ SKIP (forward) during playback.
To skip forward/backward	Press ◀◀ SKIP (backward) or ▶▶ SKIP (forward) during playback.

To select a track with the remote control

(See page 28.)
Press the numeric button(s) to select the desired track.

- To select a two-digit track**
Press ≥10 and then the two numbers you want.
- For example**
Track no. 20: ≥10→2→0
Track no. 35: ≥10→3→5

When “≥” appears on the display

It indicates there are 13 or more tracks on the CD.

- Note**
- During random play (page 13), you cannot skip to tracks which have already been played.
 - During program play (page 14) or random play, you cannot search forward or backward over tracks.
 - During program play, skipping is always in the programmed order, whether forward or backward.

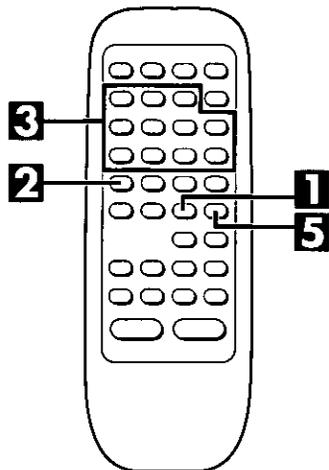
One-touch play

When the system is OFF, playing starts automatically when you press ►/|| PLAY/PAUSE.

- For your reference**
- When the system is OFF, the power will come on automatically and the tray is opened when you press ▲/CLOSE.
 - If you press ►/|| PLAY/PAUSE instead of ▲/CLOSE after inserting a CD, the tray will close and play will start directly from the track 1.

To prevent damage

Do not use irregular shape CDs (heart-shape, octagonal, etc.).



Program play

by remote control only

This function allows you to program up to 24 tracks.

- 1** Press **■** to select the CD mode.
- 2** [In the stop mode]
Press **PROGRAM**.
- 3** Press the numeric button(s) to select the track you want to play in the desired sequence.
- 4** Repeat step **3** until you have programmed all the tracks you want.
- 5** Press **▶/||**.
Play will start in the programmed sequence.
Play will stop automatically when all the programmed tracks have been played.

For your reference

You can also select tracks for programming by pressing **◀◀** or **▶▶** and **PROGRAM** instead of following steps **2** and **3**.

- ① Select desired tracks using the **◀◀** or **▶▶**.
- ② Press **PROGRAM**.

To program the tracks you want to play, repeat steps ① and ②.

To cancel program play mode

- Press **PROGRAM** in the stop mode.
Programmed contents will be saved in memory.
- Press **■** in the stop mode.
This will also erase the entire program.

To select a two-digit track

Press **≥10** and then the two numbers you want.

For example

Track no. 20: **≥10**→**2**→**0**

Track no. 35: **≥10**→**3**→**5**

When "FULL" appears

The number of programmed tracks is limited to 24. No further tracks can be programmed.

Check program contents.

After your program is played, press **■** to go into stop mode. Check to see if "P" is displayed, then press either **◀◀** or **▶▶**. **B** Everytime you press one of the buttons, the track and program No. are shown on the display.

Add to the program.

In stop mode, repeat step **3**.

Cancel entries.

In stop mode, choose one of the following.

From the last programmed track	Press CANCEL .
A specified track only	Check to see if "P" is displayed, then select the track with ◀◀ or ▶▶ , and press CANCEL within 3 seconds. B
All tracks	Press ■ .

Memory retention

Your program is retained in memory for about 2 weeks while the system is unplugged.

To replay your program

If you turned OFF your program with **PROGRAM**, you can play it again as explained below.

1. Press **PROGRAM**.
2. Press **▶/||**.

1

2 0 0:00

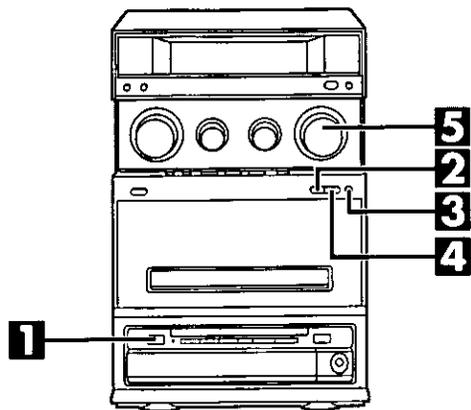
3 Specified track number
8 -- 01
Program order

5

A FULL

B Indicates program mode
P 45:13

C



Listening to tapes

Type of tape which can be played correctly

The system automatically identifies the type of tape.

NORMAL POSITION / TYPE I	<input type="radio"/>
HIGH POSITION / TYPE II	<input type="radio"/>
METAL POSITION / TYPE IV	<input type="radio"/>

1 Switch on the power.

The glide panel retracts enabling access to the operation buttons.

2 Press ■ STOP to select the tape mode.

3 Press ▲ OPEN, and then insert the tape.

Insert the tape with the exposed tape facing down.

Close the holder by hand.

Tape direction is automatically set to "▶".

4 Press ◀▶ PLAY/DIR to start playback.

Every time you press the button; ◀ → ▶

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

◀: The reverse side will play.

5 Adjust the volume level.

To stop tape playback

Press ■ STOP.

One-touch play

When the system is OFF, playing starts automatically when you press

◀▶ PLAY/DIR.

For your reference

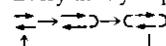
When the system is OFF, the power will come on automatically and the cassette holder is opened when you press ▲ OPEN.

To select the reverse mode ◀

by remote control only

Press REV MODE to select the reverse mode.

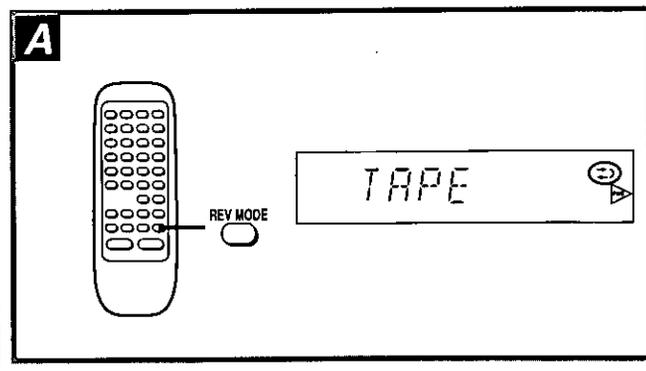
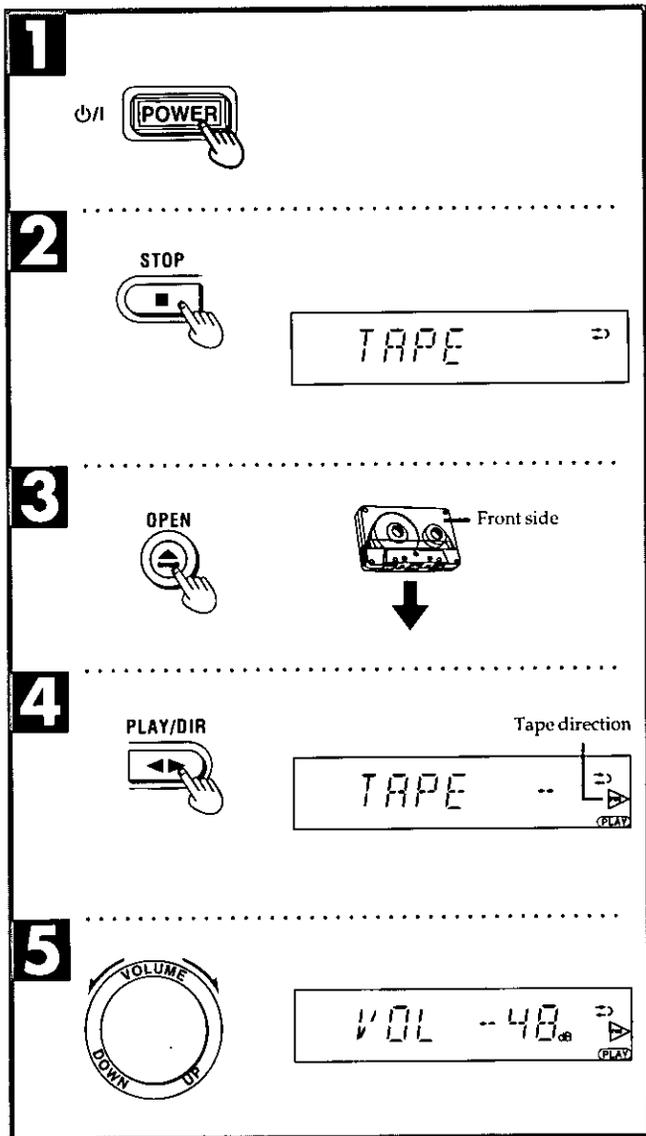
Every time you press the button;

