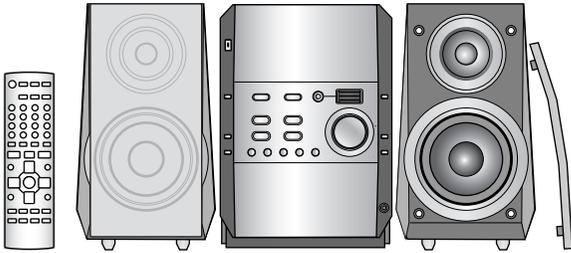


Panasonic

CD Stereo System

Operating Instructions

Model No. **SC-PM29**



For U.S.A.

As an ENERGY STAR® Partner, Panasonic has determined that this product meets the ENERGY STAR® guidelines for energy efficiency.

Dear customer

Thank you for purchasing this product.
Before connecting, operating or adjusting this product, please read these instructions completely.
Please keep this manual for future reference.

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IMPORTANT SAFETY INSTRUCTIONS

Read these operating instructions carefully before using the unit. Follow the safety instructions on the unit and the applicable safety instructions listed below. Keep these operating instructions handy for future reference.

- 1) Read these instructions.
- 2) Keep these instructions.
- 3) Heed all warnings.
- 4) Follow all instructions.
- 5) Do not use this apparatus near water.
- 6) Clean only with dry cloth.
- 7) Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
- 8) Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- 9) Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- 10) Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- 11) Only use attachments/accessories specified by the manufacturer.
- 12) Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over. 
- 13) Unplug this apparatus during lightning storms or when unused for long periods of time.
- 14) Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.



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.

WARNING:

TO REDUCE THE RISK OF FIRE, ELECTRIC SHOCK OR PRODUCT DAMAGE, DO NOT EXPOSE THIS APPARATUS TO RAIN, MOISTURE, DRIPPING OR SPLASHING AND THAT NO OBJECTS FILLED WITH LIQUIDS, SUCH AS VASES, SHALL BE PLACED ON THE APPARATUS.

THE FOLLOWING APPLIES ONLY IN THE U.S.A.

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 or more of the following measures:

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

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

This device complies with Part 15 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 undesired operation.

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.

WARNING:

TO REDUCE THE RISK OF FIRE, ELECTRIC SHOCK
OR PRODUCT DAMAGE, DO NOT EXPOSE THIS
APPARATUS TO RAIN, MOISTURE, DRIPPING OR
SPLASHING AND THAT NO OBJECTS FILLED WITH
LIQUIDS, SUCH AS VASES, SHALL BE PLACED ON
THE APPARATUS.

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 that you 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.

System	SC-PM29
Main unit	SA-PM29
Speakers	SB-PM29

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 _____

User memo:

DATE OF PURCHASE _____

DEALER NAME _____

DEALER ADDRESS _____

TELEPHONE NUMBER _____

Supplied accessories



Please check and identify the supplied accessories.

AC power supply cord 1 pc.



(K2CB2CB00006)

FM indoor antenna 1 pc.



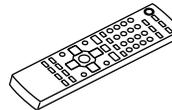
(RSA0007-L)

AM loop antenna..... 1 pc.



(N1DAAA00001)

Remote control transmitter 1 pc.



(N2QAJB000095)

Batteries 2 pc.



Use the numbers indicated in parentheses when asking for replacement parts.

In U.S.A. to order accessories, refer to "Accessory Purchases" on page 27.

The remote control

A Battery installation

Use of batteries

- Align the poles (+ and -) properly when inserting the batteries.
- Do not mix old and new batteries or different types of batteries.
- Do not recharge ordinary dry cell batteries.
- Do not heat or disassemble the batteries. Do not allow them to contact flame or water.
- Remove the batteries if the unit is not to be used for a long time.
- Do not keep together with metallic objects such as necklaces.
- Do not use rechargeable type batteries.
- Do not use batteries if the covering has been peeled off.

Mishandling of batteries can cause electrolyte leakage which can damage items the fluid contacts and may cause a fire. If electrolyte leaks from the batteries, consult your dealer. Wash thoroughly with water if electrolyte comes in contact with any part of your body.

B Correct method of use

Operation 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 a fluorescent light.
- Take care to keep the remote control signal sensor and the 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 unit a shorter distance from the system.

To prevent damage

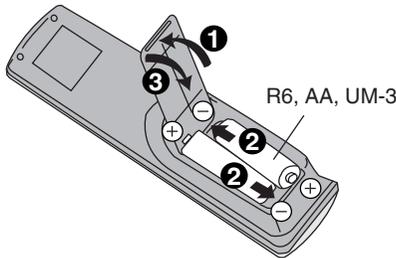
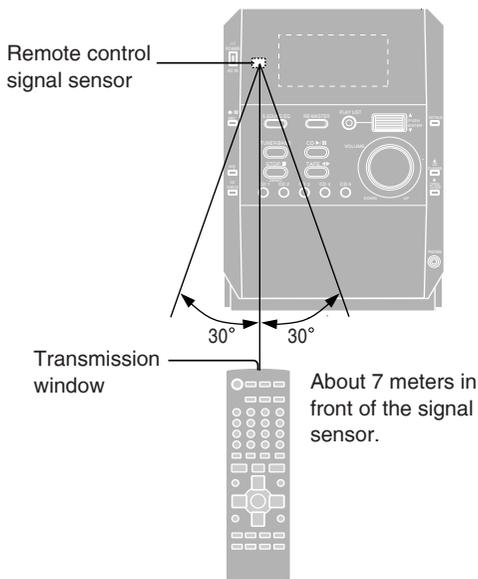
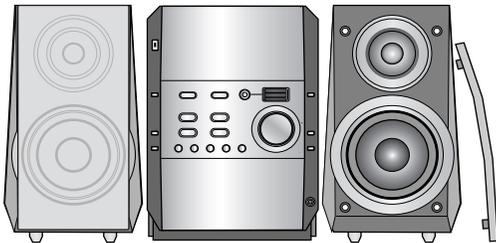
- Do not place heavy items on the remote control.
- Do not disassemble or reconstruct.
- Do not spill water or other liquids on the remote control.

C Placement of speakers

Speakers are designed identically so that no left or right channel orientation is necessary.

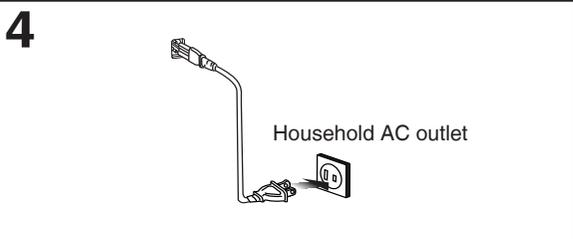
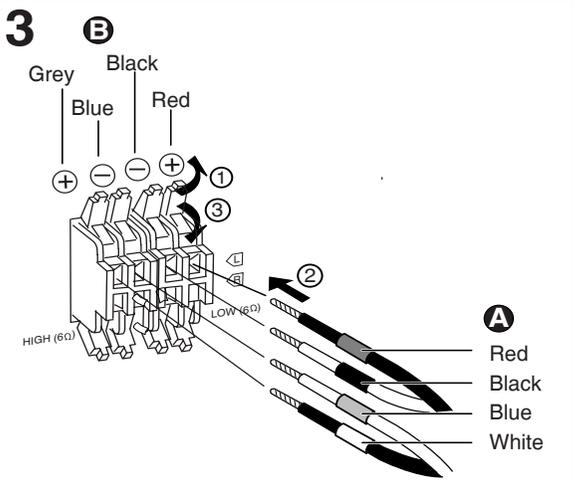
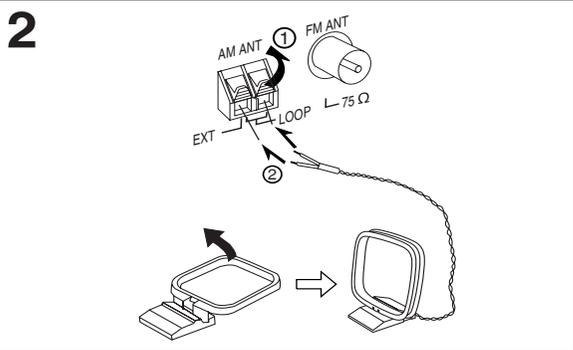
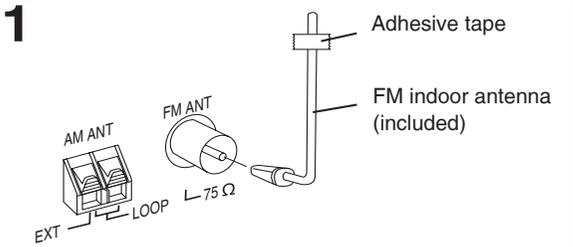
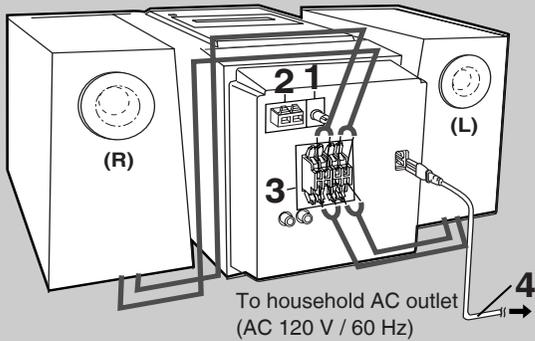
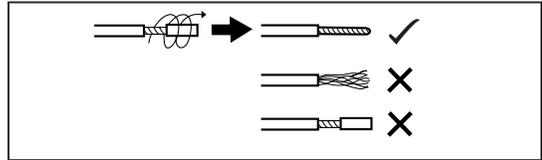
Note

- Keep your speakers at least 10 mm away from the system for proper ventilation.
- These speakers do not have magnetic shielding. Do not place them near televisions, personal computers or other devices easily influenced by magnetism.
- To avoid damage to the speakers, do not touch the speaker cones if you have taken the nets off.

A**B****C**

Connections

- Plug the AC power supply 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.



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.

For the best reception:

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

2 Connect the AM loop antenna.

Stand the antenna up on its base. Keep loose antenna cord away from other wires and cords.

3 Connect the speaker cables.

A Confirm the colors of the tags on the ends of the cords.

B For White tags:

Connect cords to grey terminals.

For Blue, Black and Red tags:

Connect cords so tag colors match the terminal colors.

Cords with white and blue tags are for high frequency.

Cords with red and black tags are for low frequency.

Incorrect connection can damage the unit.

Caution

Use only the supplied speakers.

The combination of the main unit and speakers provide the best sound. Using other speakers can damage the unit and sound quality will be negatively affected.

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.

- Do not attach these speakers to walls or ceilings.

4 Connect the AC power supply cord.

Note

The included AC power supply cord is for use with this unit only. Do not use it with other equipment.

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.

A FM outdoor antenna

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

Note

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

B AM outdoor antenna

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 a lightning storm.

External unit connections

- Make sure that the power supply for all components has been turned off before making any connections.
- For details, refer to the operating instructions of the unit which is to be connected.
- All peripheral components and cables sold separately.

