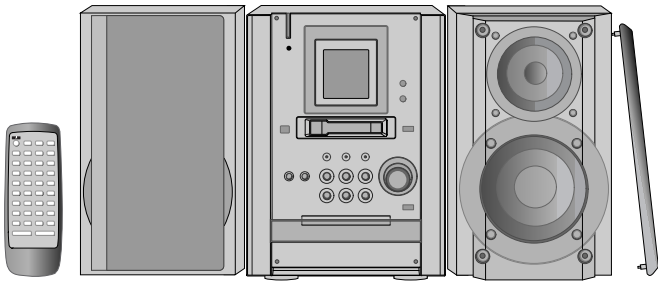


Panasonic®



CD Stereo System

Operating Instructions

Model No. **SC-PM25**



COMPACT
disc
DIGITAL AUDIO

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

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 system.

System	SC-PM25
Main unit	SA-PM25
Speakers	SB-PM25

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 _____

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.

CAUTION:

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

CAUTION!

DO NOT INSTALL, OR PLACE THIS UNIT, IN A BOOKCASE, BUILT-IN CABINET OR IN ANOTHER CONFINED SPACE. ENSURE THE UNIT IS WELL VENTILATED. TO PREVENT RISK OF ELECTRIC SHOCK OR FIRE HAZARD DUE TO OVERHEATING, ENSURE THAT CURTAINS AND ANY OTHER MATERIALS DO NOT OBSTRUCT THE VENTILATION VENTS.

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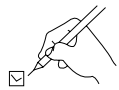
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References

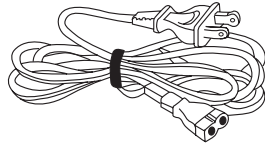
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Supplied accessories



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 contact 1-800-332-5368 or web site (<http://www.panasonic.com>).

- AC power supply cord 1 pc. (RJA0065-A)



- FM indoor antenna (RSA0006-L) 1 pc.



- AM loop antenna set 1 pc. (RSA0033A)



- Remote control transmitter 1 pc. (RAK-SC981WK)



- Remote control batteries 2 pcs.



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

CAUTION:

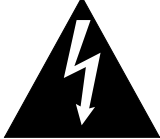
This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules.

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

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.

Before use

IMPORTANT SAFETY INSTRUCTIONS

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

Before use

Safety

- 1. Power source**—Connect the unit to a power source of the type described in these instructions or as marked on the unit.
- 2. Polarization**—The unit is equipped with a polarized power plug where one blade is wider than the other. This safety feature ensures that the plug fits into your household AC outlet only one way. If the plug doesn't fit one way, try reversing it. If the plug still doesn't fit, contact an electrician to replace the obsolete outlet. Do not attempt to defeat the safety purpose of the plug.
- 3. Power cord protection**—Route the AC power supply cord so that it will not be walked on or pinched by items placed on or against it. Never take hold of the plug or cord with wet hands. Always grasp the plug body firmly when connecting and disconnecting it.
- 4. Overloading**—When connecting the AC power supply cord, be careful not to overload the household AC outlet, extension cord, or outlet from any other device as this can result in fire or electric shock.
- 5. Nonuse periods**—Turn the unit off when it is not in use. Unplug the unit from the household AC outlet if it is not to be used for a long time. Unplug the unit during lightning storms.
- 6. Attachments and accessories**—Use only the attachments and accessories recommended in these operating instructions.

Installation

Placement

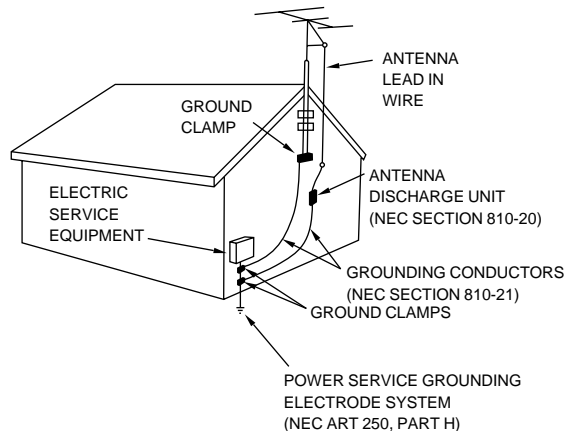
- 1. Ventilation**—Situate the unit so that it receives proper ventilation. Do not install in a confined space such as a bookcase or cabinet. Allow at least 10 cm (4 inches) clearance from the rear of the unit. To prevent the risk of electric shock or fire due to overheating ensure curtains and other materials do not obstruct the unit's ventilation.
- 2. Foreign material**—Ensure objects and liquids do not get into the unit. Avoid exposing the unit to excessive smoke, dust, mechanical vibration, and shock.
- 3. Magnetism**—Situate the unit away from equipment and devices that generate strong magnetic fields.
- 4. Stacking**—Do not place heavy objects on top of this unit.
- 5. Surface**—Place the unit on a flat, level surface.
- 6. Carts and stands**—Use the unit only with carts and stands recommended by the manufacturer. Move carts with care. Sudden stops, excessive force, and uneven surfaces can cause carts to overturn.
- 7. Wall and ceiling mounting**—Do not mount the unit on walls or ceilings unless specified in the instructions.



Environment

- 1. Water and moisture**—Do not use the unit near water, such as near a bathtub or swimming pool. Avoid damp basements.
- 2. Heat**—Situate the unit away from heat sources, such as radiators. Do not situate where temperatures fall below 5°C (41°F) or rise above 35°C (95°F).
- 3. Power lines**—Take care when setting up an outdoor antenna that it is not near overhead power lines, electric lights, or electrical circuits, and that there is no danger of the antenna falling on power lines, electric lights, or electrical circuits. When installing an outdoor antenna, take extreme care not to touch such power lines or circuits, as contact with them can be fatal.

- 4. Outdoor antenna grounding**—If you connect an outdoor antenna, ground the antenna system to protect against voltage surges and built-up static charges. Section 810 of the National Electrical Code, ANSI/NFPA No. 70-1990, provides information about 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. Refer to this diagram.



NEC—NATIONAL ELECTRICAL CODE

Maintenance

(See page 26 for details.)

Unplug the unit from the household AC outlet before cleaning. Clean with a damp cloth. Do not use abrasive pads, scouring powders, or solvents.

Service

- 1. Damage requiring service**—The unit should be serviced by qualified service personnel if:
 - (a) The AC power supply cord or the plug has been damaged; or
 - (b) Objects or liquids have gotten into the unit; or
 - (c) The unit has been exposed to rain; or
 - (d) The unit does not operate normally or exhibits a marked change in performance; or
 - (e) The unit has been dropped or the cabinet damaged.
- 2. Servicing**—Do not attempt to service the unit beyond that described in these operating instructions. Refer all other servicing to authorized servicing personnel.
- 3. 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.
- 4. Safety check**—After repairs or service, ask the servicer to perform safety checks to confirm that the unit is in proper working condition.

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.

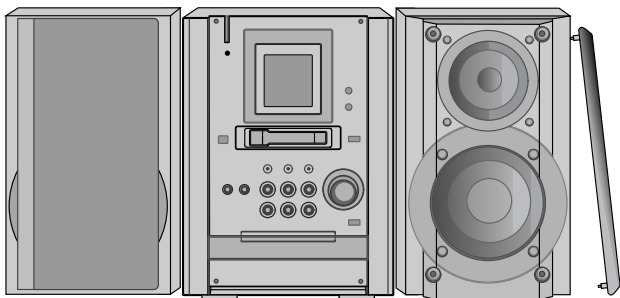
Once you have established a comfortable sound level:

- 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.

Placement of speakers

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

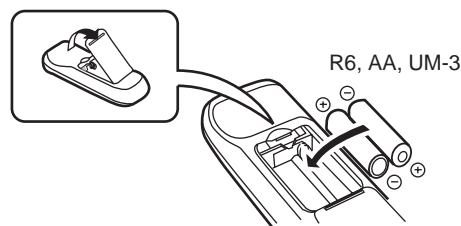


Notes

- Keep your speakers at least 10 mm ($13/32$ ") 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 speakers cones if you have taken the nets off.

Battery installation

Insert the batteries observing the correct polarities (+, -)



Use of batteries

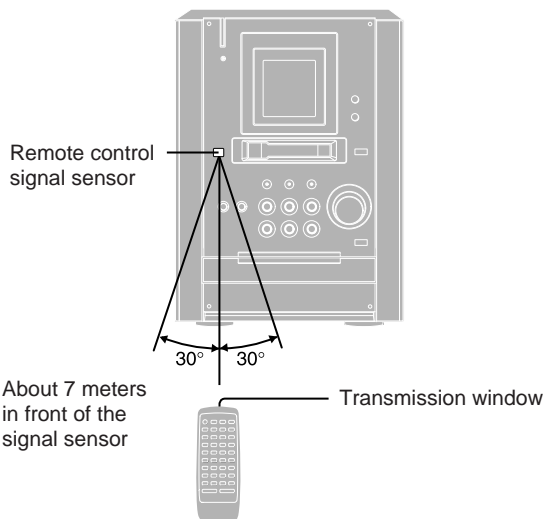
- Align the poles (+ and -) properly when inserting the batteries.
- Do not mix old and new batteries or different types of batteries.
- Do not recharge ordinary dry cell batteries.
- Do not heat or disassemble the batteries. Do not allow them to contact flame or water.
- Remove the batteries if the 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.