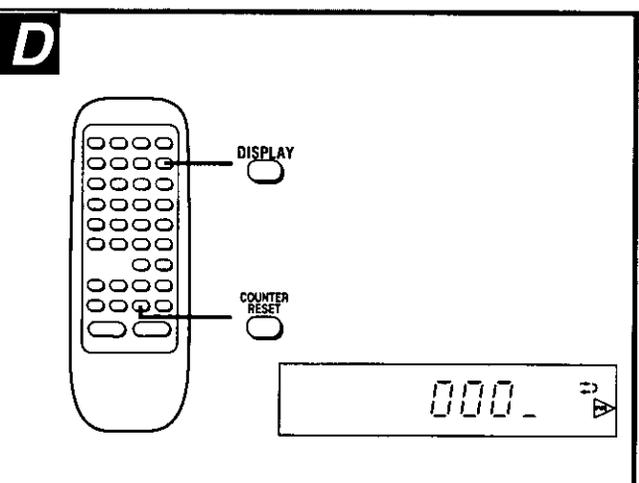
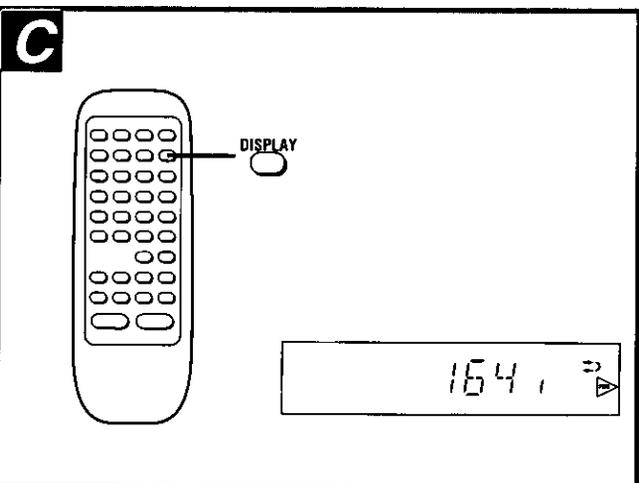
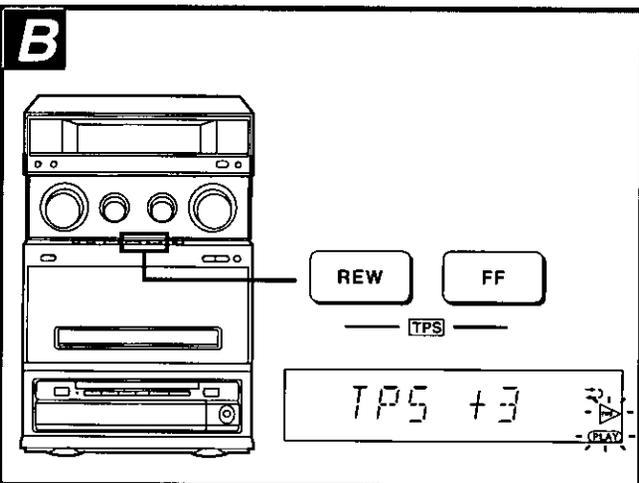
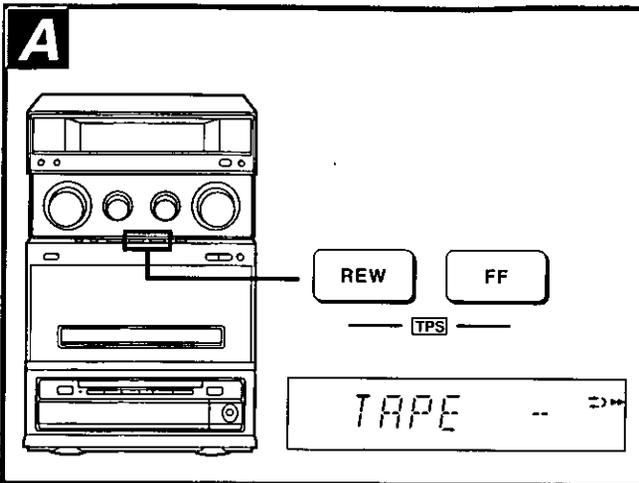


→: One side is played, then playback stops automatically.

⇌: Both sides (front side → reverse side) are played one time, then playback stops automatically.

↻: Both sides are played repeatedly until ■ STOP is pressed.





Listening to tapes

To fast-forward or rewind the tape

Press REW or FF in the stop mode.

To rewind	To fast-forward
REW	FF

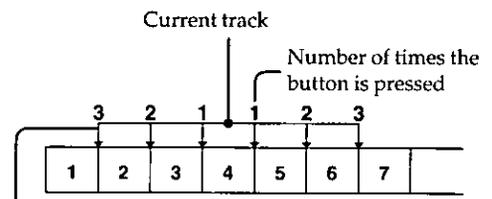
To find the beginning of a program (TPS: Tape Program Sensor)

Press REW or FF during play.

Press the button once for each track to be skipped (up to 9 tracks).

Backward	Forward
REW	FF

Button commands and positioning of current track work as follows.



Play from this point

Note

The TPS function searches for silent parts of about 4 seconds in length which are normally found between tunes. As a result, it may not function properly in the following cases.

- With short silent parts
- When noise occurs between tunes
- With silent parts found within tunes

To display the tape counter

by remote control only

Press DISPLAY to select tape counter display.

Every time you press the button;
Present time → Tape counter → Original display

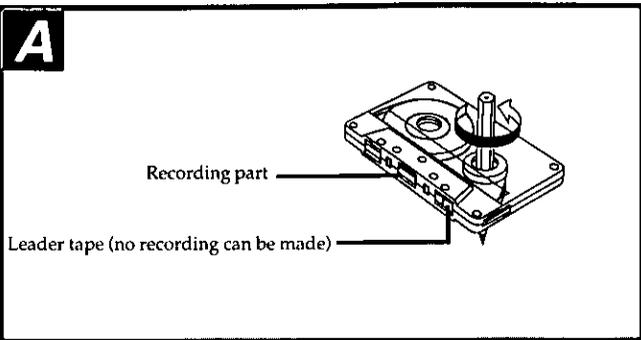
Note

"-----" appears on the tape counter display when a cassette has not been inserted.

To reset the tape counter to "000"

by remote control only

Select tape counter display by pressing DISPLAY and then press COUNTER RESET.



Before recording

Type of tape which can be recorded correctly

The system automatically identifies the type of tape.

NORMAL POSITION/TYPE I	○
HIGH POSITION/TYPE II	○
METAL POSITION/TYPE IV	×

This system cannot correctly make a recording or erasing, if metal position tapes are used.

To record from the beginning of the tape

You cannot record on the leader part of the tape. Before recording, wind the tape past the leader to a point where recording can start immediately.

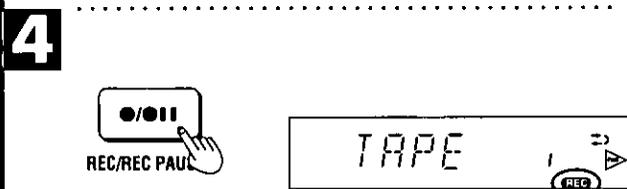
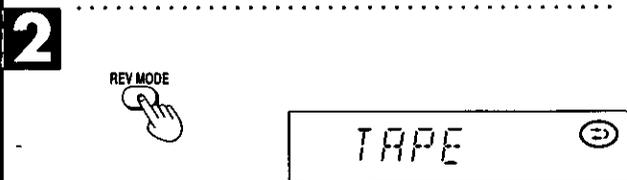
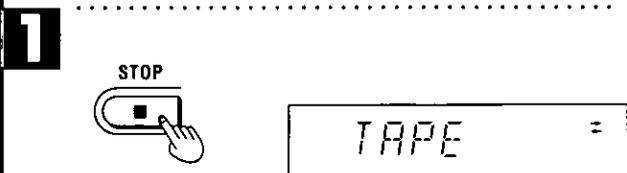
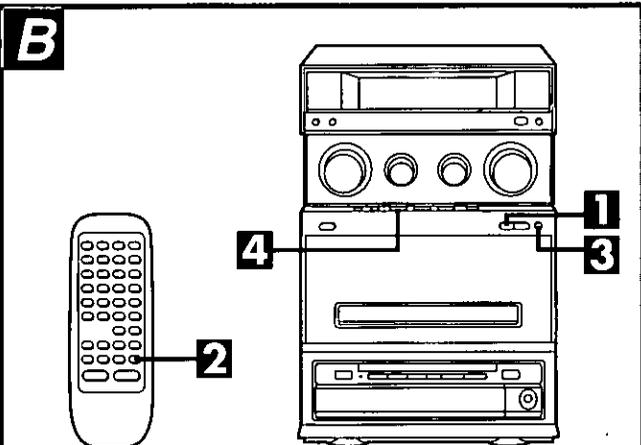
How volume, sound quality, and sound virtualizer affect recording

The tape you are recording is not affected whatsoever by changes in volume, sound quality, or sound virtualizer.