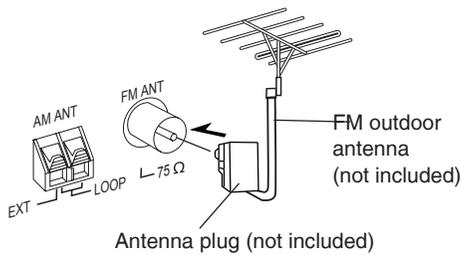
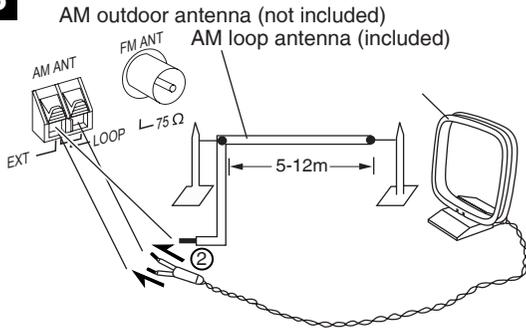
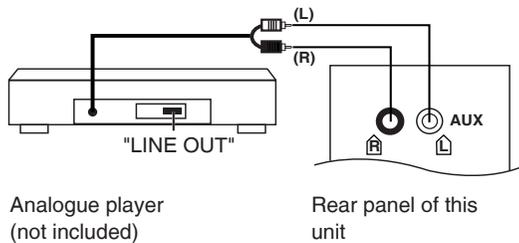
C Connecting analog equipment

This example shows how to connect an analogue player with a PHONO OUT/LINE OUT switch.

When units other than those described are to be connected, please consult your audio dealer.

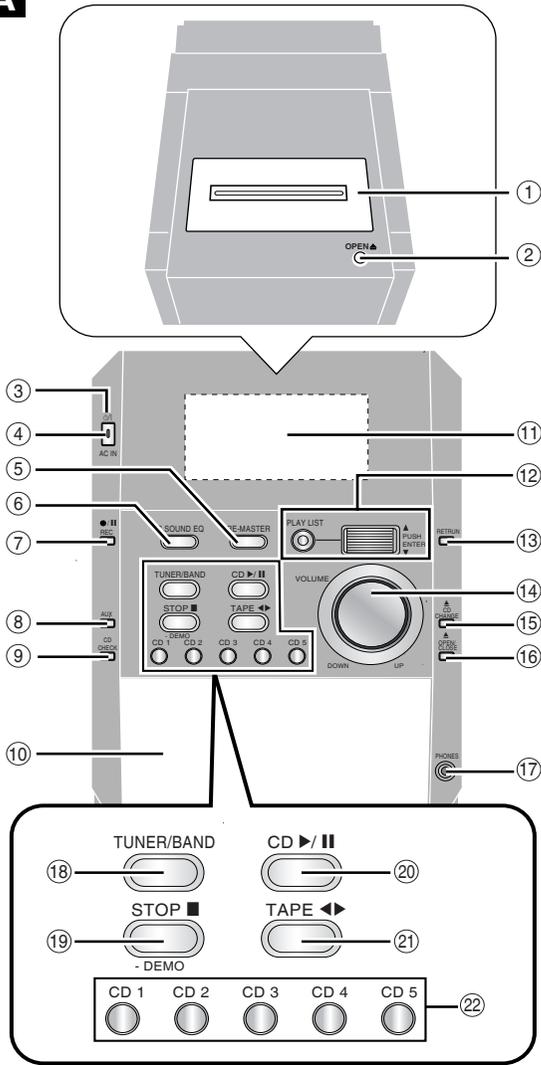
Note

- Only an analogue 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.

A**B****C**

Front panel controls

Main unit



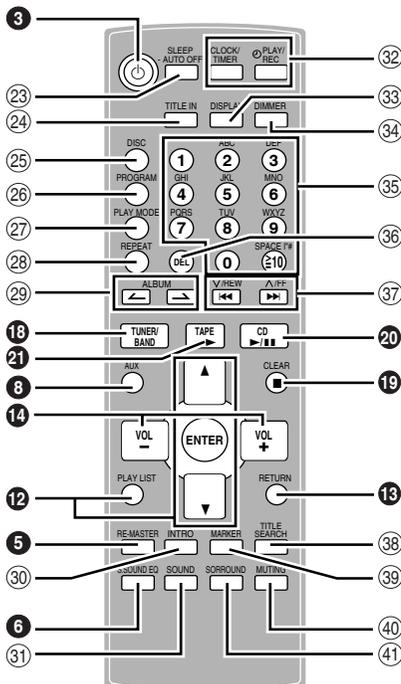
- ① **Cassette lid**
- ② **Cassette open button (▲ OPEN)** 19
- ③ **Standby/on switch (⏻/⏻)**
Press to switch the unit from on to standby mode or vice versa. In standby mode, the unit is still consuming a small amount of power.
- ④ **AC supply indicator (AC IN)**
This indicator lights when the unit is connected to the AC mains supply.
- ⑤ **Re-master button (RE-MASTER)** 22
- ⑥ **Super sound EQ button (S.SOUND EQ)** 22
- ⑦ **Recording start/pause button (●/|| REC)** 21
- ⑧ **Aux button (AUX)** 22
- ⑨ **CD check button (CD CHECK)** 9
- ⑩ **CD trays**
- ⑪ **Display**
- ⑫ **Play list button and jog control (PLAY LIST)** 11, 13
- ⑬ **Return button (RETURN)**
- ⑭ **Volume control**
- ⑮ **CD change button (▲ CD CHANGE)** 9
- ⑯ **CD tray open/close button (▲ OPEN/CLOSE)** 9
- ⑰ **Headphone jack (PHONES)** 22
- ⑱ **Tuner/band select button (TUNER/BAND)** 17
- ⑲ **Stop/program clear and demonstration button (STOP ■, -DEMO)** 9, 14, 23
- ⑳ **CD play/pause button (CD ▶/||)** 9
- ㉑ **Tape play/direction button (TAPE ◀▶)** 19
- ㉒ **Disc direct play buttons (CD 1 - CD 5)** 9

Remote Control

Buttons such as ③ function in exactly same way as the buttons on the main unit.

- ㉓ **Sleep timer, Auto off button (SLEEP, - AUTO OFF)** 23, 25
- ㉔ **Title in button (TITLE IN)** 12
- ㉕ **Disc button (DISC)** 13
- ㉖ **CD Program/clear, tuner preset button (PROGRAM)** 14, 18
- ㉗ **Play mode select button (PLAY MODE)** 9, 15, 17, 19, 21
Use this for selecting CD play mode, tune mode, FM mode, AM beat proof function and tape reverse mode.
- ㉘ **Repeat button (REPEAT)** 15
- ㉙ **Album select button (ALBUM ◀ ▶)** 9
- ㉚ **Intro button (INTRO)** 15
- ㉛ **Preset EQ/Manual EQ button (SOUND)** 22
- ㉜ **Clock/Timer operation buttons (CLOCK/TIMER, PLAY/REC)** 8, 24
- ㉝ **Display button (DISPLAY)**
- ㉞ **Dimmer button (DIMMER)**
- ㉟ **Numbered, character buttons** 12, 13
- ㊱ **Delete button (DEL)** 14
- ㊲ **CD skip/search, tape fast-forward/rewind/TPS, tune preset channel select, time adjust buttons (◀◀ √/REW, ▶▶ √/FF)** 8, 9, 17, 19, 24
- ㊳ **Title search button (TITLE SEARCH)** 16
- ㊴ **Marker memory/recall button (MARKER)** 16
- ㊵ **Muting button (MUTING)** 23
- ㊶ **Surround button (SURROUND)** 22

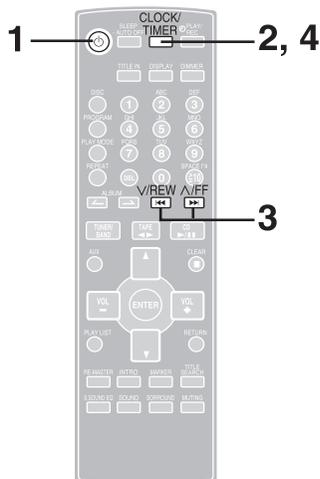
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A



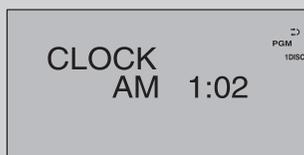
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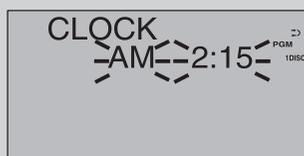
1



2



3



4



A CD selection and care

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

(A)

Note on CD-R and CD-RW

This unit can play CD-R and CD-RW recorded with CD-DA or WMA/MP3. Use an audio recording disc for CD-DA and finalize* it when you finish recording. The unit may not be able to play some discs due to the condition of the recording.

* A process performed after recording that enables CD-R/CD-RW players to play audio CD-R and CD-RW.

Do not;

- use irregularly shaped CDs. (B)
- attach extra labels and stickers.
- use CDs with labels and stickers that are coming off or with adhesive exuding from under labels and stickers. (C)
- attach scratch-proof covers or any other kind of accessory.
- write anything on the CD.
- clean CDs with liquids. (Wipe with a soft, dry cloth.)
- use CDs printed with label printers available on the market.

To prevent damage

Always observe the following points.

Set the system on a flat, level surface.

- Do not set it on top of magazines, inclined surfaces, etc.
- Do not move the system while tray is opening/closing, or when loaded. Always unload all CDs before moving the system.
- Do not put anything except a CD in the tray.
- Do not use cleaning CDs or CDs which are badly warped or cracked.
- Do not disconnect the AC power supply cord from the household AC outlet during CD changing operation.

B Setting the time

This is a 12-hour clock.

The example shows how to set the clock for 2:15am.

- 1 Press [ON/OFF] to turn the unit on.
- 2 Press [CLOCK/TIMER] to select "CLOCK".
Every time you press the button:
CLOCK → [PLAY] → [REC]
↑ Original display ↓
- 3 Within 7 seconds:
Press [V/REW] or [^/FF] to set the time.
Press and hold to change the time faster.
- 4 Press [CLOCK/TIMER].
The time is set and the original display is restored.

Displaying the clock:

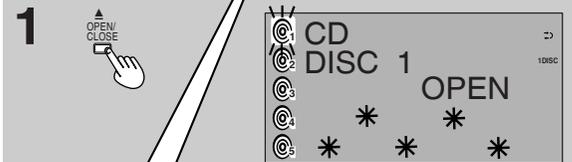
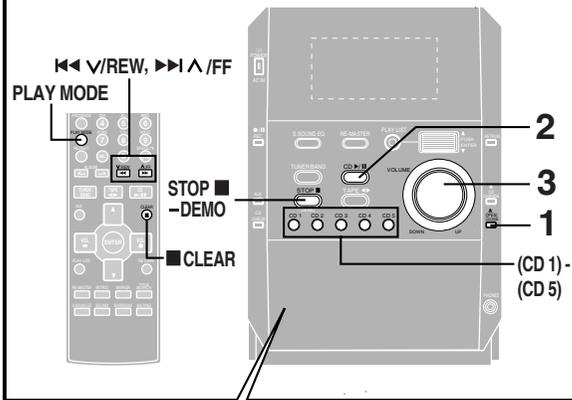
Press [CLOCK/TIMER].

The clock is shown for about 5 seconds.