Correct method of use

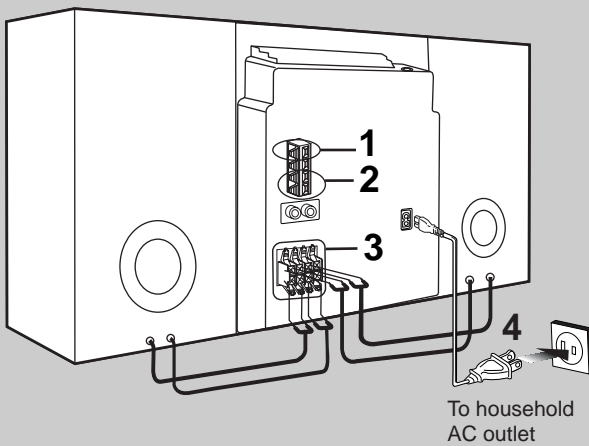


Operations notes

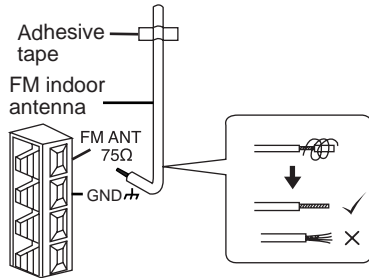
- Do not place obstacles between the remote control signal sensor and remote control unit.
- Do not expose the remote control signal sensor to direct sunlight or to the bright light of a fluorescent light.
- Take care to keep the remote control signal sensor and end of the remote control unit free from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

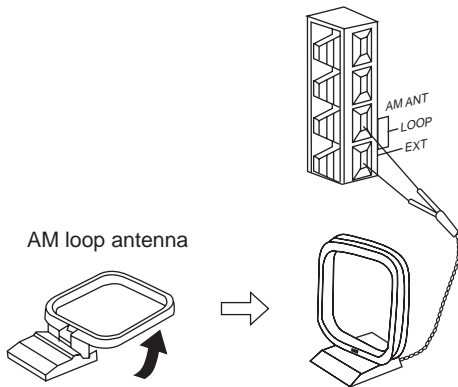
- Never place heavy items on top of the unit.
- Do not disassemble or reconstruct the unit.
- Do not spill water or other liquids into the unit.



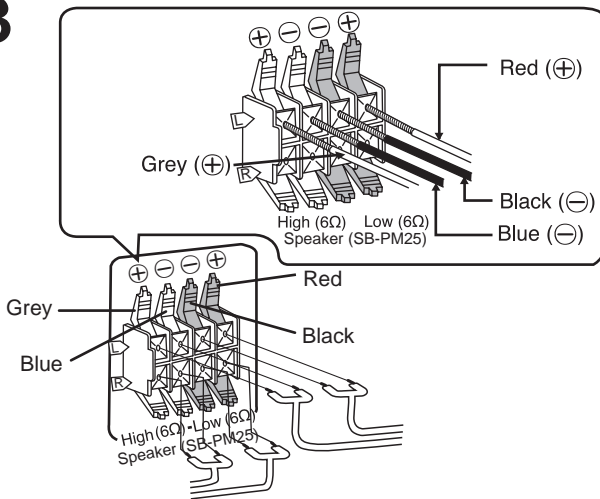
1



2



3



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.

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 the best reception :

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

2 Connect the AM loop antenna.

After attaching the antenna, turn on the system and tune in a broadcast station. Put the antenna where the reception is best and interference is minimal.

3 Connect the speaker cables.

Connect each end of the speaker cables to the terminal lever of the same color so (+) and (-) are correct. Never allow the exposed wires to contact each other when connected.

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 cord

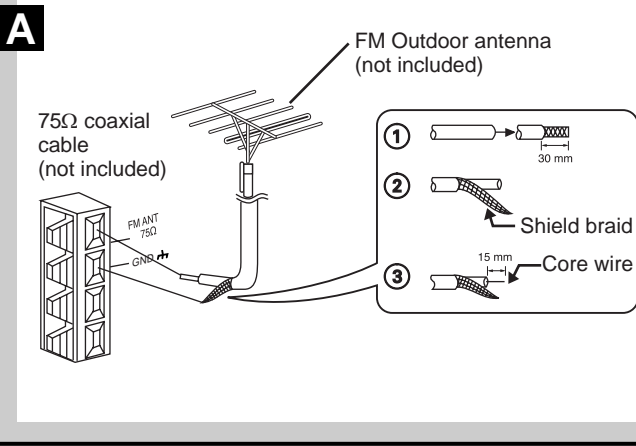
Note

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.

- ① Remove a piece of the outer vinyl insulator.
- ② Twist the shield braid.
- ③ Expose the core wire.

Note

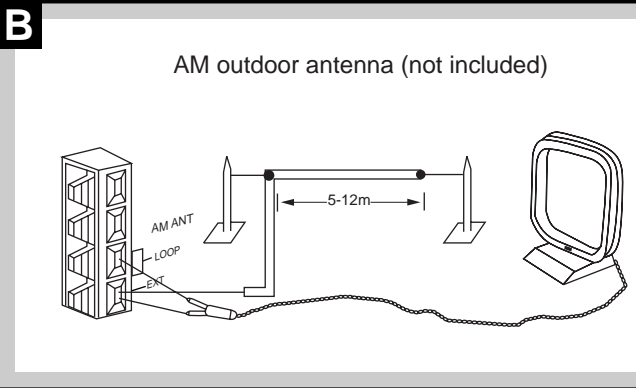
An outdoor antenna should be installed by a qualified technician only.

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 an electrical storm.

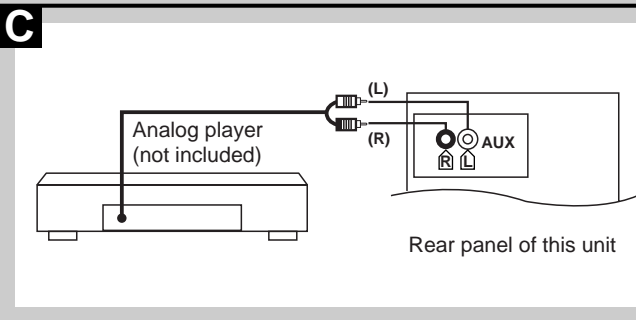


External unit connections

- 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 are to be connected.
- All peripheral components and cables sold separately.

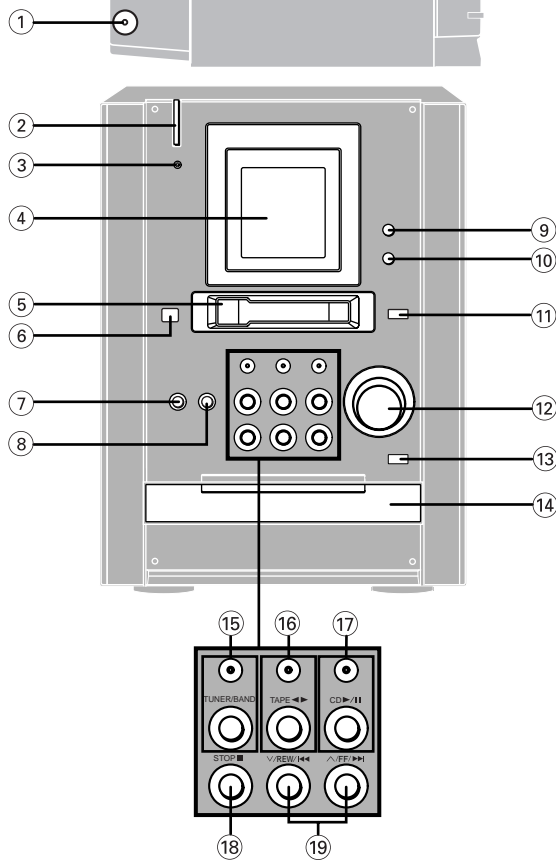
C Connecting analog equipment

An analog player with a built-in phono equalizer can be connected. When units other than those described are to be connected, please consult your audio dealer.



A

Top of the unit



Front panel controls

A Main unit

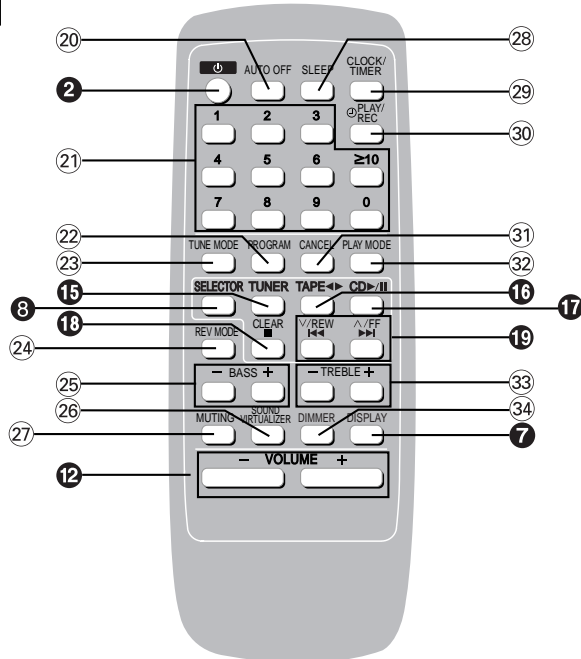
- ① Headphone jack (PHONES) 20
- ② Standby/on switch (POWER ϕ /I)
Press to switch the unit from on to standby mode or vice versa. In standby mode, the unit is still consuming a small amount of power.
- ③ AC supply indicator (AC IN)
This indicator lights when the unit is connected to the AC power supply.
- ④ Display
- ⑤ Cassette slot
- ⑥ Remote control signal sensor
- ⑦ Display select/demonstration button 9 (DISPLAY, -DEMO)
- ⑧ CD, Tape, Tuner, Aux select button (SELECTOR) 13, 18, 20
- ⑨ CD edit button (CD EDIT) 19
- ⑩ Recording start/pause button (●REC/II) 17, 18
- ⑪ Cassette eject button (EJECT \blacktriangle) 15
- ⑫ Volume control (VOLUME DOWN, UP) 10, 12, 15
- ⑬ CD tray open/close button (OPEN/CLOSE \blacktriangle) 12
- ⑭ CD Tray
- ⑮ Tuner/band select button and indicator (TUNER/BAND) 10
- ⑯ Cassette play/direction button and indicator (TAPE \blacktriangle) 15
- ⑰ CD play/pause button and indicator (CD \blacktriangleright /II) 12
- ⑱ CD, Tape stop button (STOP \blacksquare) 12, 15
- ⑲ Skip/search/preset channel button (\surd /REW/I \lll , \wedge /FF/ \ggg) 10, 12, 16

B Remote Control

Buttons such as ② function in exactly same way as the buttons on the main unit.