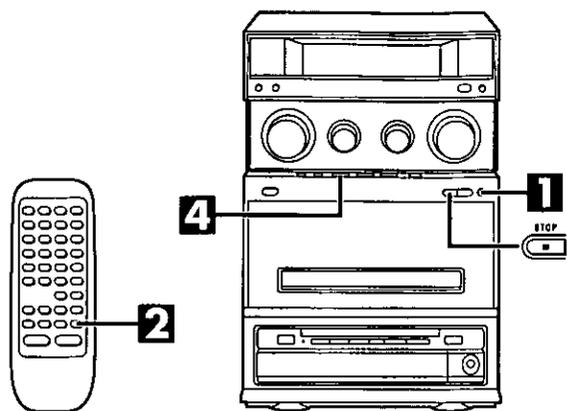
● You can change volume, sound quality and sound virtualizer effect for the playback sound.

To erase a recorded sound

- 1** Press STOP.
- 2** Press REV MODE on the remote control to select the reverse mode.
- 3** Press OPEN, and then insert the tape.
Close the holder by hand.
Tape direction is automatically set to "".
- 4** Press REC/REC PAUSE.



Recording from radio broadcasts



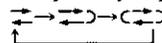
1 Press **▲ OPEN**, and then insert the tape.

Close the holder by hand.

Tape direction is automatically set to "▶".

2 Press **REV MODE** on the remote control to select the reverse mode.

Every time you press the button;



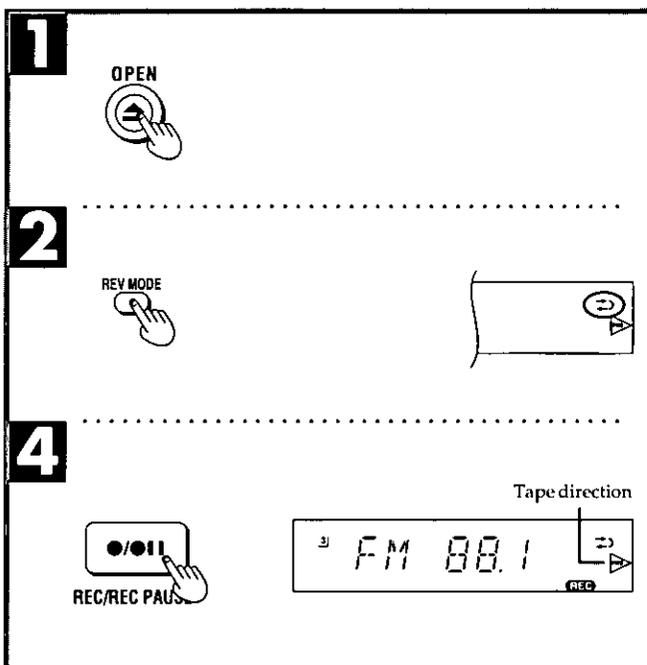
▶: One side is recorded, then recording stops automatically.

↔, ↔ with curved arrow: Both sides (front side → reverse side) are recorded, then recording stops automatically.

3 Select a radio station. Perform steps 1 through 3 on page 11.

4 Press **●/● || REC/REC PAUSE** to start recording.

If you selected ↔ with curved arrow in step 2, the direction will automatically change to ▶ when recording starts.



To stop recording

Press **■ STOP**.

To stop recording temporarily

Press **●/● || REC/REC PAUSE**.

To resume recording, press **●/● || REC/REC PAUSE**.

To start recording on reverse side

Before recording, press **◀ ▶ PLAY/DIR** twice and immediately thereafter **■ STOP**. The tape direction will be shown as "◀".

To record from a specific point on a tape

Before recording, advance the tape to the point from where you want to start recording.

To cut an unnecessary part while recording

1. Press **●/● || REC/REC PAUSE** when hearing an unnecessary part. The cassette deck will go into the recording standby mode.
2. Press **●/● || REC/REC PAUSE** to resume recording. Recording will continue in the same direction as before.

Note

When recording an AM broadcast, volume is momentarily interrupted when you start and stop the recording.

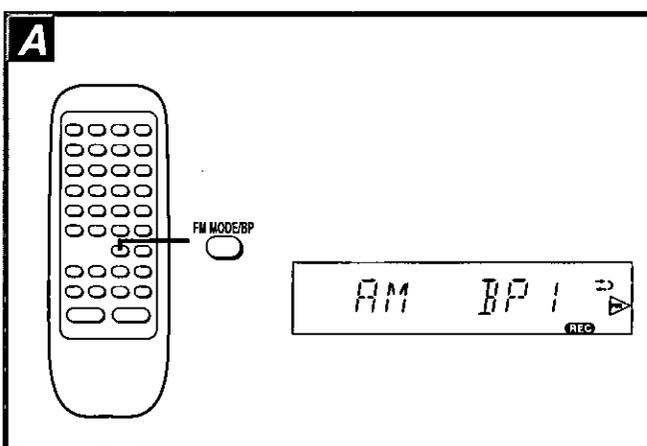
To reduce the noise while recording an AM broadcast (Beat proof function) **⏏**

by remote control only

Press **FM MODE/BP** during recording or in the recording standby mode.

Each time you press the button, "BP 1" and "BP 2" will be displayed alternately.

Select the position where there is less noise.



Recording from CDs

Normal recording

- Tracks are recorded in the order in which they are found on the CD.
- Tracks are cut in the middle when the end of the tape is reached.
- You can record from any point on the tape.

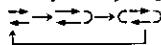
1 Press **▲ OPEN**, and then insert the tape.

Close the holder by hand.

Tape direction is automatically set to "▶".

2 Press **REV MODE** on the remote control to select the reverse mode.

Every time you press the button;



⇄: One side is recorded, then recording stops automatically.

⇄, ⇄⇄: Both sides (front side→reverse side) are recorded, then recording stops automatically.

3 Press **■ STOP** to select the CD mode.

4 Press **▲/CLOSE** to open the CD tray.

Insert the CD with label facing upward.

Press **▲/CLOSE** to close the CD tray.

5 Press **●/● || REC/REC PAUSE** to start recording.

• The recording will start from the first track.

• If you selected ⇄⇄ in step 2, the direction will automatically change to ⇄ when recording starts.

To stop recording

• To add a 4 second silent interval before stopping

Press **■ STOP** on the CD control section.

The CD playing will stop and the cassette deck will go into the recording standby mode.

To cancel the recording standby mode, press **■ STOP** on the cassette deck control section.

• To stop recording without a silent interval

Press **■ STOP** on the cassette deck control section.

The recording will stop and the CD playing will go on.

To stop recording temporarily

Press **●/● || REC/REC PAUSE**.

To resume recording, press **●/● || REC/REC PAUSE**.

To record on reverse side

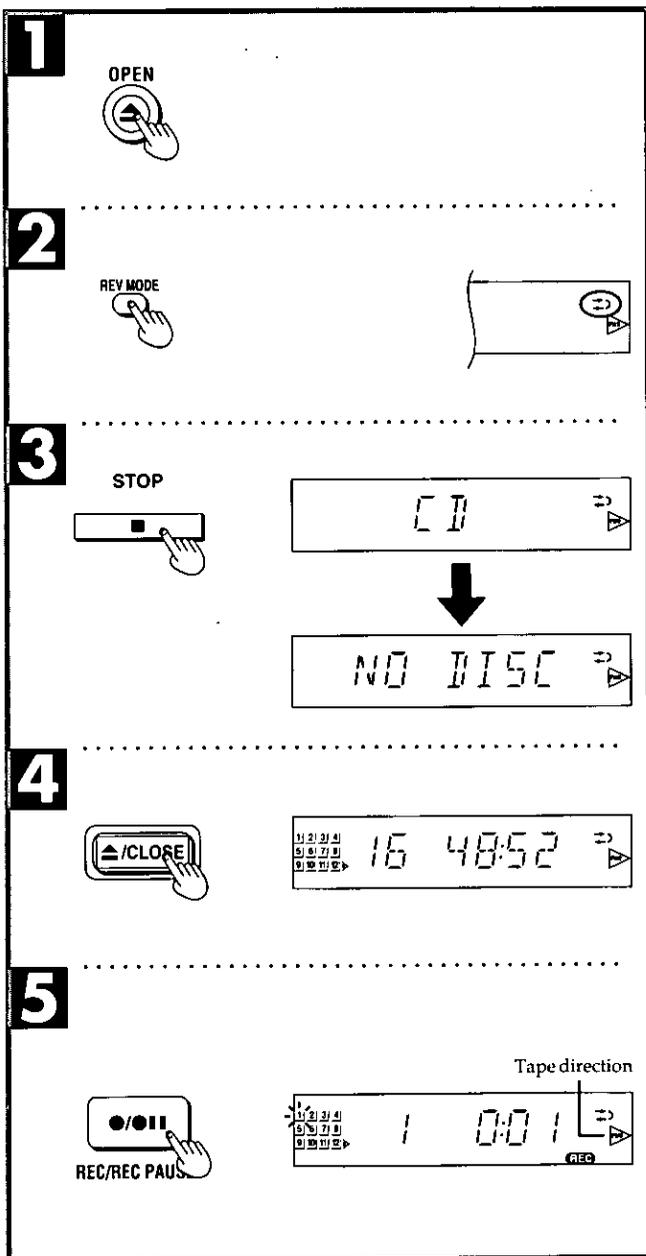
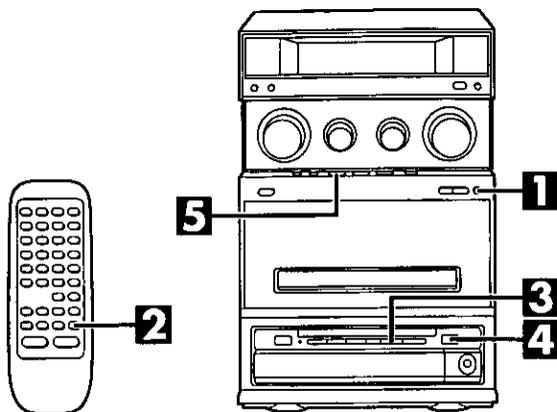
Before recording, press **◀ ▶ PLAY/DIR** twice and immediately thereafter **■ STOP**. The tape direction will be shown as "◀".