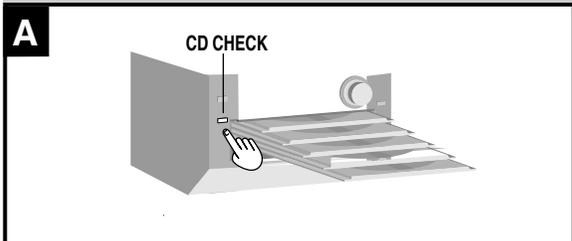
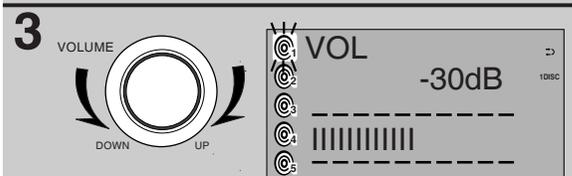
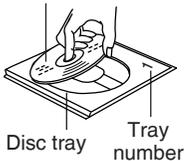
Note

The clock may lose or gain some time over a period. Readjust if necessary.

CDs



Label must face upward.



1 Press [▲ OPEN/CLOSE] to open the disc tray, and insert the CD.

The unit comes on automatically.
Press again to close the tray.

2 Press [CD ▶/||] to start play.

3 Adjust the volume.

Listening to the desired CDs or album

① Press [CD 1] - [CD 5] to select the desired disc tray.

The unit comes on automatically.

Play starts if there is already a CD in the tray.

② Press [▲ OPEN/CLOSE] to open the disc tray, and insert the CD.

Press again to close the tray.

Repeat steps 1 and 2 to put CDs in the other trays.

③ Press [PLAY MODE] to select "1 DISC", "ALL DISC" or "1 ALBUM (MP3/WMA only)".

Every time you press the button:

1 DISC → ALL DISC → 1 TRACK → 1 ALBUM (MP3/WMA)

← A RANDOM (CD-DA) ← 1 RANDOM (CD-DA) ←

1 DISC 1-Disc mode

ALL DISC All-Disc mode

1 ALBUM 1-Album mode (MP3/WMA only)

• If you selected 1 ALBUM, press [→ ALBUM] or [← ALBUM] to select the album.

④ Press [CD ▶/||] to start play.

If you selected ALL DISC, the CDs play in order from the disc you selected.

Operations	Main unit	Remote control
To stop the disc	[STOP ■, -DEMO]	[CLEAR ■]
To pause play	[CD ▶/]	Press [CD ▶/] again to resume play.
Skipping tracks	Jog control Turn up (backward) or down (forward).	[◀◀ √/REW] (backward) [▶▶ √/FF] (forward)
Searching through tracks		[◀◀ √/REW] (backward) [▶▶ √/FF] (forward)

To remove the disc

While one CD is playing (except in All-Disc Random play or program play), you can change the CDs in the other trays.

① Press [▲ CD CHANGE].

② Press [1] - [5] to select the disc you want.

Press [▲ CD CHANGE] again to close the tray.

To check which tray the CD (12 cm) is in (CD CHECK)

Press [CD CHECK].

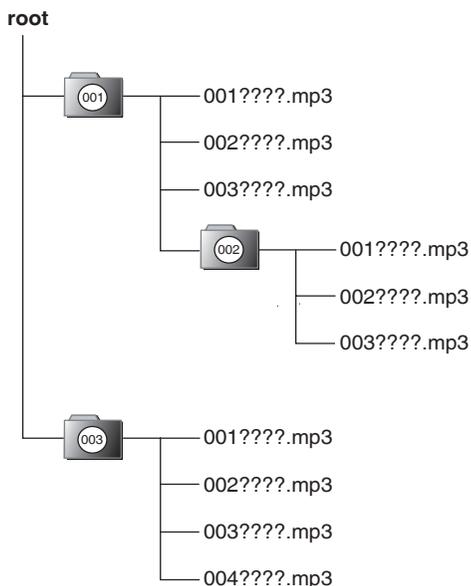
Press [CD CHECK] again to close the trays.

If a CD is being played, the corresponding tray will not open.

• Do not remove or insert CDs during a CD check.

• Do not pull out the trays during a CD check.

Example: MP3



MP3 and WMA

Basic operations are the same as for CD-DA.

- The folder and file names you enter on the computer become the album and track names on this unit.
- There can be a maximum of 400 albums and 999 tracks.
- Folders that do not contain MP3/WMA are skipped.
- This unit is compatible with multisession, but if the number of sessions is large, it may take longer for play to start.

Disc format

Discs must conform to ISO9660 level 1 or 2 (except for extended formats).

File format

- MP3 files must have the extension “.MP3” or “.mp3”.
- WMA files must have the extension “.WMA” or “.wma”.

To play in a certain order

Prefix the folder and file names with 3-digits numbers in the order you want to play them.

Files may not be recorded in numbered order if the prefixes have different numbers of digits.

For example: 1????.mp3, 2????.mp3, 10????.mp3.

However, some writing software may also cause recording to occur in a different order.

Limitations on MP3/WMA play

- This unit is not compatible with packet-write format.
- This unit is not compatible with ID3 tags.
- If you have recorded MP3/WMA on the same disc as CD-DA, only the format recorded in the first session can be played.
- Recordings will not necessarily be played in the order you recorded them.
- You cannot search while playing MP3/WMA. Program and random play work only within a single disc.

Note

- You cannot play protected WMA tracks (“TRACK PROTECTED” appears). Consult the creator of the software you used to record the WMA tracks for details.
- Noise may occur when playing WMA files.
- It may not be able to play some CD-R/RW due to the condition of the recording.

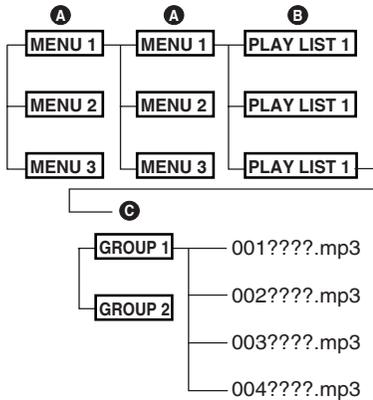
Windows Media, and the Windows logo are trademarks, or registered trademarks of Microsoft Corporation in the United States and/or other countries.

WMA is a compression format developed by Microsoft Corporation. It achieves the same sound quality as MP3 with a file size that is smaller than that of MP3.

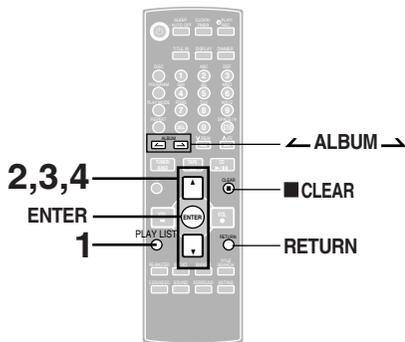


A

Example: MP3



B



1 **PLAY LIST**

1	>PLAYLIST	ALL DISC
2	NO DISC	
3	NO DISC	
4	NO DISC	
5	NO DISC	

2

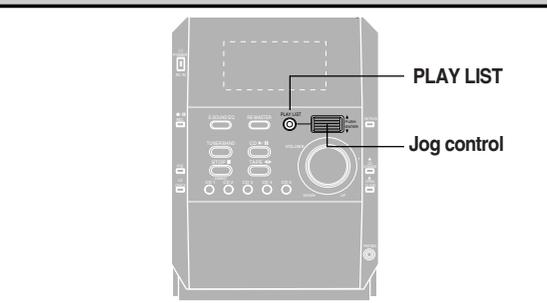
CD STOP	ALL DISC
DISC 1	
>MENU	HighMAT
PLAYLIST	
WMA/MP3	HighMAT

3

MENU OF PL	ALL DISC
1>PL 1/GR1/	
2 PL 1/GR2/	HighMAT
3 PL 1/GR2/	
4 PL 2/GR1/	HighMAT

4

CD PLAY	ALL DISC
DISC 1	
TITLE	HighMAT
TRACK NAME	HighMAT



Preparation: Press [CD/▶/||] and then [■ CLEAR].

A HighMAT

HighMAT is a new way of recording and managing audio files on CD-R/RW.

- The unit plays the tracks in play lists that you create.
- You can create these play lists on your computer, sorting them by artist, album, and genre.

Example play list

- A** Menu (a list of items you can use to find play lists)
- B** Play lists
- C** Group (a group of tracks within a play list)

- Menus can have up to 8 levels.
- You will need a computer running on Windows XP to create discs with HighMAT.

B Listening to CD-R/RW recorded with HighMAT

Note

“HighMAT” appears to show that you can use these features.

Remote control

- 1 Press [PLAY LIST].**
The CD selection screen appears.
- 2 Press [▲] or [▼] to select the desired CD-R/RW.**
➔ [ENTER]
- 3 Press [▲] or [▼] to select the method of play.**
➔ [ENTER]

MENU	Find a play list in the HighMAT menu
PLAYLIST	Look through the play lists in order
WMA/MP3	Play as any other MP3/WMA disc

(If you selected WMA/MP3, a “Track search”, ➔ refer page 13.)

- 4 Press [▲] or [▼] to select the menu or play list.**
➔ [ENTER]
Repeat this step if you are using the menus.
Play of the selected play list starts.

Main unit

- ① Press [PLAY LIST].
- ② Turn the jog control to select and press it to confirm to do steps 2, 3, and 4 above.

To return to the previous display

Press [RETURN].

To select a group

Press [← ALBUM] or [→ ALBUM] during play.

To cancel partway

Press [CLEAR ■].

During play: The play list selection screen reappears.
In the stop mode: The original display appears.

Other ways of playing CD's

By remote control only

Preparation: Press [CD/▶/||] and then [■ CLEAR].

Using the display's list

Use the display's list to find discs, albums, and tracks to play by finding their titles.

- You will need to enter the titles for commercial CDs.
- The unit can record the titles for 100 CDs, 25 track titles per CD, and 32 characters per title.

Entering CD titles

- 1 During stop:
Press [TITLE IN].
- 2 Press [◀◀ √/REW] or [▶▶ ^/FF] to select the title type and track number.
➔ [ENTER]
- 3 Enter the title (➔ refer character 1, 2)
➔ [ENTER]
Repeat steps 2 and 3 to enter other titles.
- 4 Press [TITLE IN].

Entering characters

- ① Press the numbered button to select the required character.

The characters change each time a numbered button is pressed.

Buttons	Characters	Buttons	Characters
1	1	6	M N O 6
2	A B C 2	7	P Q R S 7
3	D E F 3	8	T U V 8
4	G H I 4	9	W X Y Z 9
5	J K L 5	0	0
≥ 10	space ! " # \$ % ' () + , * . / : ; = ?		

- ② Press [▶▶ ^/FF] to enter the character.
Repeat steps ① and ② to enter all the characters for the title.

To move the cursor

Press [◀◀ √/REW] or [▶▶ ^/FF].

Editing entered character

Press [◀◀ √/REW] to revise any characters, then enter the correct character.

Deleting a character

Move the cursor over the character and press [DEL].