- ⑲ Auto power off button (AUTO OFF) 8
- ⑲ Numeric buttons 11, 12
- ⑲ Program button (PROGRAM) 14
- ⑲ Tuning mode select button (TUNE MODE) 10, 17
- ⑲ Reverse mode select button (REV MODE) 17, 18
- ⑲ Bass buttons (-BASS+) 20
- ⑲ Sound virtualizer button (SOUND VIRTUALIZER) 20
- ⑲ Muting button (MUTING) 9
- ⑲ Sleep timer button (SLEEP) 22
- ⑲ Clock/timer button (CLOCK/TIMER) 9, 21, 22
- ⑲ Play timer/recording timer button (ⓄPLAY/REC) 21, 22
- ⑲ Cancel button (CANCEL) 14
- ⑲ Play mode select button (PLAY MODE) 13
- ⑲ Treble buttons (-TREBLE+) 20
- ⑲ Dimmer button (DIMMER) 9

B



C Auto power-off

by remote control only

When "CD" or "TAPE" is selected as the source
To save power, the unit turns off if it is left unused for 10 minutes.

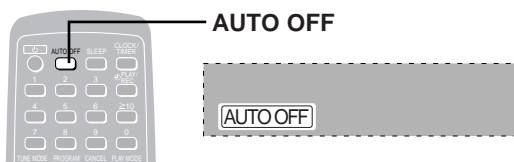
Press [AUTO OFF].
"AUTO OFF" is displayed.

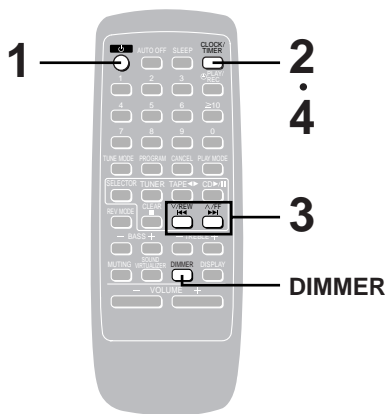
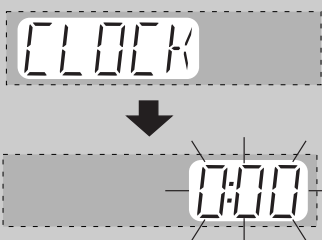
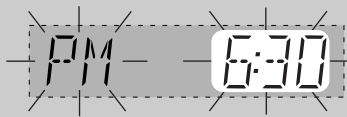
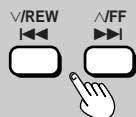
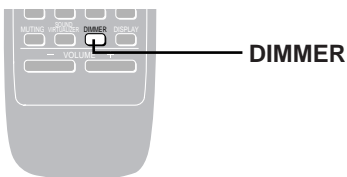
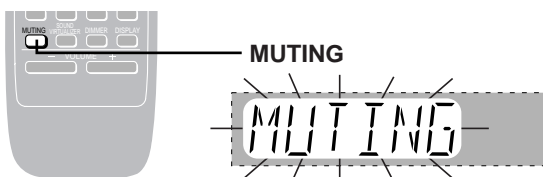
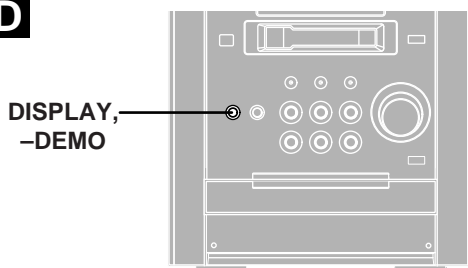
To cancel
Press [AUTO OFF] again.

For your reference

- The setting is maintained even if the unit is turned off. When the unit is turned on again, the unit functions as described above.
- If you select any source other than "CD" or "TAPE", "AUTO OFF" goes out. It comes on again when you select "CD" or "TAPE".

C



A**1****2****3****4****B****C****D**

DISPLAY

**A Setting the time****by remote control only**

This is a 12-hour clock.

The example shows how to set the clock for 6:30 pm

- 1 Press [⏻] to turn the unit on.**
- 2 Press [CLOCK/TIMER] to display "CLOCK".**

Every time you press the button:

CLOCK → ⓄPLAY → ⓄREC → Original display

- 3 Within 7 seconds Press [◀◀, √/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.

When the unit is ON:

Press [DISPLAY/-DEMO].

To cancel

Press [DISPLAY/-DEMO] again.

Note

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

Convenient Functions**B To dim the display panel****by remote control only**

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

Press [DIMMER].

The display panel dims and side panel indicators, except for the [AC IN] indicator, go out.

To cancel

Press [DIMMER] again.

C To mute the volume**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.

D Turning the demo function off

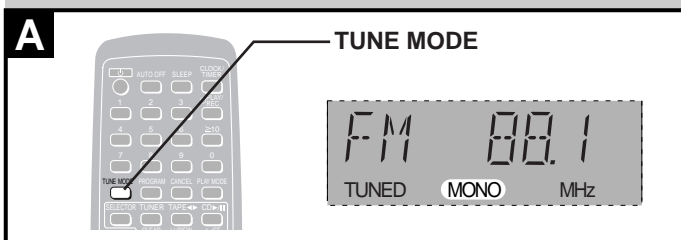
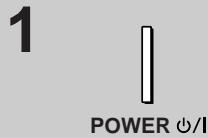
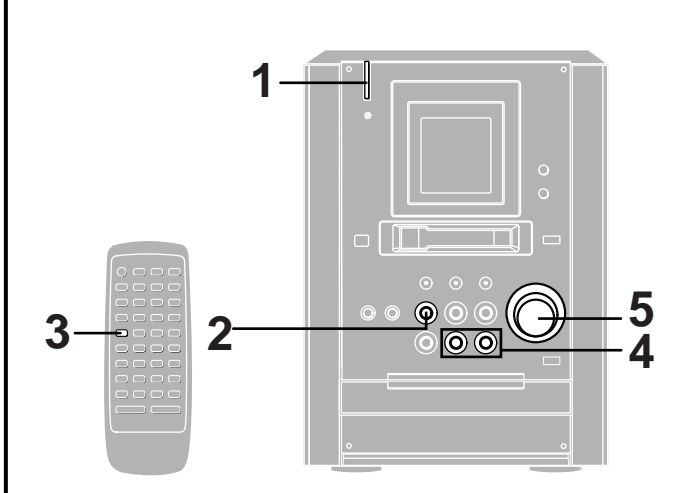
If the clock has not been set, a demonstration of the display is shown when the unit is switched to standby.

This function is set to on at the time of purchase.

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

The display changes each time the button is held down.

NO DEMO (off) ↔ DEMO (on)



The radio: manual tuning

- 1** Press [POWER 0/I] to turn the unit on.
- 2** Press [TUNER/BAND] to select “FM” or “AM”.
Every time you press the button:
FM \rightleftharpoons AM
- 3** Press [TUNE MODE] on the remote control to select “MANUAL”.
Every time you press the button:
MANUAL \rightleftharpoons PRESET
- 4** Press [V/REW/FF] or [V/FF/FF] to select the frequency of the required station.
“TUNED” is displayed when a radio station is tuned.
“ST” is displayed when a stereo FM broadcast is being received.
- 5** Adjust the volume.

Auto tuning

Press and hold [V/REW/FF] or [V/FF/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 [V/REW/FF] or [V/FF/FF] once again.

A If noise is excessive in FM

by remote control only

Press and hold [TUNE MODE] to display “MONO”.

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

Press and hold [TUNE MODE] again to cancel the mode.

“MONO” goes out. MONO is also canceled if the frequency is changed.

Turn off “MONO” for normal listening. Stereo and monaural broadcasts are automatically played as they are received.

FM allocation setting

Main unit only

By adjusting the allocation, you can enable this tuner to receive FM broadcasts allocated in 0.1 MHz steps.

Press and hold [TUNER/BAND]. After a few seconds, the display will change to a flashing display of the current minimum FM frequency. If you continue to hold the button down, the minimum frequency will change. Release the button at this time.

To return to the original frequency indication, repeat above.

Note

- After changing the “allocation” setting, the frequencies you previously preset in the memory will be cleared.
- Sound is momentarily interrupted if you load/unload tapes while listening to an AM broadcast.

The radio: preset tuning

by remote control only

There are two methods of presetting stations.

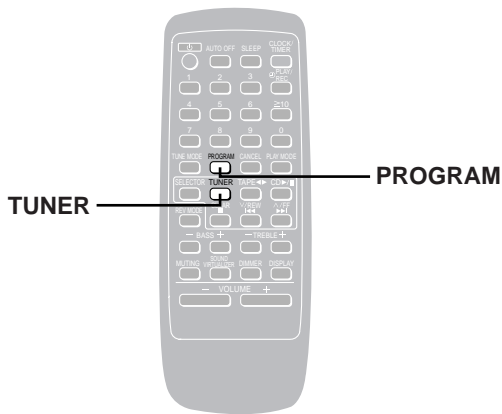
Automatic presetting: All the stations the tuner can receive are preset.

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] to select "FM" or "AM".



A Automatic presetting

Do the following once each for FM and AM.

Preparation:

Tune to the frequency where presetting 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.

Manual presetting

Preset the stations one at a time.

- ① Press [TUNER] to select "FM" or "AM".
- ② Press [PROGRAM] then press [◀, V/REW] or [▶, ^/FF] to tune to the required station.
- ③ Press [PROGRAM] then press [◀, V/REW] or [▶, ^/FF] to select a channel.
- ④ Press [PROGRAM].