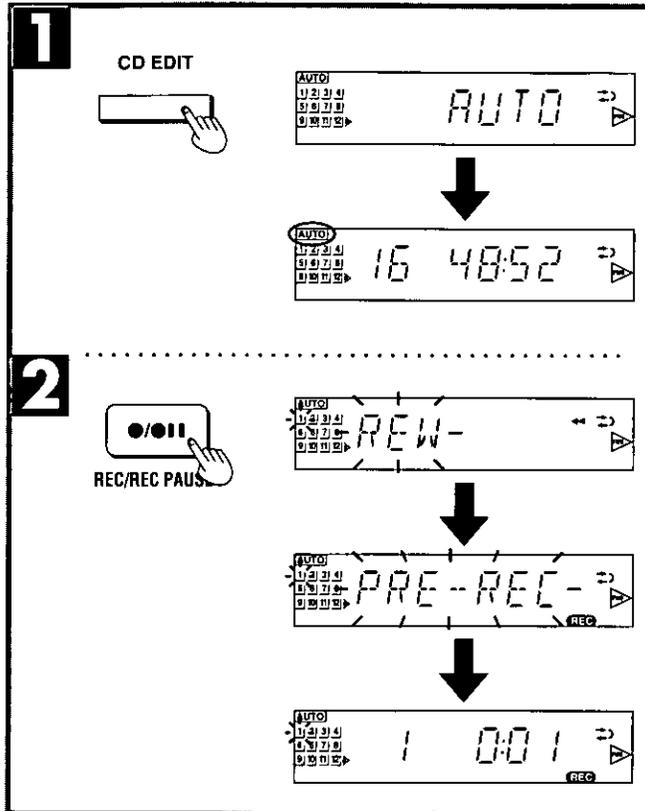
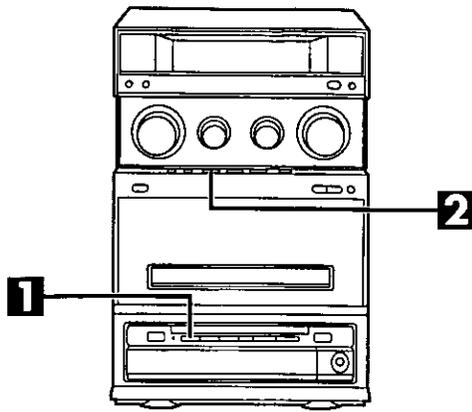
To record from a specific point on a tape

Before recording, advance the tape to the point from where you want to start recording.

To record programmed tracks

1. After step **4**, program the track(s) you want (performs steps **2-4** on page 14).
2. Press **●/● || REC/REC PAUSE** to start recording.





Recording from CDs

Auto edit recording (AUTO)

- Tracks are recorded in the order in which they are found on the CD.
- Tracks are cut in the middle when the end of the tape is reached, but recording is resumed on side B.
- Recording always starts from the beginning of side A on the tape. (Tapes are automatically rewound.)
- Be sure to use cassette tapes which have tabs on both side A and side B.

Before recording

Perform steps **1**, **3** and **4** on page 19.

1 Press CD EDIT to select "AUTO".

Every time you press the button;
 AUTO → 1-REC → OFF
 ↑

2 Press ●/● II REC/REC PAUSE.

The tape automatically rewinds, and recording from the first track begins after a 10 second interval of silence. Reverse mode is displayed as ←→. When the recording is completed, the auto edit recording mode is automatically cancelled.

To stop recording

Press ■ STOP on the cassette deck control section. Both the tape and the CD stop.

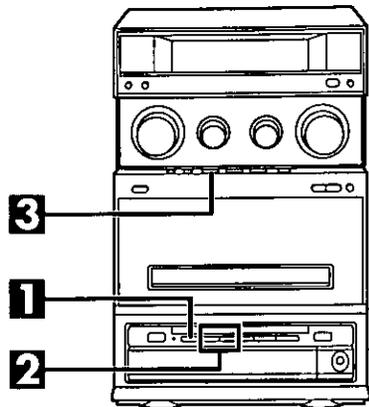
To record programmed track(s)

1. Program the track(s) you want (perform steps **2-4** on page 14).
2. Perform steps **1** and **2** above to start recording.

Note

- Auto edit recording cannot be used in combination with random play and repeat play.
- If auto edit recording is started when setting-up the sleep timer or when the timer is activated, this will automatically cancel the sleep timer.

Recording from CDs



One track edit recording (1-REC)

- You can select one of your favorite tracks from a CD to record.
- Tracks are cut in the middle when the end of the tape is reached, but recording is resumed on side B.
- Recording can begin from any place on the tape.

Before recording

Perform steps **1**, **3** and **4** on page 19.

1 Press CD EDIT to select "1-REC".

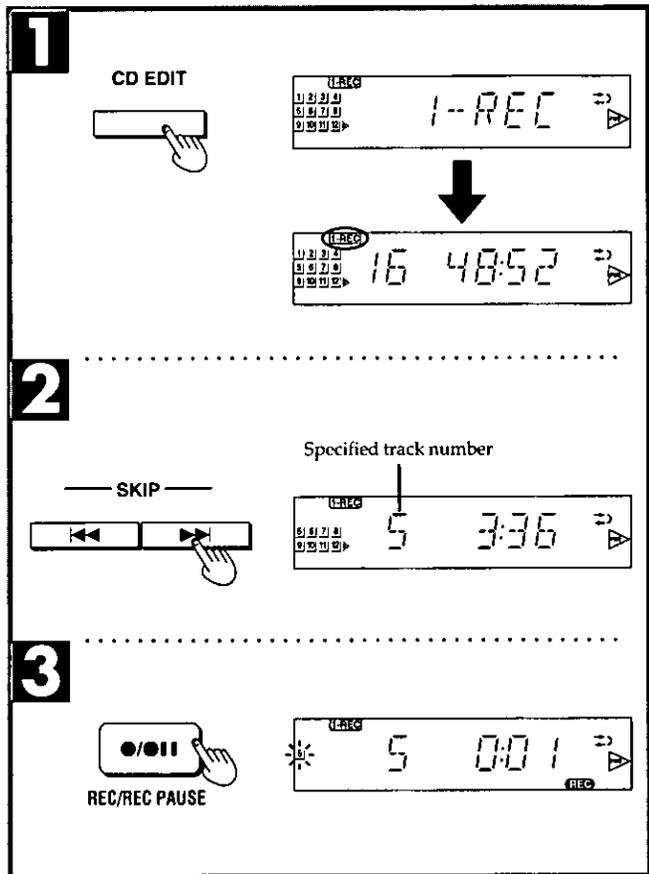
Every time you press the button;
AUTO → 1-REC → OFF

2 Press **⏮** or **⏭** to select the track to be recorded.

You can omit this step when recording the first track on the CD.

3 Press **⏸** REC/REC PAUSE.

CD play and recording begin simultaneously.
Records only one track and stops.
Reverse mode is displayed as **⏮**.



To continue recording with another CD

Press **⏏**/CLOSE to open the CD tray, insert a CD and follow steps **2** and **3** above.

To stop recording

Press **■** STOP on the cassette deck control section.
Both the tape and the CD stop.