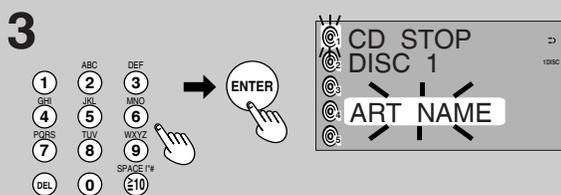
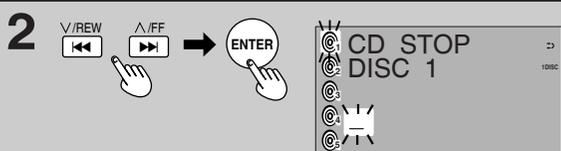
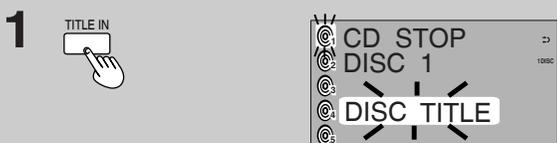
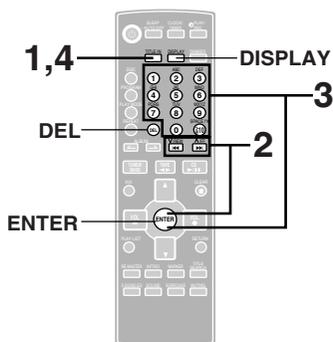
To change a title

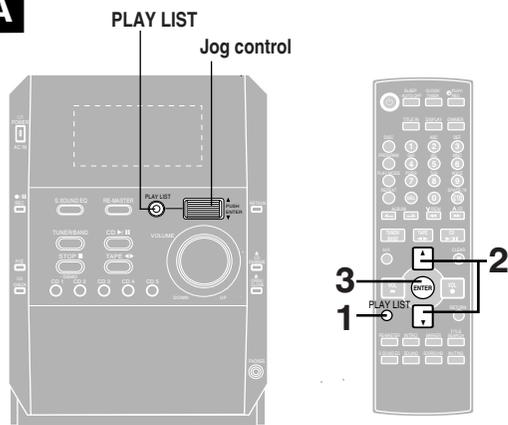
Enter the title again from the beginning.

To check titles

Press [DISPLAY] a number of times.

(Continued on next page)



A**Other ways of playing CD's**

Preparation: Press [CD/▶/||] and then [■ CLEAR].

A Track search

Remote control

- 1 Press [PLAY LIST].**
- 2 Press [▲] or [▼] to select the title.**
First select the disc or album title.
With HighMAT, press [▲] or [▼] to select the method of play (▶ refer step 3, on page 11).
- 3 Press [ENTER].**
Repeat 2 and 3 as often as necessary to select the desired track.
Play will start with the track you select.

Main unit

- ① Press [PLAY LIST].
- ② Turn the jog control to select and press it to confirm to do steps 2 and 3 above.

To return to the previous display

Press [RETURN].

B Direct access play

Direct access allows you to start normal play from a specific track to the last track of the CD.

Remote control

- 1 Press [DISC].**
- 2 Within 10 seconds:**
Press [1] - [5] to select the disc you want.
 - For MP3/WMA, after this press [← ALBUM →] to select the album.
- 3 Press the numeric button(s) to select the desired track number.**
Play will start with the track you select.

To select a two-digit track

Press [≥ 10] and then the two numbers you want.

For example, 20: [≥ 10] → [2] → [0]

Note

You cannot use direct access play with 1-Disc Random and All-Disc Random mode.

C CD display

You can see various types of information during play or recording.

Remote control

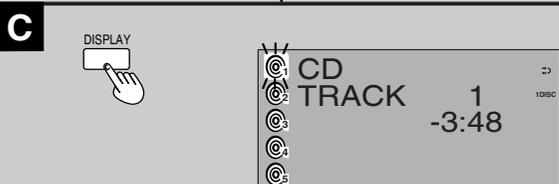
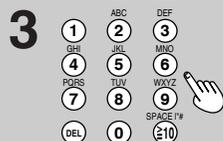
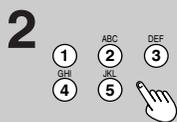
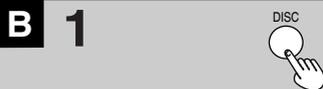
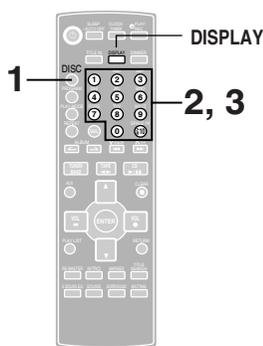
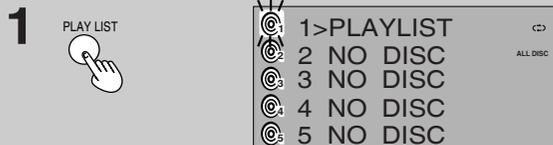
Press [DISPLAY].

The display changes each time you press the button.

Elapsed Playtime ↔ Remaining Playtime

Note

When track number 25 or greater is playing, remaining play time display shows "--:--".



Other ways of playing CD's

By remote control only

Preparation: Press [CD▶/||] and then [■ CLEAR].

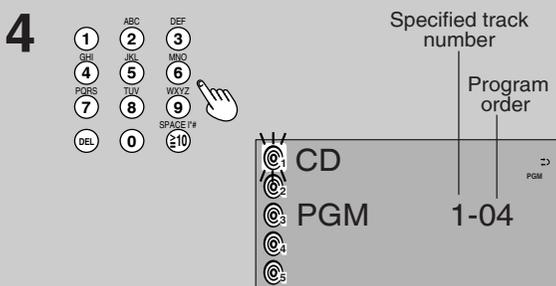
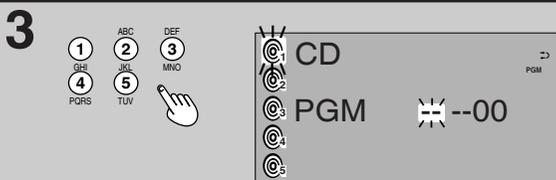
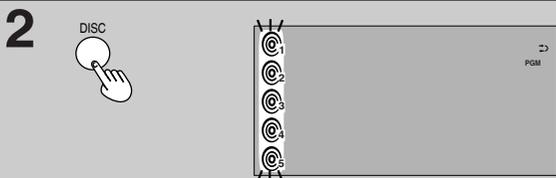
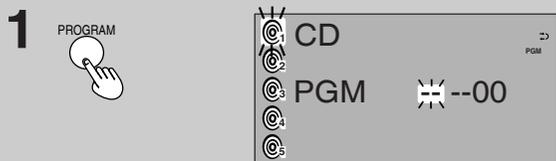
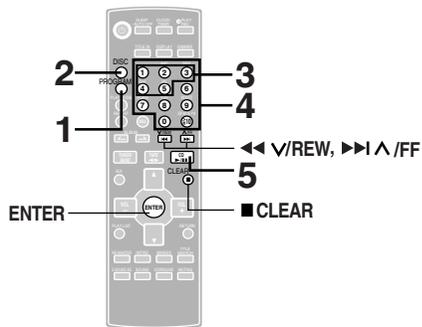
Program play

This function allows you to program up to 24 tracks.

- 1 Press [PROGRAM].**
- 2 Press [DISC].**
- 3** Within 10 seconds:
Press [1] - [5] to select the disc you want.
- 4 Press the numeric button(s) to select the track you want.**
Repeat steps 2 through 4 until you have programmed all the tracks you want.
- 5 Press [CD▶/||].**
Play will start in the programmed sequence.

MP3/WMA (within a single disc)

- ① Press [PROGRAM].
- ② Press [◀◀ √/REW] or [▶▶ ∧/FF] to select the track you want.
- ③ Press [ENTER] twice.
Repeat steps ② and ③ to create your program.
- ④ Press [CD▶/||].



To	Action
cancel program	Press [PROGRAM] in the stop mode.
select a two-digit track	Press [≥ 10] and then the two numbers you want.
check program contents.	Press [◀◀ √/REW] or [▶▶ ∧/FF].
add to the program.	Repeat steps 2 through 4.
clear the last track	Press [DEL].
clear all programmed tracks	Press [■ CLEAR]. "CLEAR ALL?" is displayed. Within 5 seconds, press the button again to clear all tracks.
cancel program play mode	Press [PROGRAM] in the stop mode. Programmed contents will be saved in memory. • Your program is retained in memory for about 1 week while the system is unplugged.
replay your program	① Press [PROGRAM]. ② Press [CD▶/].

When "FULL" appears

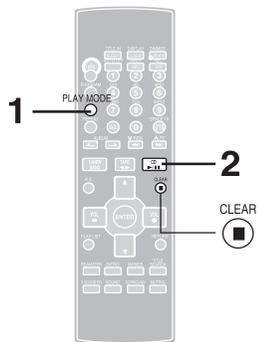
No further tracks can be programmed.

If you program a track not on your CDs

The track is initially programmed, but during program play, the player will skip that track and will continue playing from the next programmed item.

Note

- During program play, you can search forward or backward only within the current track.
- During program play, skipping is always in the programmed order, whether forward or backward.
- Even if you create a program that contains both CD-DA and MP3/WMA, only the CD-DA tracks are played.

A

Other ways of playing CD's

By remote control only

Preparation: Press [CD▶/||] and then [■ CLEAR].

A Random play (CD-DA)

Play all the tracks on a single CD or all the tracks on all the CDs randomly.

1 Press [PLAY MODE] to select the desired mode.

Every time you press the button:

1 DISC → ALL DISC → 1 TRACK → 1 ALBUM (MP3/WMA)
 ↑ A RANDOM (CD-DA) ← 1 RANDOM (CD-DA) ←

1 DISC RANDOM	1-Disc Random mode
A DISC RANDOM	All-Disc Random mode

2 Press [CD ▶/||].

Random play will start.

To stop play

Press [■ CLEAR].

To cancel

While stopped, press [PLAY MODE] to select "1 DISC" or "ALL DISC".

Note

- You cannot skip to tracks which have already been played.
- You can search forward or backward only within the current track.

B Repeat play

Repeat play according to the current play mode.

Before or during play:

Press [REPEAT].

"REPEAT ON" and "↺" are displayed.

To cancel repeat play

Press [REPEAT] once again. "REPEAT OFF" is displayed and "↺" is cleared.

Playing one track repeatedly

- Press [PLAY MODE] to select "1 TRACK".
- Press [◀◀ √/REW] or [▶▶ √/FF] to select the track you want.
- Press [REPEAT].
- Press [CD ▶/||].

C INTRO function (MP3/WMA)

You can find an album by listening to the first track of all albums in the current disc for 10 seconds each.

1 Press [INTRO].

INTRO function starts.

(INTRO function is cancelled after playing the first track in the last album on the current disc.)

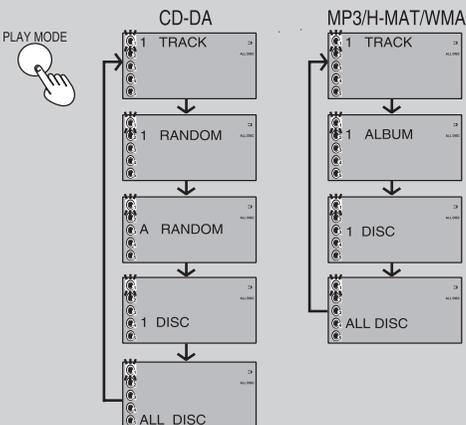
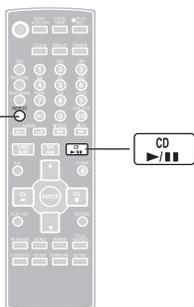
2 While your desired album is playing

Press [CD ▶/||]

Play continues from the first track of the album.