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

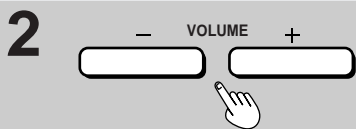
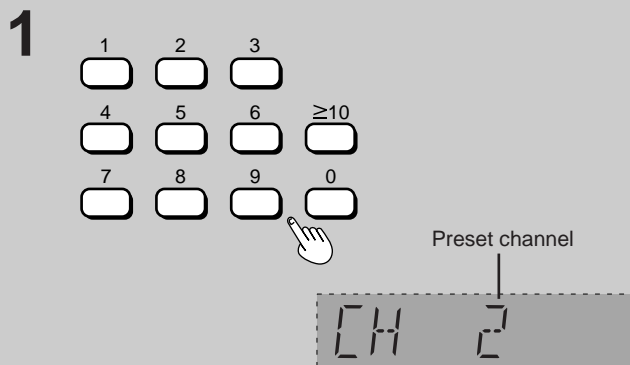
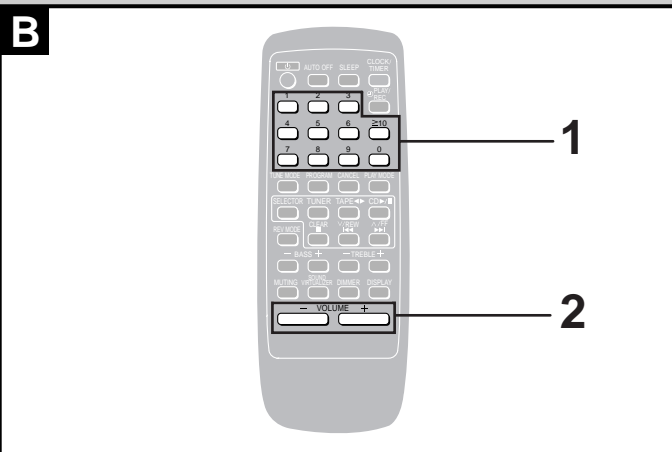
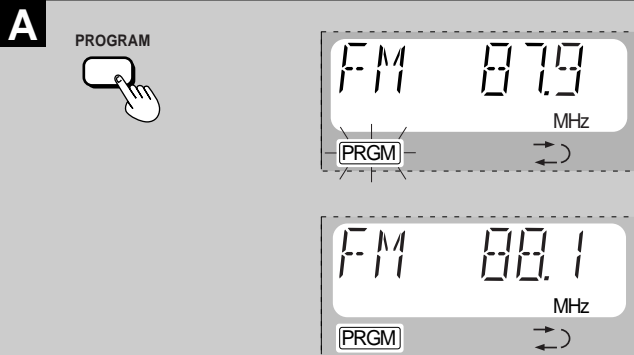
B Selecting channels

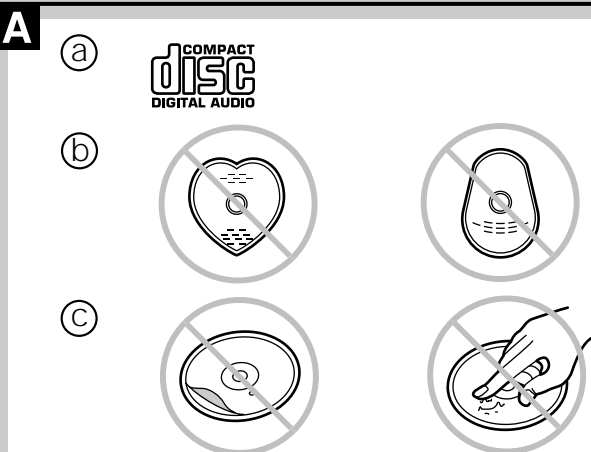
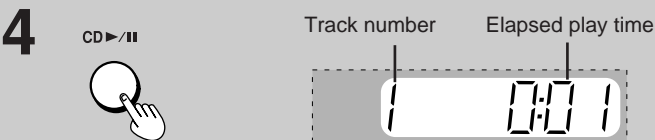
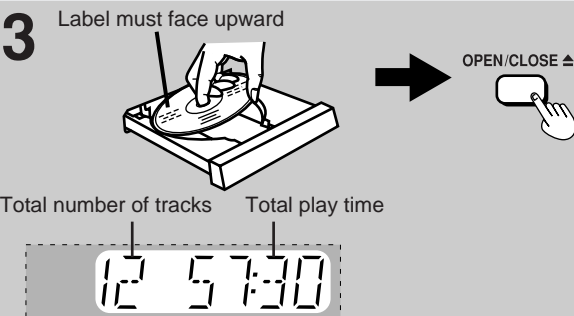
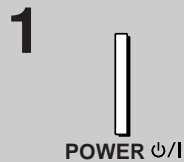
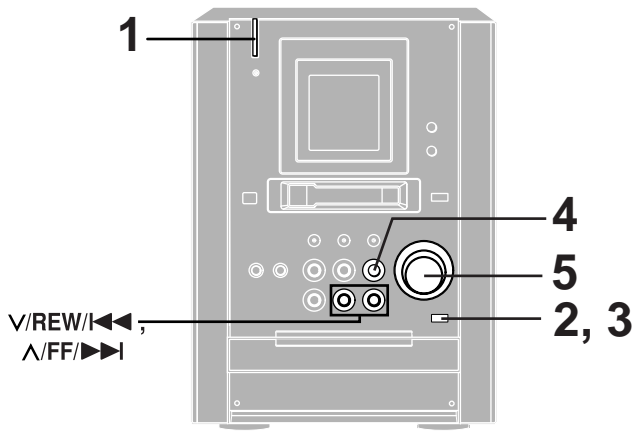
- 1 **Press the numbered buttons to select the channel.**

For channels 1 to 9 press the corresponding number.
For channels 10 to 15 press [≥10], then the two digits.
or

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

- 2 **Adjust the volume.**





CDs

This unit can play CD-DA format audio CD-R and CD-RW that have been finalized* upon completion of recording. It may not be able to play some CD-R or CD-RW due to the condition of the recording.

* Finalizing is a process that enables CD-R/CD-RW players to play audio CD-R and CD-RW.

- 1** Press [POWER \odot /I] to turn the unit on.
- 2** Press [OPEN/CLOSE \blacktriangle] to open the tray.
- 3** Insert the CD.
Set a CD label up on the tray.
Press [OPEN/CLOSE \blacktriangle] to close the tray.
- 4** Press [CD \blacktriangleright /II] to start play.
- 5** Adjust the volume.

To stop the disc.

Press [STOP \blacksquare].

To pause play

Press [CD \blacktriangleright /II]. Press [CD \blacktriangleright /II] again to resume play.

Skipping tracks

Press [V/REW/I<<<] (backward) or [^/FF/>>>] (forward).

Searching through tracks

During play or pause

Press and hold [V/REW/I<<<] (backward) or [^/FF/>>>] (forward).

To select a track with the remote control

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

To select a two-digit track

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

For example

Track no. 20: [\geq 10]→[2]→[0]

Track no. 35: [\geq 10]→[3]→[5]

One touch play

When a CD is loaded and the unit is off, press [CD \blacktriangleright /II]. The unit comes on and starts play.

To remove a CD

Press [OPEN/CLOSE \blacktriangle].

Note

- During random play (\Rightarrow page 13), you cannot skip to tracks which have already been played.
- During program play (\Rightarrow 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.
- Program play cannot be used in combination with random play.

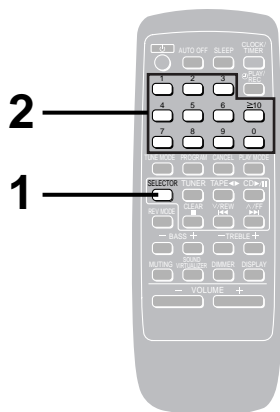
A CD selection and care

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

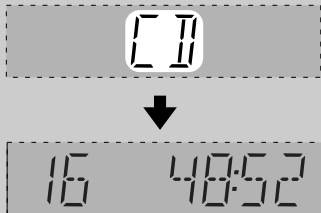
Do not;

- use irregularly shaped discs. (B)
- attach extra labels and stickers.
- use discs 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 printed available on the market.

A

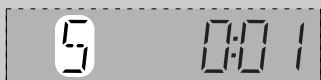


1 SELECTOR

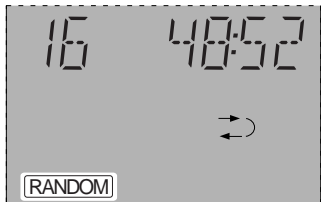
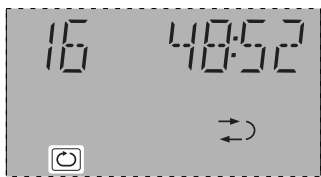
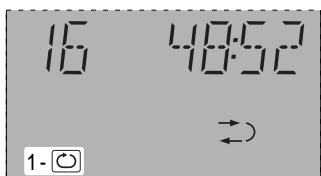


2

1	2	3	
4	5	6	≥10
7	8	9	0



B



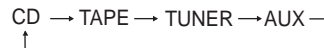
A Direct access play

by remote control only

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

1 Press [SELECTOR] to select the CD mode.

Every time you press the button:



2 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

Track no. 20: [≥10]→[2]→[0]

Track no. 35: [≥10]→[3]→[5]

B Repeat play and random play

by remote control only

Press [PLAY MODE] before or during play to select the desired play mode.

Every time you press the button:



To repeat just one track:

Press [PLAY MODE] to select "1-⏮".

To repeat all track:

Press [PLAY MODE] to select "⏮".

To start random play:

Press [PLAY MODE] to select "RANDOM".

All tracks on the loaded CD will be played in random order.

Playback will stop automatically when all tracks have been played.