To cancel the one track edit recording mode

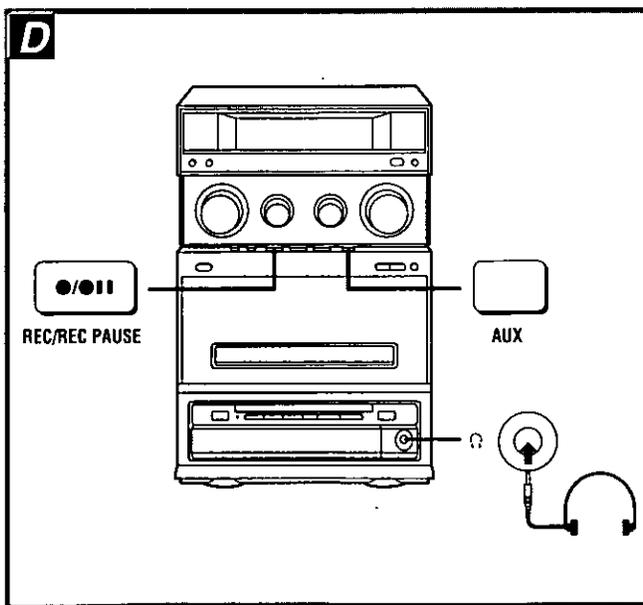
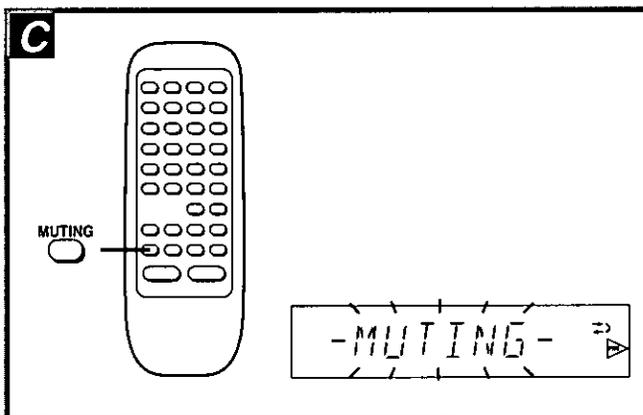
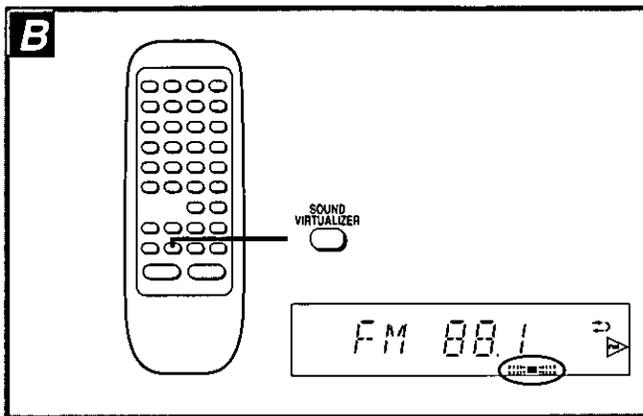
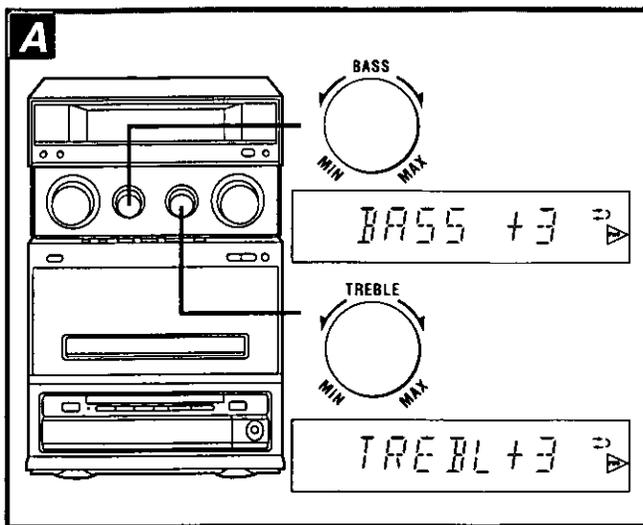
Press CD EDIT to select "OFF".

For your reference

- If you select one track edit recording when in program mode, the first programmed track will be recorded.
- If you select one track edit recording when in random mode, the first randomly selected track will be recorded.

Note

If one track edit recording is started when setting-up the sleep timer or when the timer is activated, this will automatically cancel the sleep timer.



Changing the sound quality, etc.

To adjust the tone quality A

The tone level can be varied within a range of -6 to +6.

Turn BASS to adjust the low-frequency sound.

Turn TREBLE to adjust the high-frequency sound.

Note

The effect works only with playback. It cannot be used in recording.

Hints

Place speakers on stands (sold separately) to reproduce clearer low-range sounds.

Using the "live" effect (SOUND VIRTUALIZER) B

by remote control only

The sound virtualizer leaves middle-range sounds such as vocals clear and gives natural width and depth to music.

Sound virtualizer is effective with stereo sound.

Press SOUND VIRTUALIZER to turn on the effect.

To cancel:

Press SOUND VIRTUALIZER to clear the effect.

- When listening through headphones, the effect is less discernable than through the unit speakers.

- If interference in FM stereo reception increases, cancel the sound virtualizer effect.

To mute the volume C

by remote control only

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

Press MUTING.

Press the button again to cancel. ("MUTING" goes out.)

Muting can also be cancelled by lowering the volume all the way (-dB).

When the system is turned off, the muting operation will be automatically cancelled.

Using an external unit D

Listening to an external source

(See page 6 for external unit connection.)

1. Press AUX.
2. Start playback from the external source. (Refer to your equipment's operating instructions.)

Recording from an external source

1. Follow steps 1-2 on page 18.
2. Press AUX.
3. Press ●/● || REC/REC PAUSE (recording starts).
4. Start playback from the external source. (Refer to your equipment's operating instructions.)

Listening with headphones

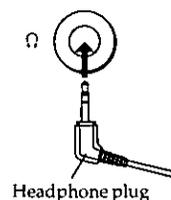
Reduce the volume level, and connect the headphones.

Plug type: 3.5 mm (1/8 in) stereo

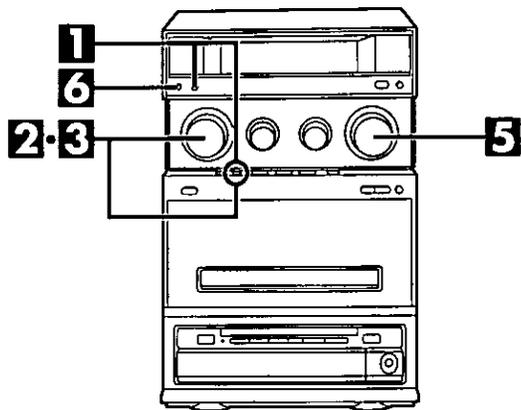
Note

- Avoid listening for prolonged periods of time to prevent hearing damage.

- When using L-plug headphones (sold separately), turn the plug to the right when inserting into the system.



Headphone plug



Using the timer

Using the play timer

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

Preparations

- Make sure that you have completed "Setting the time" on page 9.
- Switch on the power.

The figure shows how to set the play timer for playing a CD from 6:30 a.m. to 7:40 a.m.

1 Press CLOCK/TIMER to select "⊕ PLAY".

Every time you press the button;

CLOCK → ⊕ PLAY → ⊕ REC
 ↑ Previous display ↓

② (Within 8 seconds or so)

Press MEMORY/SET.

2 "ON" time setting

① Turn TUNE/TIME ADJ to the right or left to select the "ON" time.

② Press MEMORY/SET.

3 "OFF" time setting

① Turn TUNE/TIME ADJ to the right or left to select the "OFF" time.

② Press MEMORY/SET.

4 Source selection

Select the desired source and then prepare for playing.

When you play CD

Press ■ STOP on the CD control section and insert CD.

When you play tape

Press ■ STOP on the cassette deck control section and insert tape.

When you play the radio

Press TUNER/BAND and tune in the desired station.

When you play a unit connected to the "AUX" terminals

Press AUX.

5 Play volume setting

Set the playback volume.