To stop during the process

Press [INTRO] or [■ CLEAR]

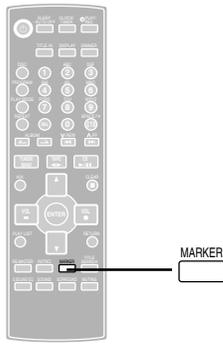
1**2****B****C****1****2**

Other ways of playing CD's

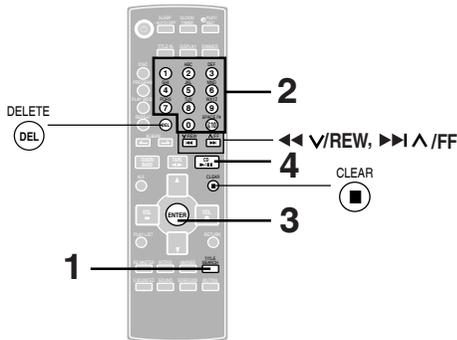
By remote control only

Preparation: Press [CD/▶/||] and then [■ CLEAR].

A



B



A Marking a track

You can mark one track each on the discs loaded so that you can start play from them later.

To mark a track number

While playing the track you want to mark

Hold down [MARKER] until "STORING" blinks on the display.

The selected track is stored in the marker of the current disc.

- If a track is already stored in the marker, it will be replaced next time you store a new track in the same marker.

To recall a marked track number

During play or stop:

Press [MARKER] to recall a marker.

Play starts from the track recalled.

Note

- The marker memory is cleared when you open the CD tray.
- For CD-DA, you cannot use this function during program, 1-Disc Random and All-Disc Random play.

1



2



3



4



B Title search function (MP3/WMA)

You can enter up to 10 characters for album or title search.

1 Press [TITLE SEARCH] to select "ALBUM" or "TRACK".

Each time you press the button:

ALBUM → TRACK
 ↑ Original Display ↓

ALBUM Search for an album

TRACK Search for a track

2 Enter the characters of the keyword for the track title. (▶ page 12)

3 Press [ENTER].

Track title search starts.

The matched track title is displayed.

- To see matches before and after the current one, press [◀◀ V/REW] or [▶▶ ^/FF].
- When there is no match for the searched keyword, the display shows "NOT FOUND".

4 Press [CD ▶/||].

Play will start. (Title search mode is cancelled.)

To cancel partway through

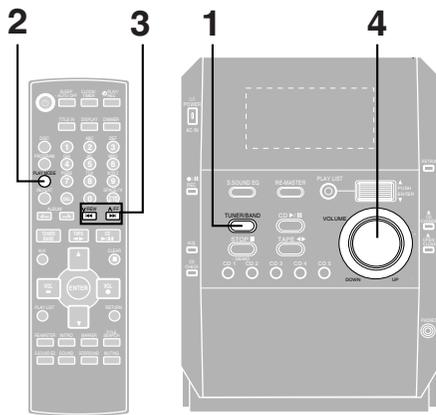
Press [■ CLEAR].

Note

The unit records the title you entered.

Press [DEL] to delete unwanted characters.

The radio: manual tuning



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

The unit comes on automatically.

Every time you press the button: FM ↔ AM

- 2 Press [PLAY MODE] on the remote control to select "MANUAL".

Every time you press the button:

MANUAL ↔ PRESET

- 3 Press [◀◀ √/REW] or [▶▶ √/FF] to select the frequency of the required station.

"ST" is displayed when a stereo FM broadcast is being received.

- 4 Adjust the volume.



TUNER/BAND

TUNER

FM 87.50 MHz



PLAY MODE

TUNER

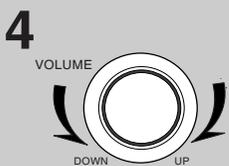
MANUAL
FM 87.50 MHz



√/REW √/FF

TUNING

FM 9.980 MHz

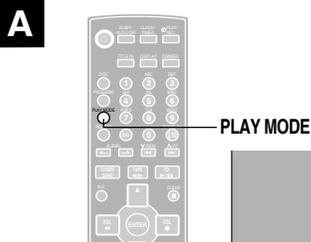


VOLUME

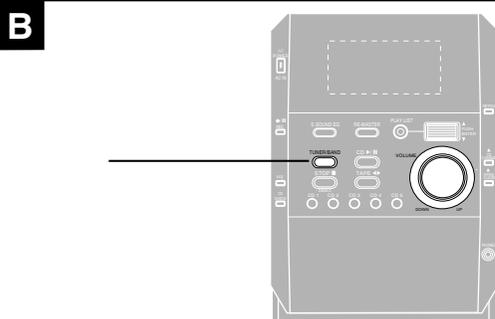
DOWN UP

VOL

-30dB



PLAY MODE



Auto tuning

Press and hold [◀◀ √/REW] or [▶▶ √/FF] for a moment until the frequency starts changing rapidly. The unit begins auto tuning, stopping when it finds a station.

- Auto tuning may not function when there is excessive interference.
- To cancel auto tuning, press [◀◀ √/REW] or [▶▶ √/FF] once again.

A If noise is excessive in FM

Press and hold [PLAY MODE] to display "MONO".

This mode improves sound quality if reception is weak, but broadcasts will be heard in monaural.

To cancel, press and hold [PLAY MODE] again.

MONO is also cancelled if the frequency is changed.

Turn off "MONO" for normal listening.

B FM allocation setting

By main unit only

This system allows you to receive FM broadcasts allocated in 0.1 MHz steps.

To change the step to 0.1 MHz

- ① Press and hold [TUNER/BAND].
After a while the display flashes with the current minimum frequency.
- ② Continue to hold [TUNER/BAND] down.
When the minimum frequency changes, release the button. To cancel, repeat the above steps.

The radio: preset tuning

By remote control only

There are two methods of pre-setting stations.

Automatic presetting: All the stations the tuner can receive are preset.

Manual presetting: You can select the stations to preset and the order they are preset in.

Up to 15 stations each can be set in the FM and AM bands.

Preparation: Press [TUNER/BAND] to select "FM" or "AM".

A Automatic pre-setting

Do the following once each for FM and AM.

Preparation:

Tune to the frequency where pre-setting is to begin (page 10).

Press and hold [PROGRAM].

The tuner presets all the stations it can receive into the channels in ascending order. When finished, the last station memorized is tuned in.

B Manual pre-setting

Pre-set the stations one at a time.

- ① Press [PROGRAM] then press [◀◀ V/REW] or [▶▶ ^/FF] to tune to the required station.
- ② Press [PROGRAM] then press [◀◀ V/REW] or [▶▶ ^/FF] to select a channel.
- ③ Press [PROGRAM].

The station occupying a channel is erased if another station is preset in that channel.

C Selecting channels

Press the numeric buttons to select the channel.

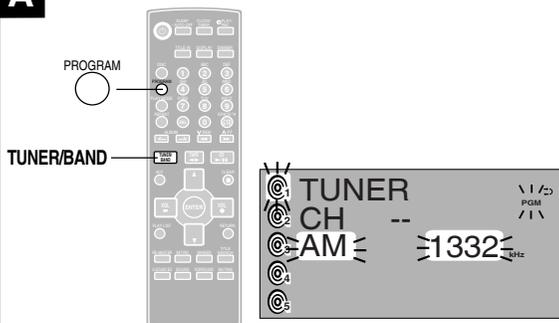
For channels 1 to 9, press the corresponding number.

For channels 10 to 15, press [10], then the two digits.

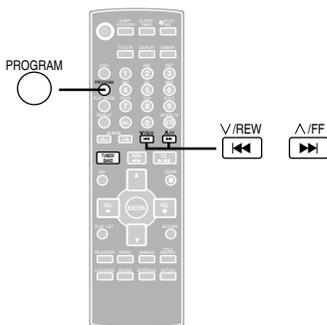
OR

- ① Press [PLAY MODE] to select "PRESET".
- ② Press [◀◀ V/REW] or [▶▶ ^/FF] to select the channel.

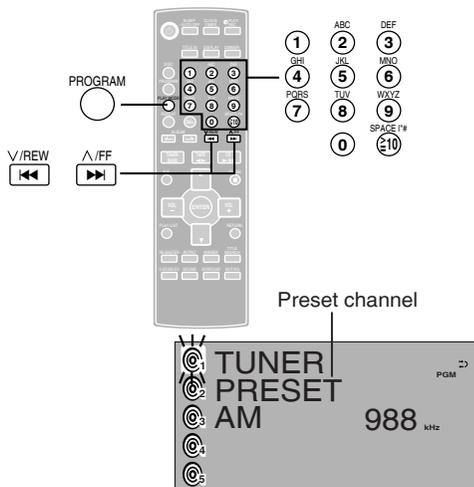
A



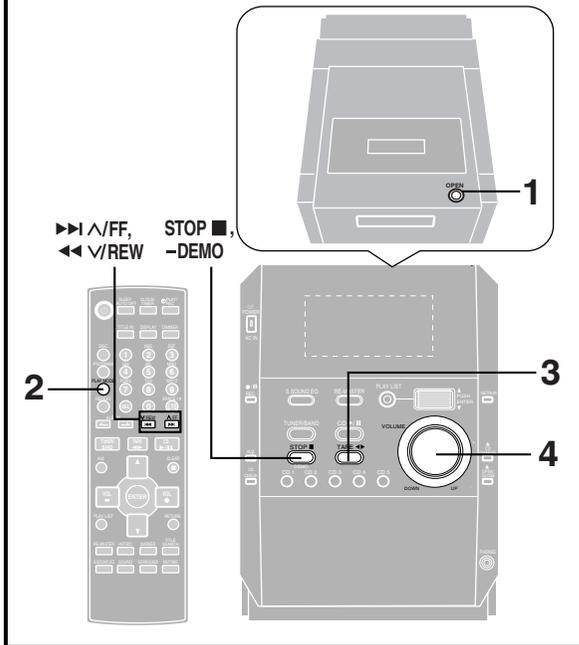
B



C



Cassette tapes



1 Press [▲ OPEN], insert a cassette with the tape facing out.

When the button is pressed, the unit comes on automatically. Make sure the cassette is fully inserted and close the lid by hand.

2 Press [PLAY MODE] on the remote control to select the reverse mode.

Every time you press the button:



↔ One side is played.

↔↔ Both sides are played.

↔↔↔ Both sides are played repeatedly until [STOP ■, -DEMO] is pressed.

3 Press [TAPE ◀▶] to start playback.

Every time you press the button : ◀ R ↔ F ▷

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

◀ R : The reverse side will play.

4 Adjust the volume.

To stop tape playback

Press [STOP ■, -DEMO].

One-touch play

When the system is OFF and a tape is already inserted, play starts automatically when you press [TAPE ◀▶].

Cassette tape selection and care

Use normal position tapes.

High position and metal position tapes can be played, but the unit will not be able to do full justice to the characteristics of these tapes.

- Tapes exceeding 100 minutes are thin and can break or get caught in the mechanism.
- Tape slack can get caught up in the mechanism and should be wound up before the tape is played.
- Endless tapes can get caught up in the deck's moving parts if used incorrectly. Use tapes appropriate to this unit's auto-reverse mechanism.

To fast-forward or rewind the tape

Press [◀◀ √/REW] or [▶▶ √/FF] in the stop mode.

Tape direction	To rewind	To fast-forward
F ▷	[◀◀ √/REW]	[▶▶ √/FF]
◀ R	[▶▶ √/FF]	[◀◀ √/REW]

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

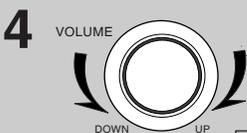
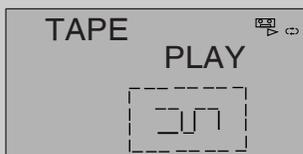
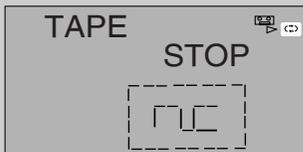
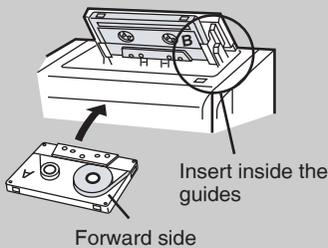
TPS finds the beginning of a track and resumes play from there. Each press increases the number of tracks skipped, up to a maximum of 9.