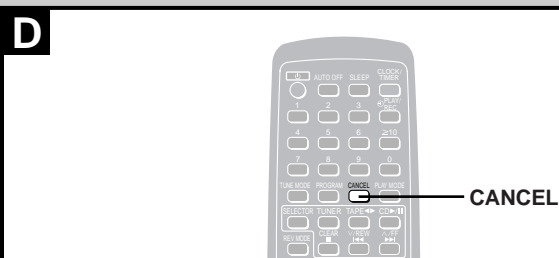
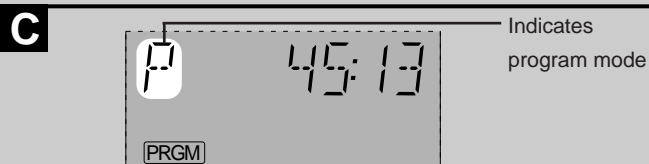
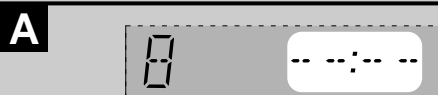
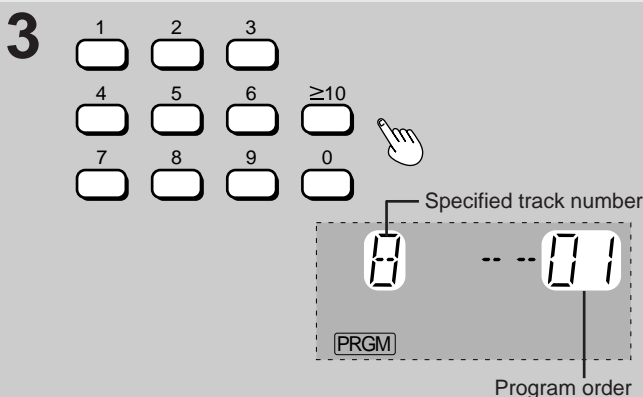
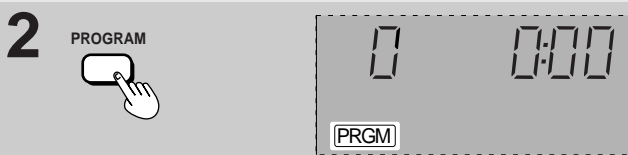
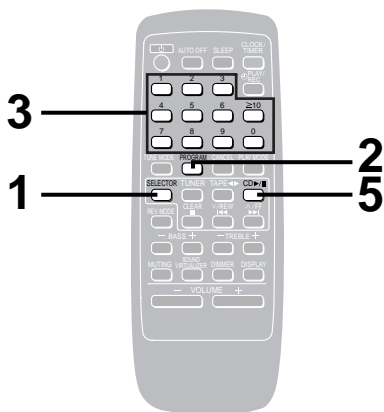
To cancel repeat play and random play.

Press [PLAY MODE] to clear "1-⏮", "⏮" and "RANDOM".

Pressing [OPEN/CLOSE ▲] also cancels repeat play and random play.

To repeat programmed tracks

- ① Program desired tracks (steps 1 to 4 on page 14).
- ② Press [PLAY MODE] to display "⏮".
- ③ Press [CD ▶/||] to begin play.



CDs

Program play

by remote control only

This function allows you to program up to 24 tracks.

- 1** Press [SELECTOR] 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 [CD ►/II].
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 to 3.

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

To cancel program play mode

- Press [PROGRAM] in the stop mode.
Programmed contents will be saved in memory.
- Press [■ CLEAR] 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.

A When “-- --:-- --” is displayed

Total play time of the programmed tracks equals, or exceeds 100 minutes.

Tracks can still be programmed and played.

B When “FULL” appears

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

C Check program contents.

Check to see if “P” is displayed, then press either [◀◀] or [▶▶]. 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.

D Cancel entries

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

Memory retention

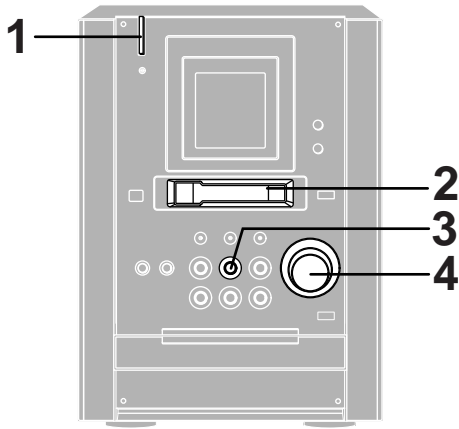
Your program is retained in memory for about 2 weeks while the system is unplugged.

To replay your program

If you tuned OFF your program with [PROGRAM], you can play it again as explained below.

- ① Press [PROGRAM].
- ② Press [CD ►/II].

Cassette tapes



- 1** Press [POWER \odot /I] to turn the unit on.
- 2** Insert the cassette with the exposed tape facing left.
Tape direction is automatically set "FWD"
- 3** Press [TAPE $\leftarrow \rightarrow$] to start playback.
Every time you press the button: \leftarrow FWD \rightarrow FWD
FWD: The forward side (front side) will play.
 \leftarrow REV: The reverse side will play.
- 4** Adjust the volume.

To stop tape playback

Press [STOP ■].

To eject tape

Press [STOP ■] then press [EJECT ▲].

One-touch play

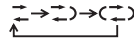
When the system is OFF and cassette is inserted, play starts automatically when you press [TAPE $\leftarrow \rightarrow$].

A To select the reverse mode

by remote control only

Press [REV MODE] to select the reverse mode.

Every time you press the button:



\leftarrow : One side is played.

$\leftarrow \rightarrow$: Both sides are played.

$\leftarrow \rightarrow$: Both sides are played repeatedly until [■ CLEAR] is pressed.

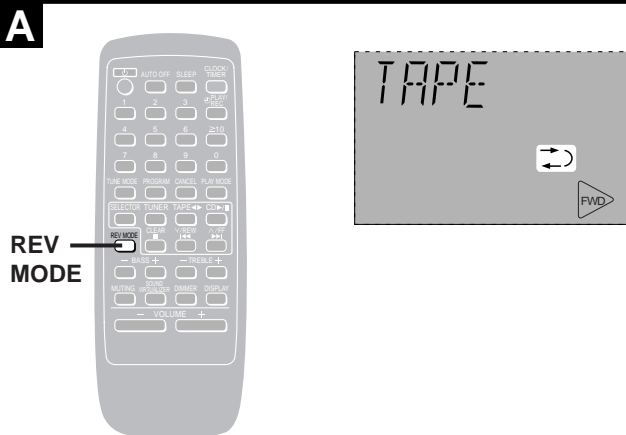
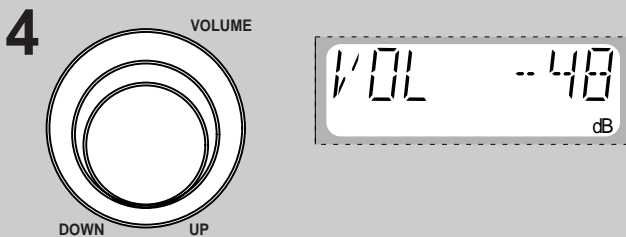
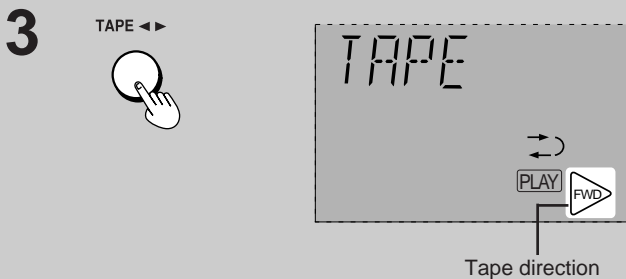
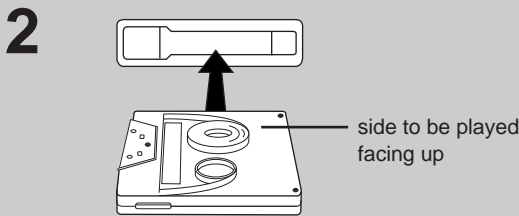
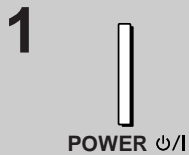
Cassette tape selection and care

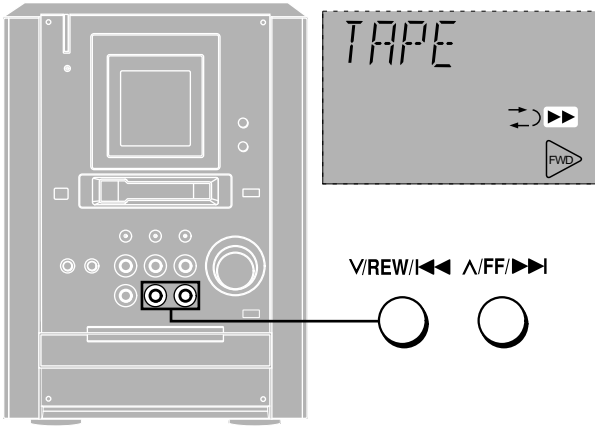
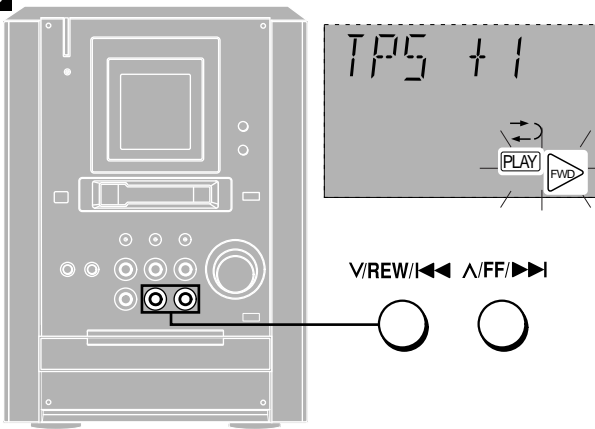
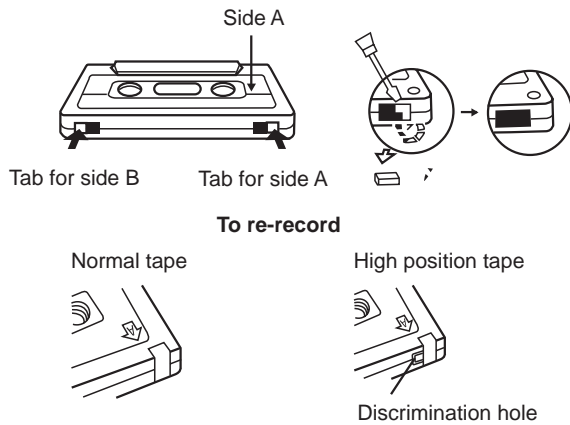
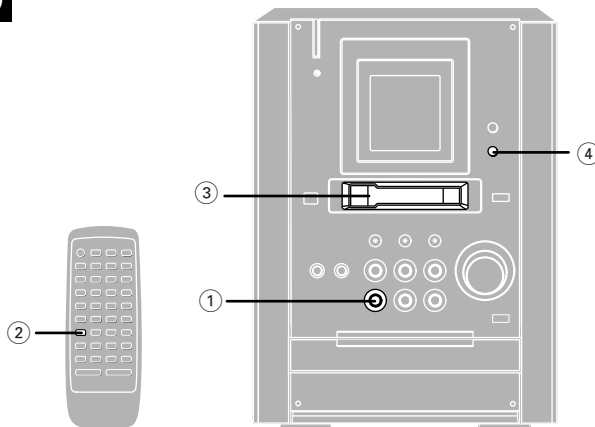
Types of tapes which can be played correctly.