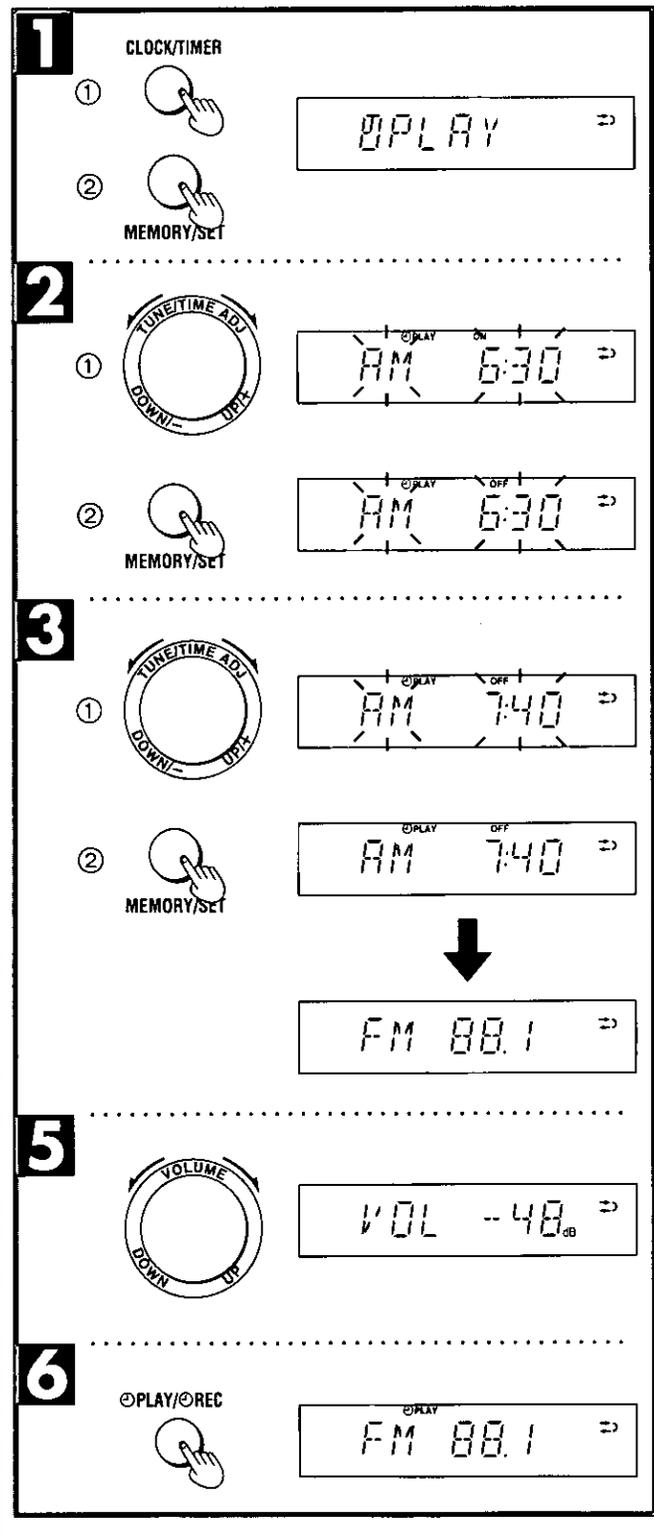
6 Press ⊕ PLAY/⊕ REC to select "⊕ PLAY".

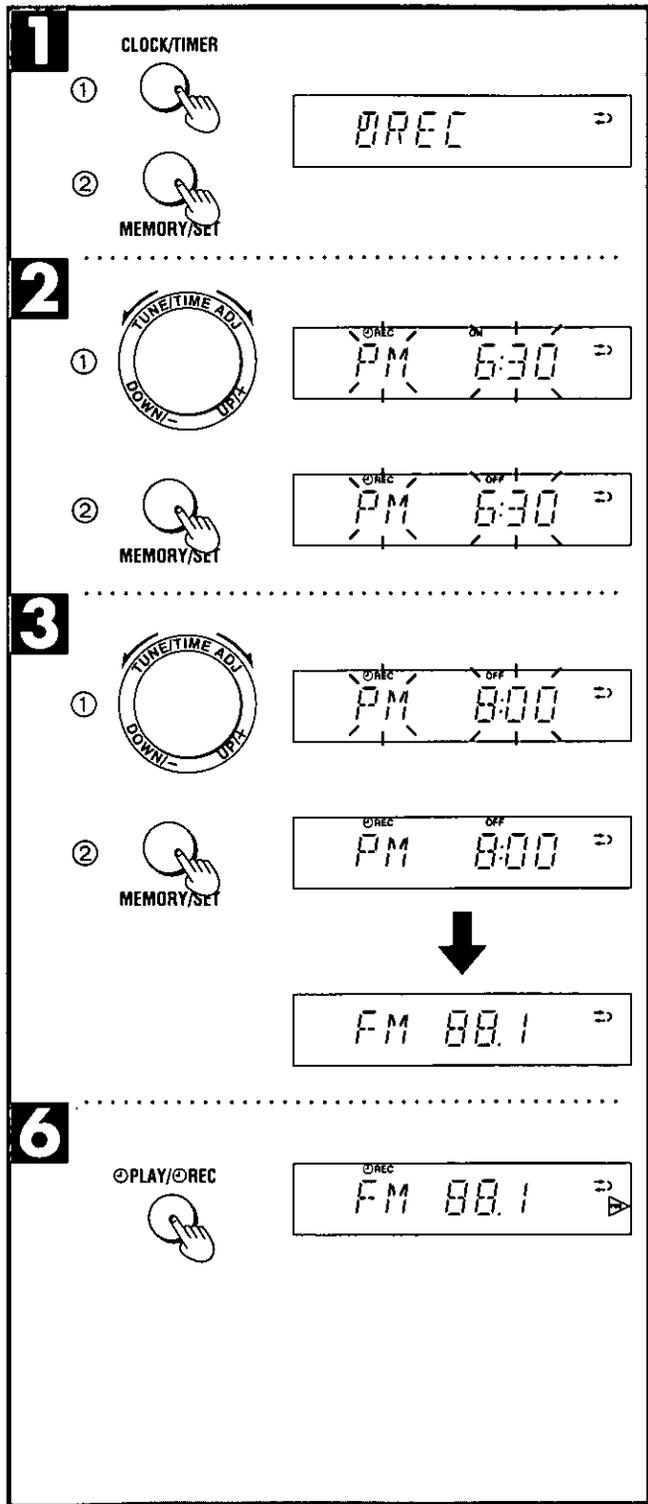
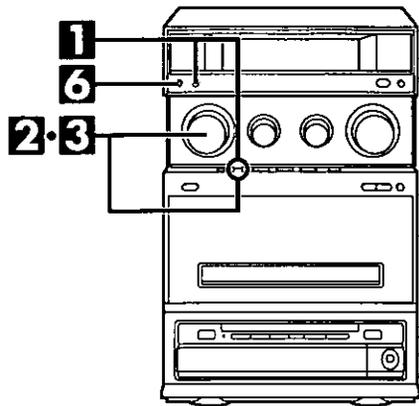
Every time you press the button;

⊕ PLAY → ⊕ REC
 ↑ Original display ↓

The system will be turned OFF automatically in a few seconds.

The timer play will start at the preset time with volume increasing gradually up to the volume level you preset.





Using the timer

Using the record timer

Select this timer when you want to use the timer to record a midnight program or while you are out.

Preparations

- Make sure that you have completed "Setting the time" on page 9.
- Switch on the power.

Set the timer at least 2 minutes before you want to start recording.

The figure shows how to set the record timer for recording FM broadcasts from 6:30 p.m. to 8:00 p.m.

1 ① Press **CLOCK/TIMER** to select "⊙ REC".

Every time you press the button;
 CLOCK → ⊙ PLAY → ⊙ REC
 ↑ Previous display ←

- ② (Within 8 seconds or so)
 Press **MEMORY/SET**.

2 "ON" time setting

- ① Turn **TUNE/TIME ADJ** to the right or left to select the "ON" time.
 ② Press **MEMORY/SET**.

3 "OFF" time setting

- ① Turn **TUNE/TIME ADJ** to the right or left to select the "OFF" time.
 ② Press **MEMORY/SET**.

4 Source selection

Select the desired source and then prepare for recording.

When you record from the radio

Press **TUNER/BAND** to select "FM" or "AM" and tune in the desired station.

When you record from a unit connected to the "AUX" terminals

Press **AUX**.

5 Prepare for recording.

1. Insert a tape into the cassette holder with the side on which the recording will start facing you.
2. Select the reverse mode on the remote control.

6 Press ⊙ **PLAY**/⊙ **REC** to select "⊙ REC".

Every time you press the button;
 ⊙ PLAY → ⊙ REC
 ↑ Original display ←

The system will be turned OFF automatically in a few seconds.

About 30 seconds before the set time, the system mutes sound automatically.

Using the play/record timer

To switch the timer OFF

Press \odot PLAY/ \odot REC and check " \odot PLAY" (for play timer) or " \odot REC" (for record timer) goes out.

If you set the timer incorrectly

Repeat the procedure from step 1.

To check settings

Press CLOCK/TIMER to select " \odot PLAY" (for play timer) or " \odot REC" (for record timer).

Two seconds later, the display will change in the following order.

- For play timer
 - ① Play start time
 - ② Play end time
 - ③ Play source and playback volume

- For record timer
 - ① Recording start time
 - ② Recording end time
 - ③ Recording source

You can check the settings even when the system is OFF.

To enjoy the desired source after the timer setting is completed

Even if you change the volume level or music source, the timer will start with the preset condition.