Press [◀◀ √/REW] or [▶▶ √/FF] during play.

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



Making a recording

Before recording

Types of tapes which can be recorded correctly
 Use normal position tapes.
 High position and metal position tapes can be used, but the unit will not be able to record or erase them correctly.

Erasure prevention A
 The illustration shows how to remove the tabs to prevent recording. To record on the tape again, cover as shown.

The effect of volume and sound quality on recording

These have no effect on recording.
 They can be changed for playback.

- To erase a recorded sound B**
- 1 Press [TAPE ◀▶] and then [STOP ■, -DEMO].
 - 2 Insert the recorded cassette with the tape facing in.
 - 3 Press [PLAY MODE] on the remote control to select reverse mode.
 - 4 Press [●/|| REC].

Your attention is drawn to the fact that recording prerecorded tapes or discs or other published or broadcast material may infringe copyright laws.

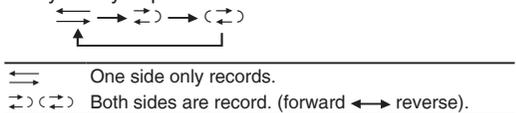
C Preparatory steps

Do these steps before each recording.
 Wind up the leader tape so recording can begin immediately.
Preparation: Press [TAPE ◀▶] then [STOP ■, -DEMO] to select tape as the source.

- 1 **Press [▲ OPEN], insert a cassette with the tape facing in.**
 Make sure the cassette is fully inserted and close the lid by hand.
 The tape direction is automatically set to "F ▷".

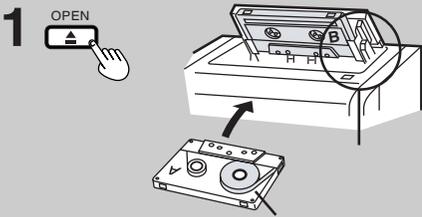
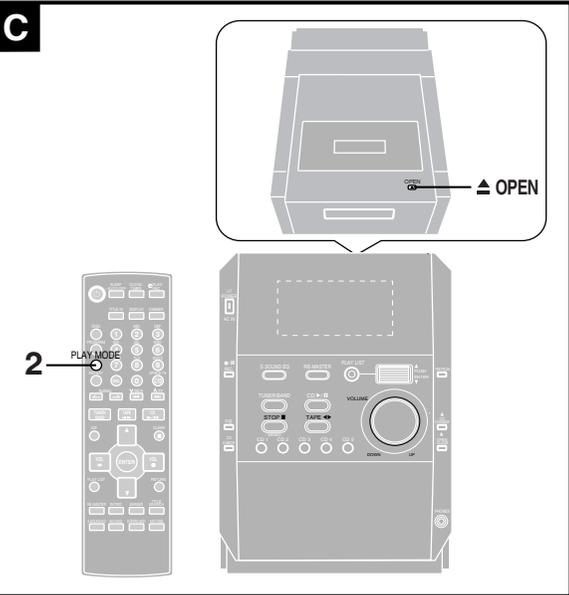
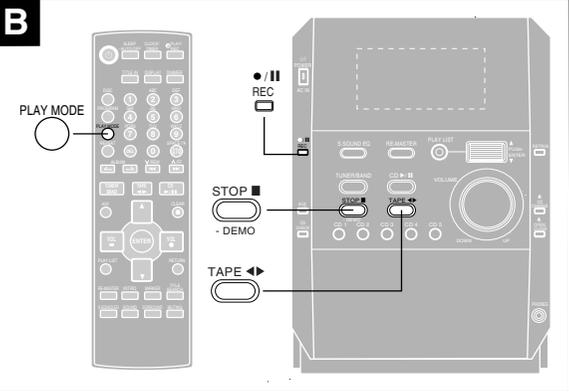
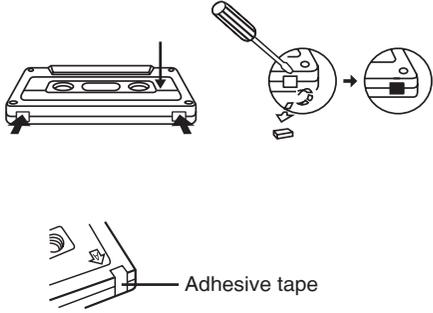
To record on the reverse side
 Press [TAPE ◀▶] twice, then press [STOP ■, -DEMO].

- 2 **Press [PLAY MODE] on the remote control to select the reverse mode.**
 Every time you press the button:



"↔↔" automatically changes to "↔" when [●/|| REC] is pressed.

A To protect tapes against further recording.



Making a recording

A Recording CDs

Preparations:

- Insert the CD(s) you want to record.
- Press [CD/▶/||] and then [■ CLEAR].

1 Press [PLAY MODE] to select your desired mode.

Every time you press the button:

1 DISC → ALL DISC → 1 TRACK → 1 ALBUM (MP3/WMA)
 ← A RANDOM (CD-DA) ← 1 RANDOM (CD-DA) ←

1 DISC	1-Disc mode
ALL DISC	All-Disc mode
1 TRACK	1-Track mode
1 ALBUM	1-Album mode (MP3/WMA only)
1 DISC RANDOM	1-Disc Random mode (CD-DA only)
A DISC RANMOM	All-Disc Random mode (CD-DA only)

- If you selected 1 ALBUM, press [▶ ALBUM] or [◀ ALBUM] to select the album.

2 Press [●/|| REC] to start recording.

The CD starts.

- While recording, if a track is cut off in the middle at the end of the front side, it is re-recorded from the beginning, on the reverse side. **B**
- At the end of the reverse side, recording stops and the current track will be interrupted.

If the tape finishes before the CD

The CD continues playing. Press [STOP ■, -DEMO] to stop it.

To record certain tracks

- ① Program the tracks (▶ page 16).
- ② Press [●/|| REC] to start recording.

C Recording from the radio

1 Tune to the required station.

(▶ page 10 or 11)

2 Press [●/|| REC] to start recording.

To cut an unnecessary part while recording

- ① Press [●/|| REC] during the unnecessary part. The cassette deck will go into the stop mode.
- ② Press [●/|| REC] to resume recording again. Recording will continue in the same direction as before.

Note

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

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

Press and hold [PLAY MODE] while recording.

Every time you press the button:

BP1 ↔ BP2

Select the position where there is less noise.

Common recording operations

To stop recording

Press [STOP ■, -DEMO].

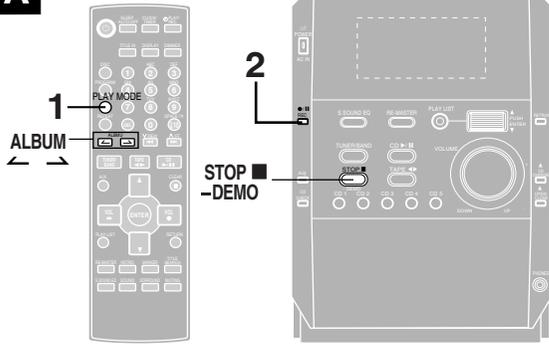
When recording CDs, the CD also stops.

To stop recording temporarily

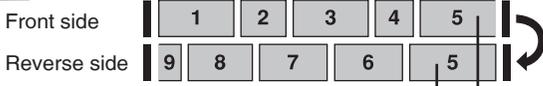
Press [●/|| REC].

To resume recording, press [●/|| REC].

A

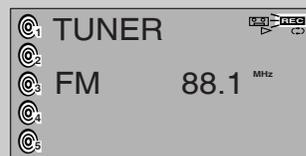
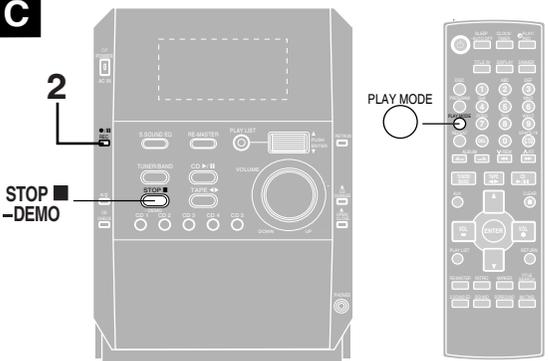


B



The interrupted track is re-recorded in its entirety on the reverse side

C



Using the sound quality settings

By remote control only

A Preset EQ and Manual EQ

You can choose one of four types of sound quality with Preset EQ or enhances the bass and treble effect of the sound with Manual EQ.

1 Press and hold [SOUND] to select "MANUAL EQ" or "PRESET EQ".

Each time you press and hold the button:
MANUAL EQ ↔ PRESET EQ

2 Press [SOUND] to select a setting.

Each time you press the button:

For "PRESET EQ"

HEAVY → CLEAR → SOFT → VOCAL
EQ-OFF (cancelled)

HEAVY Adds punch to rock

CLEAR Clarifies higher sounds

SOFT For background music

VOCAL Adds gloss to vocal

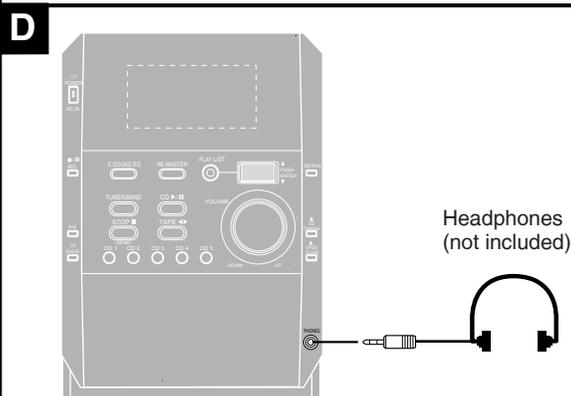
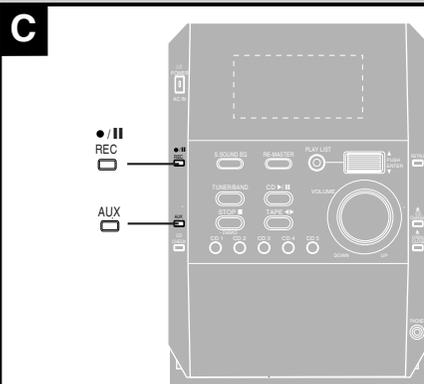
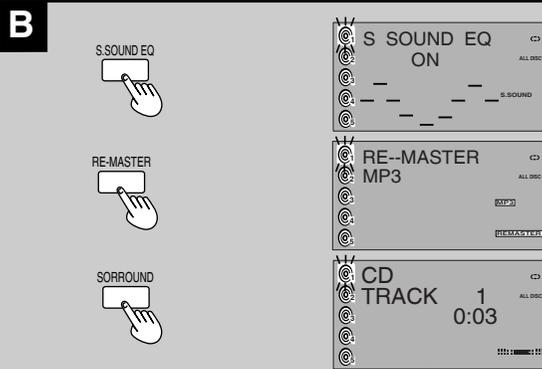
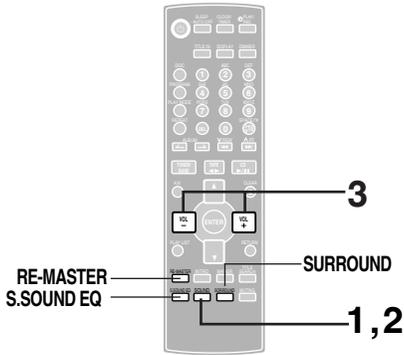
For "MANUAL EQ"

BASS → TREBLE

Original Display

For "MANUAL EQ" only

3 Press [VOL -] or [+ VOL] to adjust to the desired level.



Using the sound quality settings

By remote control only

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EQ-OFF (cancelled)

HEAVY Adds punch to rock

CLEAR Clarifies higher sounds

SOFT For background music

VOCAL Adds gloss to vocal

For "MANUAL EQ"

BASS → TREBLE

Original Display

For "MANUAL EQ" only

3 Press [VOL -] or [+ VOL] to adjust to the desired level.

B Enhancing the sound quality

Press [S.SOUND EQ]. (The button light is on.)