The system automatically identifies the type of tape.

NORMAL POSITION/TYPE I	✓
HIGH POSITION/TYPE II	✓
METAL POSITION/TYPE IV	✓

- 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.



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

Cassette tapes

A To fast-forward or rewind the tape

Press [V/REW/I<<<] or [^/FF/▶▶I] in the stop mode.

To rewind	To fast-forward
V/REW/I<<<	^/FF/▶▶I

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

Press [V/REW/I<<<] or [^/FF/▶▶I] during play. Press the button once for each track to be skipped (up to 9 tracks).

Backward	Forward
V/REW/I<<<	^/FF/▶▶I

Note

TPS searches for silent parts of about 4 seconds 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

Before recording

Types of tapes 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 record or erase metal position tapes.

C Erasure prevention

The illustration shows how to remove the tabs to prevent recording. To record on the tape again, cover as shown, being careful not to cover the high position discrimination hole.

The effect of volume, sound quality, and sound virtualizer on recording.

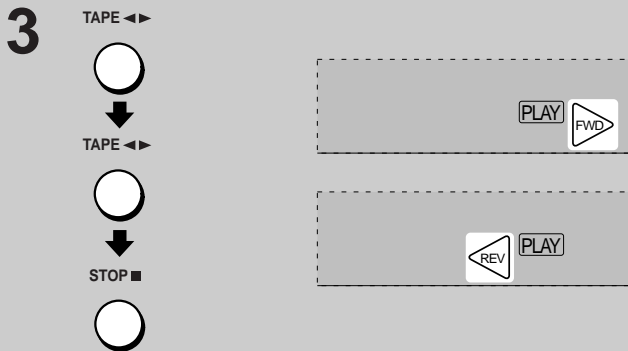
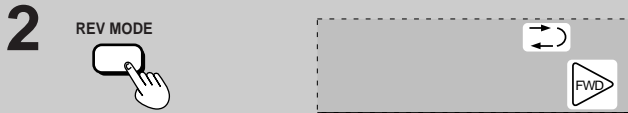
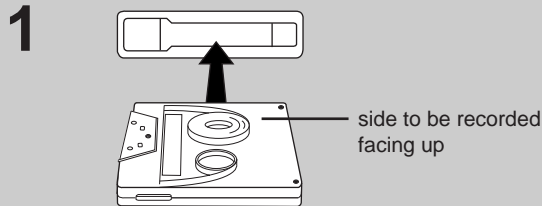
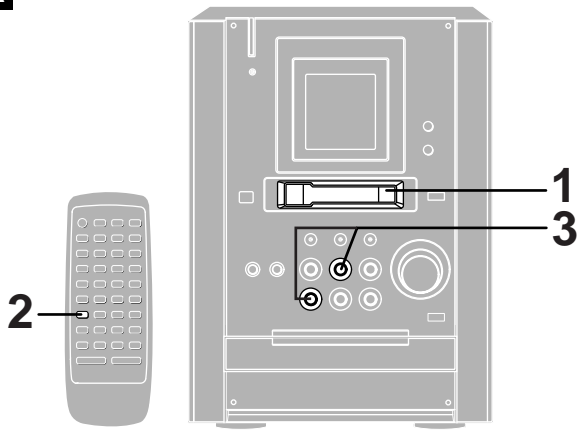
These have no effect on recording. They can be changed for playback.

D To erase a recorded sound

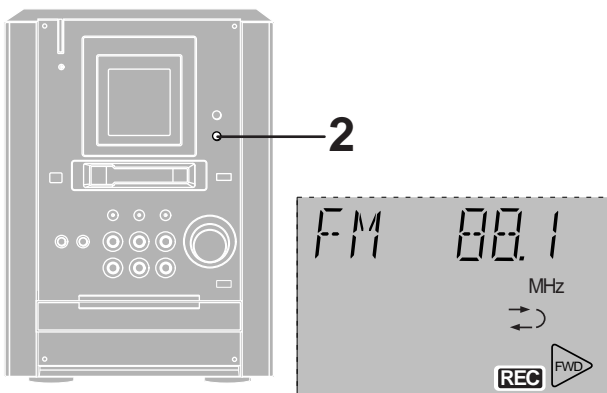
- 1 Press [STOP ■].
- 2 Press [REV MODE] on the remote control to select the reverse mode.
- 3 Insert the cassette with the exposed tape facing left. Tape direction is automatically set to "FWD".
- 4 Press [●REC/II].

Before recording

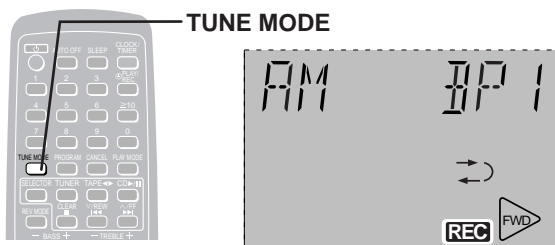
A



B



C



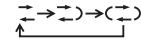
A Preparatory steps

Do these steps before each recording.
Wind up the leader tape so recording can begin immediately.
(unnecessary if auto CD editing)

Preparation: Press [POWER ϕ /I] to turn the unit on.

- 1 Insert the tape to be recorded on.**
Insert with the exposed tape facing left.
- 2 Press [REV MODE] on the remote control to select the reverse mode.**

Every time you press the button:



↔ : One side only records.
→ and ← : Both sides record (forward → reverse).
"↔" automatically changes to "→" when (●REC/II) is pressed.

- 3 (unnecessary with auto editing recording, → Page 19) Set the tape direction.**

▶ : To record on the forward side.

◀ : To record on the reverse side.

To change the direction
Press [TAPE ◀▶] twice and then [STOP ■].

B Recording the radio

Preparation: Do the preparatory steps above.

- 1 Tune to the required station.**
(→ page 10 or 11)
- 2 Press [●REC/II] to start recording.**

To stop recording.

Press [STOP ■].

To stop recording temporarily

Press [●REC/II].

To resume recording, press [●REC/II].

by remote control only

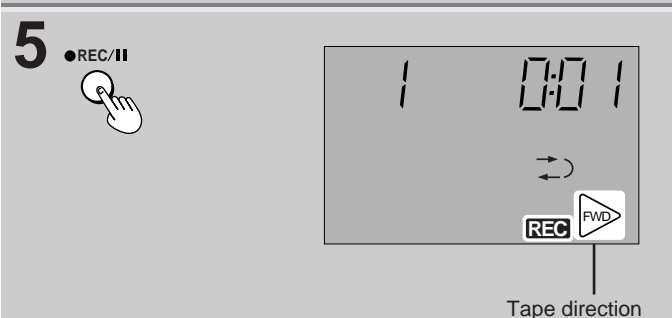
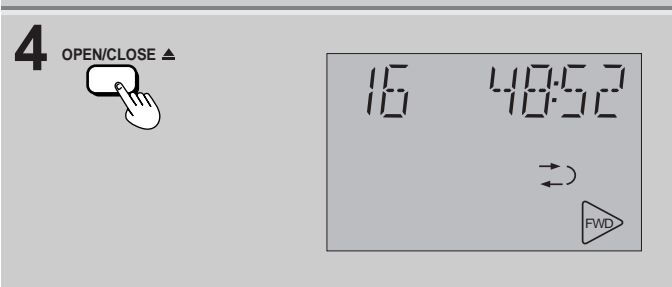
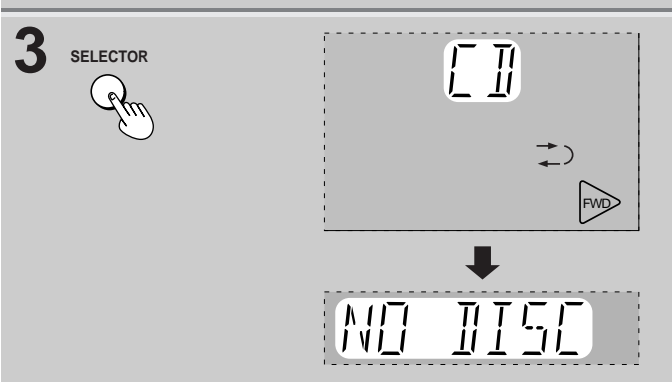
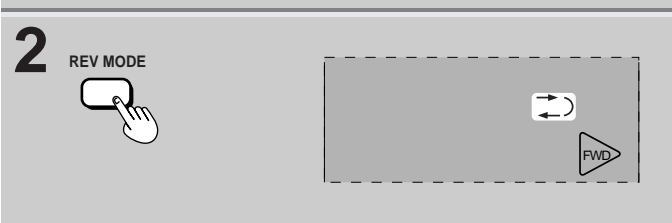
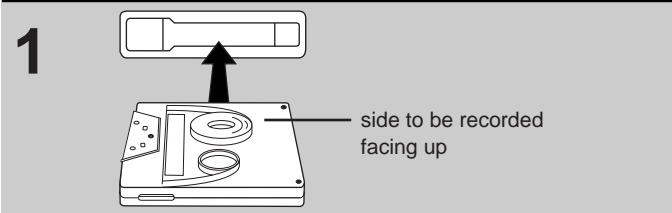
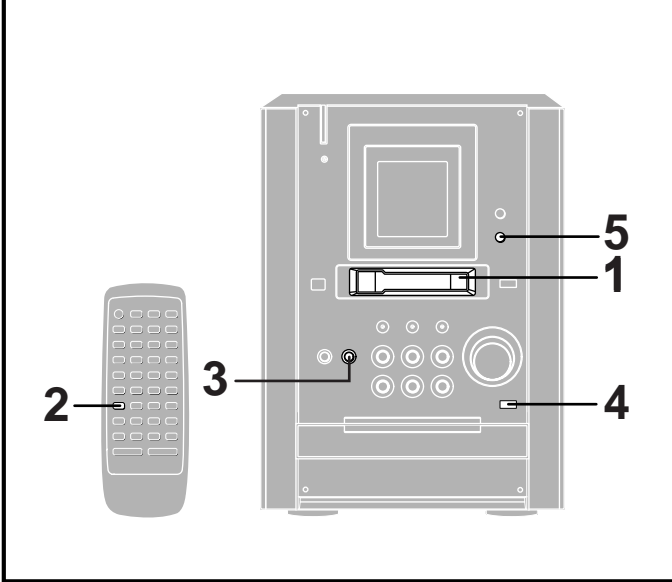
C To reduce noise while recording an AM broadcast (Beat proof function)