1. Following step 6, turn ON the power and start playing the desired source.
2. Press POWER to standby mode after enjoying the source, and confirm a CD or tape has been inserted.
Be sure to reset tape in the direction you want the tape to play/record on timer.

Turning the timer ON/OFF

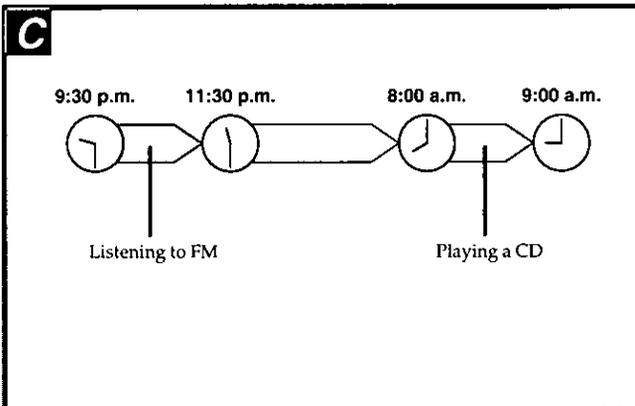
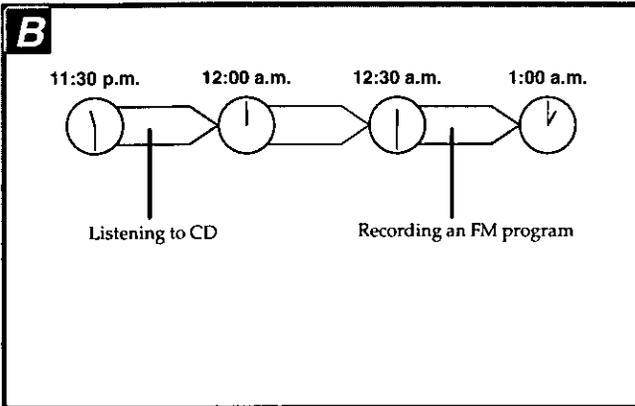
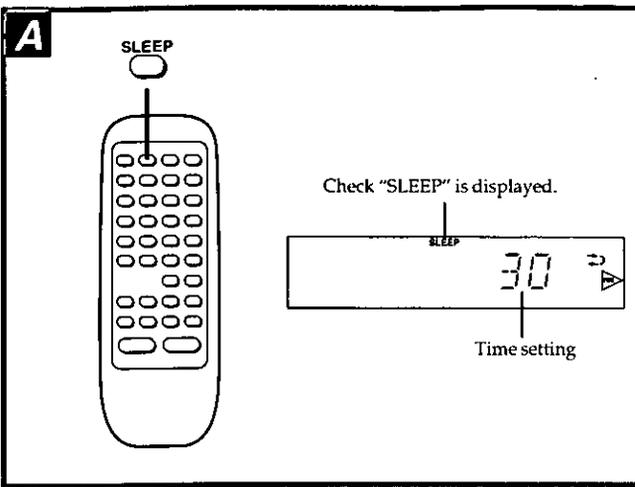
As long as " \odot PLAY" or " \odot REC" is displayed, the timer will come ON everyday as set.

You can turn the timer ON/OFF by pressing \odot PLAY/ \odot REC while the system is OFF.

Remember that when " \odot PLAY" or " \odot REC" is displayed, the timer is ON. When not displayed, the timer is OFF.

Note

- If the power is on, the timer will not function. The system must be in the standby mode.
- If you switch the power to the standby mode while the play/record timer is functioning, the OFF time setting will not be activated.
- If AUX is selected as the source, when the timer comes ON, the system will turn ON and will engage "AUX" as the source. If you want to playback or record from a connected component, set the component's timer to the same time. (See the instruction manual that came with the component.)



Using the timer

Using the sleep timer

This timer turns your system OFF at the set time (Max. 2 hours, settable at 30 minute intervals). It lets you fall asleep while listening to music.

by remote control only

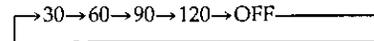
Preparations

Switch on the power.

While enjoying the desired source:

Press SLEEP to select the desired time. **A**

Every time you press the button;



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

The system is turned off after the set time has elapsed.

To cancel the sleep timer

Press SLEEP to select "OFF".

To confirm the remaining time

Press SLEEP.

To change the time remaining during operation

Press SLEEP to show the remaining time, and then press SLEEP to select the desired time.

Note

The sleep timer turns OFF automatically the moment you attempt to record a CD using the CD edit recording function.

To use two timers together

The sleep timer always has priority.
Be sure not to overlap timer settings.

Record timer and sleep timer **B**

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

- ① Program the record timer.
Follow steps **1-6** on page 24.
- ② Switch on the power.
- ③ Start CD and set the volume.
- ④ Set the sleep timer (see above).

Be sure to set the sleep timer to finish before the timer recording begins.

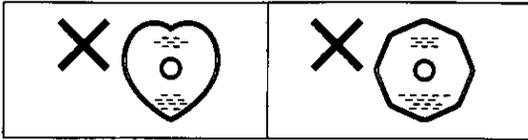
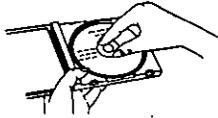
Play timer and sleep timer **C**

To go to sleep listening to an FM broadcast, and wake up the next morning listening to a compact disc.

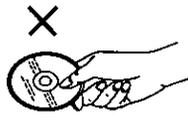
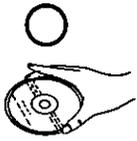
- ① Program a CD for play timer.
Follow steps **1-6** on page 23.
- ② Switch on the power.
- ③ Tune in the station and set the volume.
- ④ Set the sleep timer (see above).

For your reference

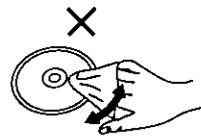
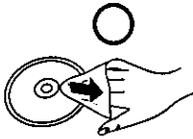
The play timer cannot be used in combination with the record timer.

A**B****How to return CDs to their case**

Face label upwards and press downward from above.

C**How to hold CDs**

Do not touch the recorded surface.

D**How to clean CDs**

Wipe from inside outward.

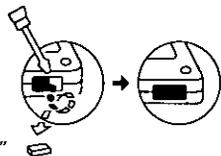
E**How to take up tape slack****F**

Side A



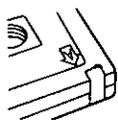
Tab for side "B"

Tab for side "A"



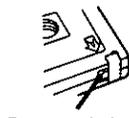
To re-record on a protected cassette
Cover the hole with adhesive tape.

Normal position tape



Do not cover the detection hole on high-position tape.

High-position tape



Concerning CDs

With this system, you can only play CDs having this mark.

However, do not use irregular shape CDs (heart-shape, octagonal, etc.). CDs of this sort can damage the unit. 

COMPACT
disc
DIGITAL AUDIO

Handling precautions

Be sure to handle CDs according to the precautions shown on the left (E-D). Failure to do so may damage the CD or the unit.

- If you are taking the CD from a cold to a warm environment, moisture may form on the CD. Wipe this off with a soft, dry, lint-free cloth before using the CD.
- Do not write on the label side with a ball-point pen or other writing instrument.
- Do not use record cleaning sprays, benzine, thinner, static electricity prevention liquids or any other solvent.
- Do not attach labels or stickers to CDs. (Do not use CDs with exposed adhesive from tape or left over peeled off stickers.)
- Do not use scratch-proof protectors or covers other than those specified for use with this system.

Storage precautions

Be sure to store CDs in their cases to protect them from dust, scratches, and warping.

Do not place or store CDs in the following places

- Locations exposed to direct sunlight
- Humid or dusty locations
- Locations directly exposed to a heat vent or heating appliance
- In the glove compartment or on the rear deck of an automobile

Concerning cassette tapes

Selection of cassette tapes

Tapes can get caught on the capstans. Use caution with the following types of tapes.

Cassette tapes exceeding 100 minutes

Tapes are made of a thin film material. Do not repeatedly advance and stop the tape, fast-forward it or rewind it.

Endless-tapes

For this unit, it is recommended to use tapes which are appropriate to the auto reverse mechanism.

Always read the instructions provided with your tapes.

Tape slack

Tape slack may cause the tape to break.

Erasure prevention

Use a screwdriver or similar object to break out the tab.