B Re-master - Enjoying more natural sound

For MP3/WMA only

Disc recorded at 32kHz, 44.1kHz or 48kHz

This feature reproduces the frequencies lost during recording to give you a sound closer to the original.

Press [RE-MASTER]. (The button light is on.)

B Using the "live" effect (SURROUND)

Press [SURROUND] to add natural width and depth to the stereo sound. ("■■■■■■■■" indicator will appear.)

- When listening through headphones, the effect is less discernible than through the unit's speakers.
- If interference in FM stereo reception increases, cancel the surround sound effect.

C Using an external unit

See page 7 for external unit connection.

① Press [AUX].

The unit comes on.

② For listening: Proceed to step ③.

For recording: Press [●/|| REC] (recording starts).

③ Start playback from the external source. (For details, refer to the external unit's instruction manual.)

D Listening with headphones

Reduce the volume level, and connect the headphones. Plug type: 3.5 mm stereo.

Note

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

A Auto-off function

When CD or tape is selected as the source
To save power, the unit turns off if it is left unused for 10 minutes.
This function does not work if the source is tuner or AUX.

Press and hold [SLEEP, -AUTO OFF].

"AUTO OFF" is shown on the display.

To cancel

Press and hold [SLEEP, -AUTO OFF] again to clear "AUTO OFF" from the display.

For your reference

The setting is maintained even if the unit is turned off.
"AUTO OFF" disappears from the display if either tuner or AUX is selected as the source but continues to function normally.

B Turning the demo function off

If the clock has not been set, a demonstration of the display is shown when the unit is switched to standby mode.
This function is set to on at the time of purchase.

During standby mode

Press and hold [STOP ■, -DEMO] until "NO DEMO" is displayed.

The display changes each time the button is held down.
NO DEMO (off) ↔ DEMO ON (demo on)

To show a demonstration of the display

Press and hold [STOP ■, -DEMO] until a demonstration of the display is shown.

Note

- You cannot turn demo function off when the unit is on.
- DEMO function cannot be turned on when Dimmer is on.

Convenient functions

C To dim the display panel

Use this when you are going to sleep or any other time you would prefer the panel to be dimmer.

Press [DIMMER].

The display dims and all lights are turned off except for [AC IN] indicator.

To cancel

Press [DIMMER] again.

D To mute the volume

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

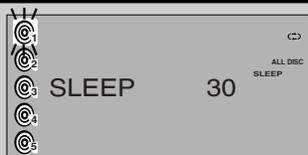
Press [MUTING].

Press the button again to cancel. ("MUTING" goes out.)
Muting can also be cancelled by lowering the volume all the way to "--dB".

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

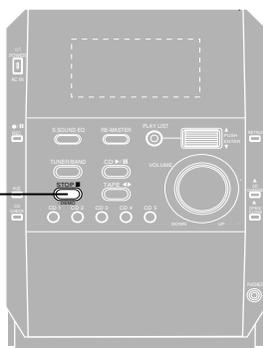
A

SLEEP
- AUTO OFF



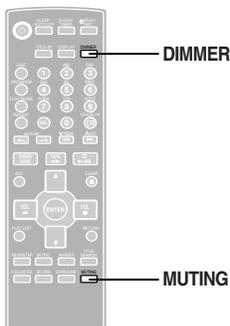
B

STOP ■, -DEMO



C

DIMMER

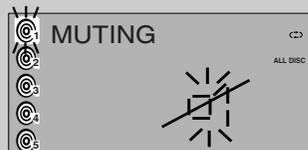


DIMMER

MUTING

D

MUTING



Using the timers

By remote control only

Using the play/record timer

The timer has two functions. It can be set to on at a certain time to wake you up, or it can be set to record from the radio or from the aux source.

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

Preparations:

Turn the unit on and set the clock (➔ page 9).

- **For the play timer**, prepare the music source you want to listen to; tape, CD, radio or aux, and set the volume.
- **For the record timer**, insert the cassette and tune to the radio station (➔ page 10) or select the aux source (➔ page 26).

1 Press [CLOCK/TIMER] to select the timer function.

Every time you press the button:

CLOCK → → → Original display ←

- to set the play timer
- to set the record timer

Setting the start and finish times

2 Within 7 seconds Press [] or [] to select the finishing time.

➔ [CLOCK/TIMER]

3 Within 7 seconds Press [] or [] to select the starting time.

➔ [CLOCK/TIMER]

The start and finish times are now set.

Turning the timer on

4 Press [].

Every time you press the button:

→ → no display (off) ←

- to turn the play timer on
- to turn the record timer on

The indicator doesn't appear if the start and finish times or the clock haven't been set.

5 Press [] to turn the unit off.

The unit must be off for the timers to operate.

Play timer: Play will start in the set condition at the set time with volume increasing gradually to the set level.

Record timer: The unit comes on 30 seconds before the set time with the volume muted.

To cancel the timer

Press [] to clear the timer indicators from the display. The timer comes on at the set time everyday if the timer is on.

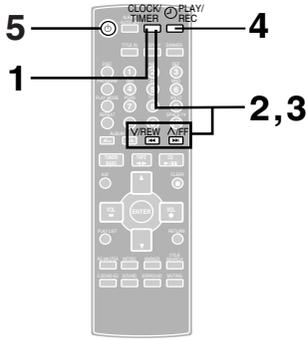
To change the play/record times (when unit is on)

Do steps 1, 2, 3, and 5.

To change the source or volume (when unit is on)

- 1 Press [] to clear the timer indicator from the display.
- 2 Make changes to the source or volume.
- 3 Do steps 4 to 5.

(Continued on next page)

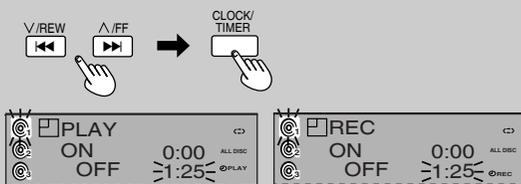


1

CLOCK/
TIMER



2



3



4



5



Using the timers

By remote control only

A Using the play/record timer

To check settings

While the unit is on and the “⏪PLAY” or “⏸REC” indicator is on, press [CLOCK/TIMER] so the indicator appears on the display.

The settings are displayed in the following order:

For play timer	For record timer
1. Play start time	1. Recording start time
2. Play finish time	2. Recording finish time
3. Play source	3. Recording source
4. Playback volume	

You can check the settings even when the system is OFF by pressing [CLOCK/TIMER] twice.

To enjoy the desired source after the timer setting is completed

The volume level (for play timer) and music source are stored in the timer memory and the timer will start in these preset

conditions. However, the CD numbers do not get stored in the timer memory.

- ① After step 4, start playing the desired source.
- ② Reset the CD numbers if you have changed any of them, confirm that a CD or cassette is inserted, then press [f] to put the unit on standby.

Note

- If you turn the unit off and on again while a timer is functioning, the finish time setting will not be activated.
- If the unit is on, the timer will not function. The unit must be in the standby mode.
- If AUX is selected as the source, when the timer comes on, the system turns on and engages AUX as the source. If you want to playback or record from a connected unit, set the other unit's timer to the same time. (See the other unit's instruction manual.)

B Using the sleep timer

Set the unit to stop and turn off after a certain time.

While enjoying the desired source:

Press [SLEEP] to select the desired time.

Every time you press the button:

SLEEP 90 → SLEEP 30 → SLEEP 60 → SLEEP 120
↑ SLEEP OFF ←

To cancel the sleep timer

Press [SLEEP] to select “SLEEP OFF”.

To confirm the remaining time (only while unit is ON)

Press [SLEEP].

The remaining time is shown for about 5 seconds.

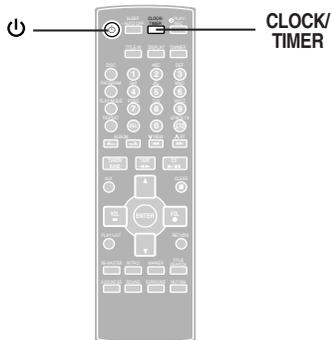
To change the time remaining during operation

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

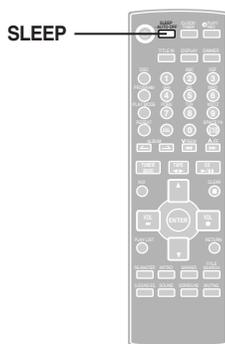
Note

- The sleep timer turns OFF automatically the moment you attempt to edit-record a CD.
- The play and sleep timer or the record and sleep timer can be used together.
The sleep timer always has priority. Be sure not to overlap timer settings.

A



B



Specifications

■ AMPLIFIER SECTION

RMS Power output	
10% Total harmonic distortion	
1 kHz, both channels driven	
(Low channel)	35 W per channel (6 Ω)
8 kHz, both channels driven	
(High channel)	35 W per channel (6 Ω)
Total Bi-Amp power	70 W per channel
Input sensitivity	
AUX	250 mV
Input Impedance	
AUX	11.8 kΩ

■ FM TUNER SECTION

Frequency range	87.9 - 107.9 MHz
Sensitivity	1.8 μV (IHF)
S/N 26 dB	1.5 μV
Antenna terminal(s)	75 Ω (unbalanced)

■ AM TUNER SECTION

Frequency range	530 - 1710 kHz
Sensitivity	
S/N 26 dB (at 999 Hz)	560 μV/m

■ CASSETTE DECK SECTION

Track system	4 track, 2 channel
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 100 kHz
Tape speed	4.8 cm/s
Overall frequency response	
(+3 dB, -6 dB at DECK OUT)	
NORMAL (TYPE I)	35 Hz - 14 kHz
S/N	50 dB (A weighted)
Wow and flutter	0.18% (WRMS)
Fast forward and rewind time	
	Approx. 120 seconds with
	<small>C-60 cassette tape</small>

■ CD SECTION

Disc played	
CD/MP3/WMA	8cm/12cm, CD-R/RW
Sampling frequency	44.1 kHz
Decoding	16 bit linear
Pickup	

Beam source/wavelength

Semiconductor laser/780 nm

Number of channels	Stereo
Frequency response	20 Hz - 20 kHz (+1, -2 dB)
Wow and flutter	Below measurable limit
Digital filter	8 fs
D/A converter	MASH (1 bit DAC)
MP3	
Bit rate	32 kbps - 320 kbps
Sampling frequency	32 kHz, 44.1 kHz, 48 kHz
WMA	
Sampling frequency	32kHz, 44.1kHz, 48kHz

■ SPEAKER SECTION

Type	2 way 2 speaker system
Speaker(s)	
Woofer	10 cm cone type
Tweeter	6 cm cone type
Impedance	
HIGH	6 Ω
LOW	6 Ω
Input power	
HIGH	70 W (Music)
LOW	70 W (Music)
Output sound pressure level	80 dB/W (1.0 m)
Cross over frequency	3.5 kHz
Frequency range	55 Hz - 31 kHz (-16 dB) 75 Hz - 26 kHz (-10 dB)

Dimensions (W x H x D)	155 x 250 x 258 mm
Mass	2.3 kg

■ GENERAL

Power supply	AC 120 V, 60 Hz
Power consumption	130 W
Dimensions (W x H x D)	179 x 247 x 378 mm
Mass	5.4 kg

Power consumption in standby mode: Approx. 0.6 W

Note

- Specifications are subject to change without notice.
Mass and dimensions are approximate.
- Total harmonic distortion is measured by the digital spectrum analyzer.
- The labels "HIGH (HF)" and "LOW (LF)" on the rear of the speakers refer to High frequency and Low frequency.