Press and hold [TUNE MODE] while recording.

Every time you press and hold the button:

BP 1 ↔ BP 2

Select the position where there is less noise.



Recording CDs

Normal recording

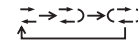
- Tracks are recorded in the order in which they are found on the CD.
- Tracks are cut in the middle when the end of the tape is reached.
- You can record from any point on the tape.

1 Insert the cassette with the exposed tape facing left.

Tape direction is automatically set to "FWD"

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

Every time you press the button:



⇔: One side is recorded.

⇔, →: Both sides are recorded.

3 Press [SELECTOR] to select the CD mode.

4 Press [OPEN/CLOSE ▲] to open the CD tray.

Insert the CD with label facing upward.

Press [OPEN/CLOSE ▲] to close the CD tray.

5 Press [●REC/II] to start recording.

- If you selected "⇔" in step 2, the direction will automatically change to "→" when recording starts.
- The recording will start from the first track.

To stop recording

Press [STOP ■].

The recording and the CD will stop.

To stop recording temporarily

Press [●REC/II].

To resume recording, press [●REC/II].

To record on reverse side

Before recording, press [TAPE ◀▶] twice and immediately thereafter [STOP ■].

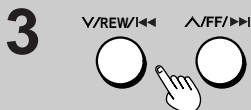
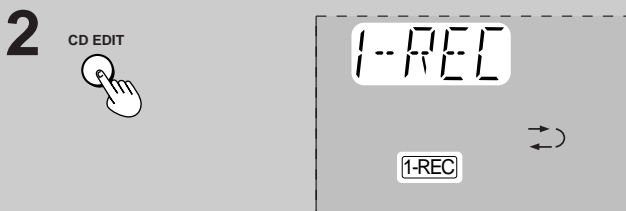
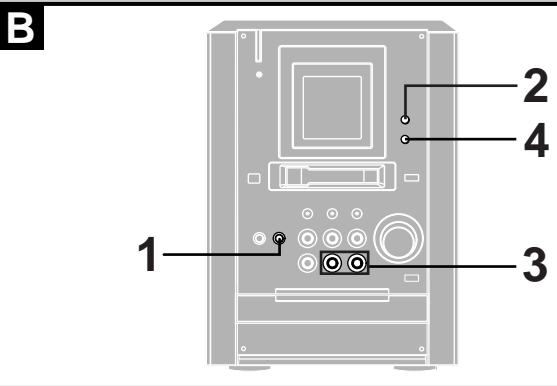
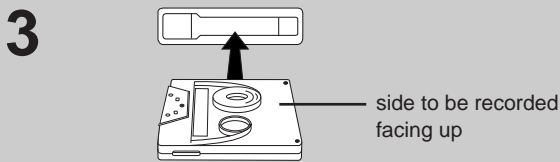
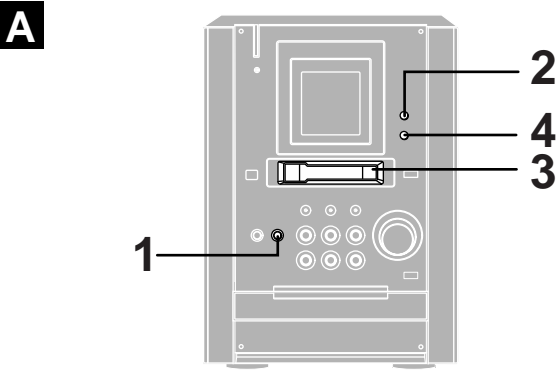
The tape direction will be shown as "◀REV".

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 (→ steps 2-4 on page 14).
- ② Press [●REC/II] to start recording.



Recording CDs

You can record the whole CD (AUTO-REC) or a selected track (1-REC). If a track is interrupted at the end of the side facing up, it is recorded again on the side facing down.

A Auto editing recording (AUTO-REC)

Recording begins from the side facing up and the reverse mode is set to "↔".

Preparation: Insert a CD (→ page 12)

- 1 Press [SELECTOR] to switch to CD mode.**
- 2 Press [CD EDIT] so "AUTO-REC" is displayed.**

Every time you press the button:

→AUTO-REC→1-REC→OFF→

- 3 Insert the tape with the exposed tape facing left.**
- 4 Press [●REC/II] to start recording.**
The unit rewinds the tape, records 10 seconds of silence, and then starts recording.

To stop recording

Press [STOP ■]. The CD also stops.

To record selected tracks.

- ① Program tracks (→steps 1 to 3 on page 14).
- ② Do steps 2 to 4 above.

Note

Auto edit recording cannot be used with random and repeat play. (→ page 13).

B One track edit recording (1-REC)

Preparation:

Insert a CD (→ page 12) and a cassette.

Wind the tape to where you want to start recording.

- 1 Press [SELECTOR] to switch to CD mode.**
- 2 Press [CD EDIT] so "1-REC" is displayed.**
- 3 Press [V/REW/II<<<] or [^/FF/II>>>] to select the track you want to record.**
- 4 Press [●REC/II] to start recording.**
CD play and recording start at the same time.

To stop recording

Press [STOP ■]. The CD also stops.

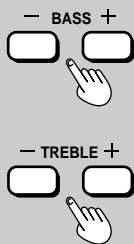
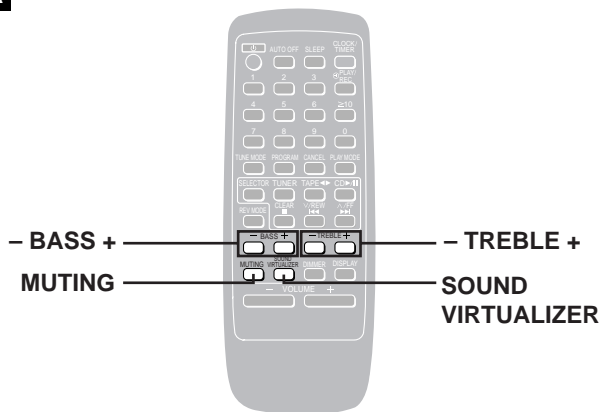
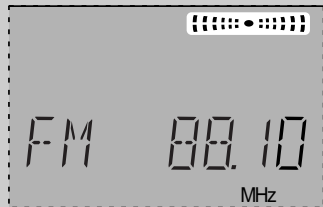
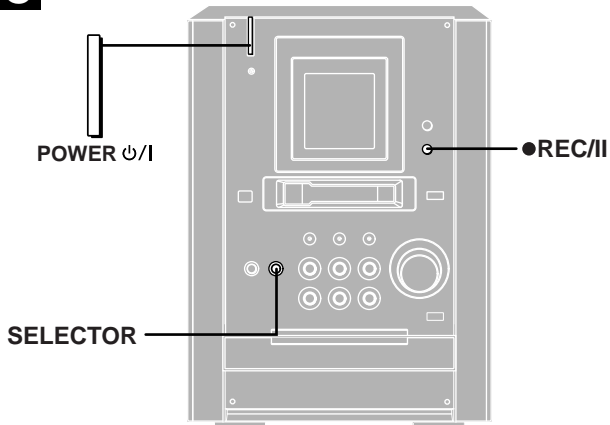
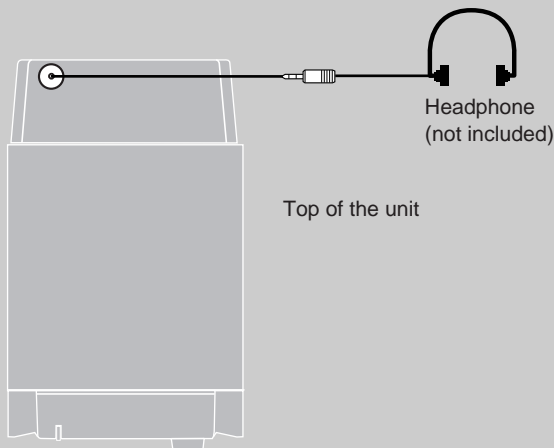
To continue recording from another CD

- ① Press [OPEN/CLOSE ▲] and insert the other CD.
- ② Do steps 3 and 4.