Storage precautions

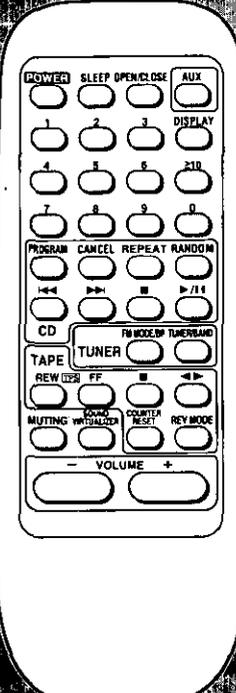
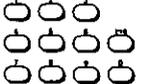
Do not place or store tapes in the following places;

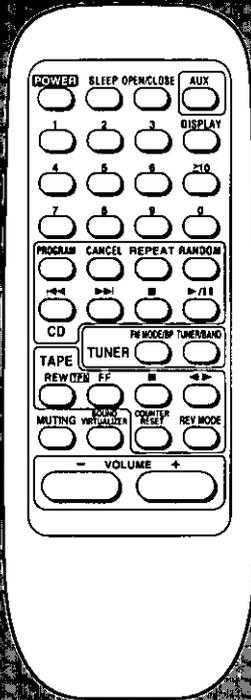
- In high temperature (35°C or higher) or high humidity (80% or higher) areas
- In a strong magnetic field (near a speaker, on top of a TV, etc.) This can erase a recording.
- Locations exposed to direct sunlight

Remote control buttons and functions

Reference pages are given as black circled numbers.

Reference

	Button	Basic operations
		Turns the unit ON/OFF.
		For setting sleep timer 26
		Opening/closing the glide panel 9
		Selecting the display (Present time/Tape counter/Original display) 9, 16
		Turning the sound virtualizer ON/OFF 22
		Mutes volume temporarily. 22
		For setting volume 11, 12, 15
		When the system is OFF Starting one-touch playback 11, 12, 15
	Button	Radio
	For station selection 11	
	Selecting FM reception in stereo or mono 11 Reducing noise during the recording of AM programs 16	
	Selecting the input source/Selecting FM or AM band 10	
Button	CD	
	Track selection 12, 13, 14	
	Engages program input. 14	



Button	CD
	Cancels program contents. ⑭
	For selecting repeat playback mode ⑮
	Random playback ⑮
	Playback (▶)/Pause (⏸) ⑫
	Stop/Selecting the input source/Clearing programmed contents ⑫, ⑭
	Searching forward/backward ⑫ Skipping forward/backward ⑫
Button	Tape
	Fast-forward/Rewind (when tape is stopped) ⑮ Finding the beginning of a tune (during playback) ⑮
	Stop/Selecting the input source ⑮
	Starting playback/Changing the direction ⑮
	Selecting the reverse mode ⑮
	Resetting the tape counter to "000" ⑮
Button	Other component
	Selecting the input source ⑳ When the system is OFF Turns the unit ON and input source (AUX) is selected automatically.

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. (In U.S.A. consult PASC Authorized Servicers for detailed instructions or call 1-800-545-2672 for the address of an authorized factory servicenter.)

Reference

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. ①, ②, ⑤
The location of the various musical instruments is not well defined.	The (+) and (-) connections to one of the speakers are reversed.	Connect the speaker cords correctly. ⑥
The left and right sounds are reversed.	The left and right connections to the speaker are reversed.	Connect the speaker cords correctly. ⑥
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. ⑥
Only one speaker is emitting sound.	One of the wires of the speaker cord is disconnected.	Connect the speaker cord correctly. ⑥
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. ⑥
"ERROR" message appears on the display.	Wrong operation has been done.	Operate the unit correctly by following the operating instructions.
"-- --:-- --" appears on the display	<ul style="list-style-type: none"> ● You plugged the power cord in for the first time. ● There was a power failure recently. 	Set the time. ⑤
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.	If you are using an indoor antenna, change to an outdoor antenna. ⑦
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 ("STEREO") flickers and does not light completely.	The transmitting station is a long distance away. 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. ⑦
While listening to AM 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.

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. ⑦
	The wiring at the back of the system is unsuitable.	Separate the antenna wire of the TV set from the system.
When listening to tapes		
Sound is low, intermittent, poor quality, noisy, scratchy, or unsteady.	Heads are dirty.	Clean the heads. ③
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. ⑦
While listening to CDs		
The display does not show the correct indication. CD play does not start when you press the play button.	The CD label is facing down.	Set the CD with the label facing up. ⑫
	The CD is dirty.	Wipe the CD with a soft cloth. ⑦
	The CD is scratched.	Replace the CD with a new one.
	The CD is badly warped.	
	The CD is nonstandard.	Replace the CD with a different one. ⑫
There is condensation inside the CD player because of a sudden change in temperature.	Wait for 60 minutes before using the CD player.	
A certain music passage can't be played correctly.	The CD is dirty.	Wipe the CD with a soft cloth. ⑦
While recording from CDs		
Only one track is recorded.	One track edit recording (1-REC mode) has been selected.	Press CD EDIT to select "OFF". ④
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. ⑦
	The batteries are run-down.	Replace the batteries with new batteries. ⑦

Maintenance

If the surfaces are dirty

To clean this unit, wipe with a soft, dry cloth.

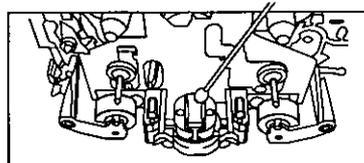
If the surfaces are extremely dirty, use a soft cloth dipped in a soap-and-water solution or a weak detergent solution.

- Never use alcohol, paint thinner, benzine, or chemically treated cloths to clean this unit.
- Before using chemically impregnated cloth, read the instructions that came with the cloth carefully.

For a cleaner crisper sound

We recommend that you periodically clean parts (the shaded portion in the figure below) the tape contacts like the heads.

Do not use any solution other than alcohol for head cleaning.



Technical specifications

AMPLIFIER SECTION

Input sensitivity	
AUX	250 mV
Input impedance	
AUX	47 k Ω
Load impedance	
Headphone	16–32 Ω

FM TUNER SECTION

Frequency range	
	87.9–107.9 MHz (200 kHz steps)
	87.5–108.0 MHz (100 kHz steps)
Sensitivity	
S/N 26 dB	1.5 μ V
Antenna terminal(s)	75 Ω (unbalanced)

AM TUNER SECTION

Frequency range	520–1710 kHz
Sensitivity	
S/N 20 dB	500 μ V/m

CASSETTE DECK SECTION

Track system	4 track, 2 channel
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Heads

Record/playback	Solid permalloy head
Erasure	Double gap ferrite head
Motor	DC servo motor
Recording system	AC bias 100 kHz
Erasing system	AC erase
Tape speed	4.8 cm/s (1 $\frac{7}{8}$ ips)
Frequency response (–3, +3 dB)	
NORMAL	50 Hz–13 kHz
HIGH POSITION	50 Hz–13 kHz
S/N	52 dB (A weighted)
Wow and flutter	•0.18% (WRMS)
Fast forward and rewind times	Approx. 120 seconds with C-60 cassette tape

CD SECTION

Sampling frequency	44.1 kHz
Decoding	16 bit linear
Beam source/wave length	Semiconductor laser/780 nm
Number of channels	2 (left and right, stereo)
S/N	
SP OUT	82 dB (JIS.A)
Wow and flutter	Below measurable limit
Digital filter	8 fs
D/A converter	MASH (1 bit DAC)

SPEAKER SECTION

Type	2 way speaker system
Speaker(s)	
Super woofer	14 cm cone type
Fullrange	8 cm cone type
Impedance	HIGH (6 Ω), LOW (6 Ω)
Input power	
HIGH	10 W (MUSIC) 5 W (DIN)
LOW	30 W (MUSIC) 15 W (DIN)
Output sound pressure level	85 dB/W (1.0 m)
Cross over frequency	110 Hz
Frequency range	43 Hz–22 kHz (–16 dB) 52 Hz–20 kHz (–10 dB)
Dimensions (W×H×D)	190×285×217 mm (7-1 $\frac{5}{32}$ "×11-7 $\frac{5}{32}$ "×8-1 $\frac{7}{32}$ "
Weight	2.7 kg (6 lb.)

GENERAL

Power supply	AC 120 V, 60 Hz
Power consumption	72 W
Dimensions (W×H×D)	195×287×296 mm (7-1 $\frac{1}{4}$ "×11-5 $\frac{1}{16}$ "×11-2 $\frac{1}{32}$ "
Weight	4.9 kg (10.8 lb.)

Note:

Specifications are subject to change without notice.
Weight and dimensions are approximate.

MASH is a trademark of NTT.

Product Service

Do not attempt to remove the cover(s) or repair the unit yourself.
Refer servicing to qualified personnel only.
The servicer will require all components to service your system.
Therefore, should service ever be necessary, be sure to bring the entire system.

Product information

For product service, product information or assistance with product operation, refer to the servicenter directory.

Panasonic Consumer Electronics
Company, Division of Matsushita
Electric Corporation of America
One Panasonic Way Secaucus,
New Jersey 07094

Panasonic Sales Company,
Division of Matsushita Electric of
Puerto Rico, Inc. ("PSC")
Ave. 65 de Infantería, Km. 9.5
San Gabriel Industrial Park, Carolina,
Puerto Rico 00985

Panasonic Canada Inc.
5770 Ambler Drive,
Mississauga, Ontario
L4W 2T3

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