When moving the unit

- Remove all discs.
- Press [⏻/⏪] to turn the unit off.
- Disconnect the AC mains lead.

Maintenance

For a cleaner crisper sound

Clean the heads regularly to assure good quality playback and recording.
Use a cleaning tape (not included).
If the surfaces are dirty

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

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

This product may receive radio interference caused by mobile telephones during use. If such interference is apparent, please increase separation between the product and the mobile telephone.

Product Service

- Damage requiring service** - The unit should be serviced by qualified service personnel if:
 - The AC power supply cord or the plug has been damaged; or
 - Objects or liquids have gotten into the unit; or
 - The unit has been exposed to rain; or
 - The unit does not operate normally or exhibits a marked change in performance; or
 - The unit has been dropped or the cabinet damaged.
- Servicing** - Do not attempt to service the unit beyond that described in these operating instructions. Refer all other servicing to authorized servicing personnel.
- Replacement parts** - When parts need replacing ensure the servicer uses parts specified by the manufacturer or parts that have the same characteristics as the original parts. Unauthorized substitutes may result in fire, electric shock, or other hazards.
- Safety check** - After repairs or service, ask the servicer to perform safety checks to confirm that the unit is in proper working condition.

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 information or assistance with product operation:

In the U.S.A., refer to "Customer Services Directory" on page 27.

For assistance in the continental U.S.A in obtaining repairs please ship the product to:

Panasonic Services Company - Customer Servicenter
Suite B 4900 George McVay Drive, MacAllen, TX 78503
In Puerto Rico contact the Panasonic Sales Company.
Tel. (787) 750-4300 Fax. (787) 768-2910

When shipping the unit carefully pack and send it prepaid, adequately insured and preferably in the original carton. Include a letter detailing the complaint and provide a day time phone number where you can be reached.

IF REPAIR IS NEEDED DURING THE WARRANTY PERIOD THE PURCHASER WILL BE REQUIRED TO FURNISH A SALES RECEIPT/ PROOF OF PURCHASE INDICATING DATE OF PURCHASE, AMOUNT PAID AND PLACE OF PURCHASE. CUSTOMER WILL BE CHARGED FOR THE REPAIR OF ANY UNIT RECEIVED WITHOUT SUCH PROOF OF PURCHASE.

Also, the purchaser will be responsible for shipping the unit to the above address. In Canada, contact Panasonic Canada Inc. Customer Care Centre at 905-624-5505, or visit website (www.panasonic.ca), or an authorized Servicenter closest to you.

Warranty (U.S.A.)

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.,
Ave. 65 de Infantería, Km. 9.5
San Gabriel Industrial Park, Carolina, Puerto Rico 00985

Panasonic/Technics Audio Products Limited Warranty

Limited Warranty Coverage

If your product does not work properly because of a defect in materials or workmanship, Panasonic Consumer Electronics Company or Panasonic Sales Company (collectively referred to as "the warrantor") will, for the length of the period indicated on the chart below, which starts with the date of original purchase ("warranty period"), at its option either (a) repair your product with new or refurbished parts, or (b) replace it with a new or a refurbished product. The decision to repair or replace will be made by the warrantor.

Product or Part Name	Parts	Labor
Audio Products (except items listed below)	One (1) year	One (1) year
All Audio Racks (cabinets)	Thirty (30) days	Not Applicable
Technics Stand Alone Speakers, Subwoofer Speakers	Three (3) years	Three (3) years
USB Reader-Writer, Personal Computer Card Adapters (in exchange for defective item)	One (1) year	Not Applicable
Accessories: Headphones, Cartridges, Microphones, Adapters	Ninety (90) days	Ninety (90) days
Rechargeable Batteries, DVD-R/-RAM Discs (in exchange for defective item)	Ten (10) days	Not Applicable
SD Memory Cards, Rechargeable Battery Packs (in exchange for defective item)	Ninety (90) days	Not Applicable

During the "Labor" warranty period there will be no charge for labor. During the "Parts" warranty period, there will be no charge for parts. You must carry-in or mail-in your product during the warranty period. If non-rechargeable batteries are included, they are not warranted. This warranty only applies to products purchased and serviced in the United States or Puerto Rico. This warranty is extended only to the original purchaser of a new product which was not sold "as is". A purchase receipt or other proof of the original purchase date is required for warranty service.

Carry-In or Mail-In Service

For Carry-In or Mail-In Service in the United States call 1-800-211-PANA (1-800-211-7262) or visit Panasonic web site: <http://www.panasonic.com>
For assistance in Puerto Rico call Panasonic Sales Company (787)-750-4300 or fax (787)-768-2910.

Limited Warranty Limits And Exclusions

This warranty ONLY COVERS failures due to defects in materials or workmanship, and DOES NOT COVER normal wear and tear or cosmetic damage. The warranty ALSO DOES NOT COVER damages which occurred in shipment, or failures which are caused by products not supplied by the warrantor, or failures which result from accidents, misuse, abuse, neglect, mishandling, misapplication, alteration, faulty installation, set-up adjustments, misadjustment of consumer controls, improper maintenance, power line surge, lightning damage, modification, or commercial use (such as in a hotel, office, restaurant, or other business), rental use of the product, service by anyone other than a Factory Servicenter or other Authorized Servicenter, or damage that is attributable to acts of God.

THERE ARE NO EXPRESS WARRANTIES EXCEPT AS LISTED UNDER "LIMITED WARRANTY COVERAGE". THE WARRANTOR IS NOT LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OF THIS PRODUCT, OR ARISING OUT OF ANY BREACH OF THIS WARRANTY. (As examples, this excludes damages for lost time, travel to and from the servicenter, loss of media or images, data or other memory content. The items listed are not exclusive, but are for illustration only.) **ALL EXPRESS AND IMPLIED WARRANTIES, INCLUDING THE WARRANTY OF MERCHANTABILITY, ARE LIMITED TO THE PERIOD OF THE LIMITED WARRANTY.**

Some states do not allow the exclusion or limitation of incidental or consequential damages, or limitations on how long an implied warranty lasts, so the exclusions may not apply to you.

This warranty gives you specific legal rights and you may also have other rights which vary from state to state. If a problem with this product develops during or after the warranty period, you may contact your dealer or Servicenter. If the problem is not handled to your satisfaction, then write to the warrantor's Consumer Affairs Department at the addresses listed for the warrantor.

PARTS AND SERVICE WHICH ARE NOT COVERED BY THIS LIMITED WARRANTY ARE YOUR RESPONSIBILITY.

Customer Services Directory

Obtain Product Information and Operating Assistance; locate your nearest Dealer or Servicenter; purchase Parts and Accessories; or make Customer Service and Literature requests by visiting our Web Site at:

<http://www.panasonic.com/support>

or, contact us via the web at:

<http://www.panasonic.com/contactinfo>

You may also contact us directly at:

1-800-211-PANA (7262),

Monday-Friday 9 am-9 pm; Saturday-Sunday 10 am-7 pm, EST.

For hearing or speech impaired TTY users, TTY: 1-877-833-8855

Accessory Purchases

Purchase Parts, Accessories and Instruction Books online for all Panasonic Products by visiting our Web Site at:

<http://www.pasc.panasonic.com>

or, send your request by E-mail to:

npcparts@panasonic.com

You may also contact us directly at:

1-800-332-5368 (Phone) 1-800-237-9080 (Fax Only) (Monday – Friday 9 am to 8 pm, EST.)

Panasonic Services Company

20421 84th Avenue South, Kent, WA 98032

(We Accept Visa, MasterCard, Discover Card, American Express, and Personal Checks)

For hearing or speech impaired TTY users, TTY: 1-866-605-1277

Service in Puerto Rico

Matsushita Electric of Puerto Rico, Inc. Panasonic Sales Company

Factory Servicenter:

Ave. 65 de Infantería, Km. 9.5, San Gabriel Industrial Park, Carolina, Puerto Rico 00985

Phone (787)750-4300, Fax (787)768-2910

Troubleshooting guide

Before requesting service, make the below checks. 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 "Customer Services Directory" on page 27 if you reside in the U.S.A, or refer to the "Product information" on page 26 if you reside in Canada.

Common Problems

No sound.	Turn the volume up. The speaker cords may be shorted. Turn the unit off, check and correct the connections and turn the unit on. (➔ page 5)
Sound is unfixed, reversed or comes from one speaker only.	Check the speaker connections. (➔ page 5)
Humming heard during play.	An AC power supply cord or fluorescent light is near the cables. Keep other appliances and leads away from this unit's cables.
"ERROR" is displayed.	Incorrect operation performed. Read the instructions and try again.
"--:--" appears on the display.	You plugged the AC power supply cord in for the first time or there was a power failure recently. Set the time. (➔ page 8)
"F61" is displayed.	Check and correct the speaker cord connections. (➔ page 5) If this does not fix the problem, there is a power supply problem. Consult the dealer.

Listening to the radio

Noise is heard. The stereo indicator flickers or doesn't light. Sound is distorted.	Use an outdoor antenna. (➔ page 6)
A beat sound is heard.	Turn the TV off or separate it from the unit.
A low hum is heard during AM broadcast.	Separate the antenna from other cables and cords.

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. (➔ page 6) The TV antenna wire is too close to the unit. Separate the antenna wire of the TV set from the unit.
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Using the cassette deck

Poor quality sound.	Clean the heads.
Recording is not possible.	If the erasure prevention tabs have been removed, cover the holes with adhesive tape.

Playing discs

The display is wrong or play won't start.	The disc may be upside down. Wipe the disc. Replace the disc if it is scratched, warped, or non-standard. Condensation may have formed inside the unit due to a sudden change in temperature. Wait about an hour for it to clear and try again.
The total number of tracks displayed differs each time the same disc is inserted. Unusual sound is heard.	The disc may be scratched, or its data may be defective. Replace the disc.
CD-RW cannot be read.	The disc was incompletely formatted. Use the recording equipment to fully format the disc before recording.
"VBR-" is displayed instead of the remaining play time.	The unit cannot display the remaining play time for variable bit rate (VBR) tracks
"TAKE OUT/DISC" appears on the display.	There is a problem with the disc mechanism. (A power failure may have occurred.) The tray will open automatically. Remove the disc from the tray, and after ensuring there is no disc in the tray, close it. The unit will make the disc changing noises for a few moments and then it should operate normally.

The remote control

Remote control doesn't work.	Check that the batteries are inserted correctly. (➔ page 4) Replace the batteries if they are worn.
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