To record a track while it is being played.

- ① Press [CD EDIT] so "1-REC" is displayed.
- ② Press [●REC/II].

Recording starts from the beginning of the track and stops when the track finishes.

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

Changing the sound quality

by remote control only

A To adjust the tone quality

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

Press [BASS (- or +)] to adjust the low-frequency sound.

Press [TREBLE (- or +)] to adjust the high-frequency sound.

Note

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

Hints

Place speakers on stands (not included) to reproduce clearer low-range sounds.

B Using the “live” effect (SOUND VIRTUALIZER)

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 display “{••••••••}”.

To cancel

Press [SOUND VIRTUALIZER] to clear the “{••••••~•••••}” indicator.

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

C Using an external unit

Listening to an external source

(See page 7 for external unit connection.)

① Press [POWER ϕ /I] to turn on the unit.

② Press [SELECTOR] to select “AUX”

Every time you press the button:

CD → TAPE → TUNER → AUX



③ 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 17.

② Press [SELECTOR] to select “AUX”.

③ Press [●REC/II] (recording starts).

④ Start playback from the external source. (Refer to your equipment's operating instructions.)

D Listening with headphones

Reduce the volume level, and connect the headphones.

Plug type: 3.5 mm (1/8”) stereo.

Note

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

Using the timers

Using the play/record timer

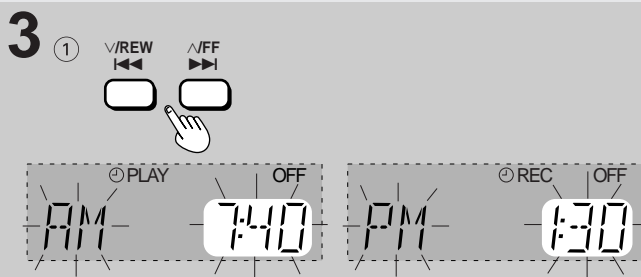
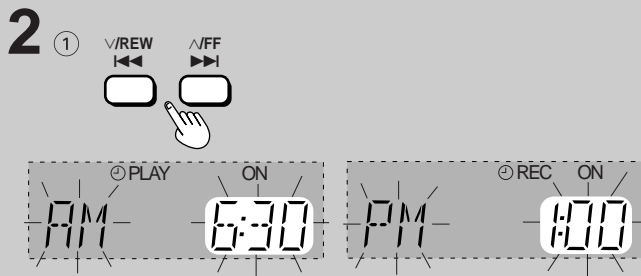
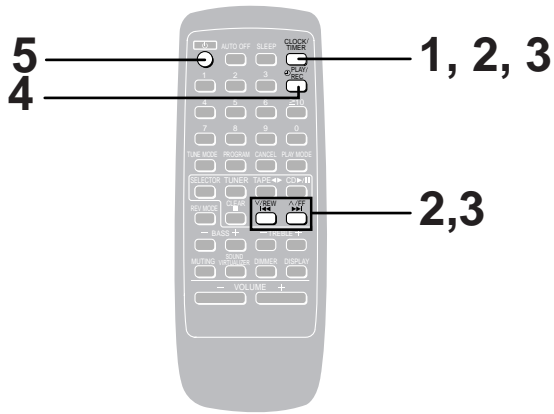
by remote control only

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 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 time**, check the cassette's erasure prevention tabs (→ page 16: **C**) insert the tape, select the reverse mode (→ page 17) and tune to the radio station (→ page 10) or select the aux source (→ page 20).



Setting the start and finish times

- 2** (Within 8 seconds or so)
- 1 Press **[◀◀, V/REW]** or **[▶▶, ^/FF]** to select the starting time.
 - 2 Press **[CLOCK/TIMER]**.
- 3**
- 1 Press **[◀◀, V/REW]** or **[▶▶, ^/FF]** to select the finishing time.
 - 2 Press **[CLOCK/TIMER]**.
- The start and finish times are now set.

Turning the timer on

- 4** Press **[◉PLAY/REC]**.
- Every time you press the button:
- ◉PLAY → ◉REC
- ← (OFF) →
- ◉PLAY : to turn the play timer on
◉REC : to turn the record timer on

- 5** Press **[⏻]** to turn the unit off.
- The unit must be off for the timers to operate.

• For play timer

The timer play will start at the preset time and volume level you preset.

• For record timer

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

To cancel the timer

Press **[◉PLAY/REC]** 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 settings (when unit is on)

• To change the play/record times

Do steps 1, 2, 3, and 5.

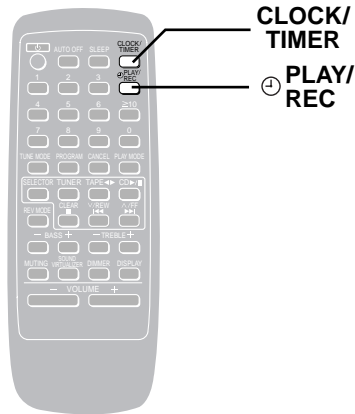
• To change the source or volume.

1 Press **[◉PLAY/REC]** 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)

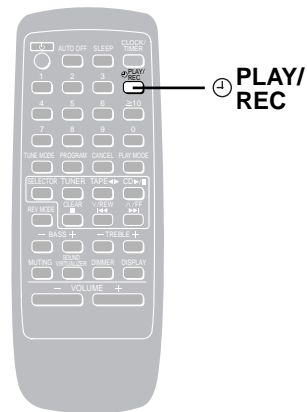
A**B**

SLEEP



SLEEP

30

C

PLAY/REC



FADER

Using the timers

A Using the play/record timer

by remote control only

Checking the timers

Press [CLOCK/TIMER].

(While the unit is on, press [CLOCK/TIMER] to select "⓪PLAY" or "⓪REC".)

The timer conditions are shown in the following order.

start time → finish time → source → volume (Play timer only)

Playing the unit after the timers are set

The unit can be used after the timers are set.

Check the following before turning the unit off again.

If playing tapes or making a recording:

Reset tape direction.

If playing disc:

Make sure the desired disc is selected.

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

by remote control only

This timer turns the unit off after a set time.

While enjoying the desired source:

Press [SLEEP] to select the desired time.

Every time you press the button:

→ 30 → 60 → 90 → 120 → OFF

To cancel the sleep timer

Press [SLEEP] to select "OFF".

To confirm the remaining time

(only while unit is ON)

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.

Notes

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.

C The Timer Fader

by remote control only

Volume increases slowly to the set level when the play timer turns the unit on and decreases slowly when the sleep timer turns the unit off.

Press and hold [⓪PLAY/REC] to display "FADER".

(All timers will be affected.)

Press and hold again to cancel.

Note

This feature does not affect record timer's recordings.

Troubleshooting guide

Before requesting service, make the below checks. If you can't fix the system as described below, or if something not listed here occurs, refer to the enclosed directory to locate an Authorized Service Center convenient to you or contact your dealer.

For detailed instructions, contact an authorized servicenter in the U.S.A. and Panasonic Canada Inc. Customer Care Centre in Canada. In the U.S.A., call 1-800-211-7262, e-mail consumerproducts@panasonic.com, or visit www.panasonic.com. In Canada, call 905-624-5505 or visit www.panasonic.ca

Reference pages are shown as black circled numbers ⑤.

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. ⑤
Sounds unfixed, reversed or come from one speaker only.	Check the speaker connections. ⑥
Humming heard during play.	An AC power supply cord or fluorescent light is near the cables. Keep other appliances and cords 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. ④
"F61" is displayed.	Check and correct the speaker cords connection. 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. ⑦
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. The TV antenna wire is too close to the unit. Separate the antenna wire of the TV set from the unit.
--	--

Playing cassette tapes

Poor quality sound.	Clean the heads. ④⑤
Recording is not possible.	If the erasure prevention tabs have been removed, cover the holes with adhesive tape. ④⑤

Playing discs

The display is wrong or play won't start.	The disc may be upside down. ④⑤ Wipe the disc. Replace the disc if it is scratched, warped, or nonstandard. 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.
"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.
Only one track from the CD is recorded	Press [CD Edit] to cancel one track edit recording and to select the required mode (AUTO-REC or OFF). ④⑤

The remote control

Remote control doesn't work.	Check the batteries are inserted correctly. ⑤ Replace the batteries if they are worn.
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Panasonic

Technics

Quasar

*For Product Information, Operating Assistance, Literature Request, Dealer Locations, and all Customer Service inquiries please contact:
1-800-211-PANA (7262), Monday–Friday 9 am–9pm; Saturday–Sunday 9 am–7pm, EST.*

*Web Site: <http://www.panasonic.com>
You can purchase parts, accessories or locate your nearest servicenter by visiting our Web Site.*

Accessory Purchases:

1-800-332-5368 (Customer Orders Only)
Panasonic Services Company 20421 84th Avenue South, Kent, WA 98032
(6 am to 5 pm Monday–Friday; 6 am to 10:30 am Saturday; PST)
(Visa, MasterCard, Discover Card, American Express, Check)

Factory Servicenters Locations

CALIFORNIA

6550 Katella Avenue
Cypress, CA 90630

800 Dubuque Avenue
S. San Francisco
CA 94080

3878 Ruffin Road
Suite A
San Diego, CA 92123

FLORIDA

3700 North 29th Avenue
Suite 102
Hollywood, FL 33020

GEORGIA

8655 Roswell Road
Suite 100
Atlanta, GA 30350

ILLINOIS

9060 Golf Road
Niles, IL 60714

1703 North Randall Road
Elgin, IL 60123
(Pick-up/Drop-off only)

MASSACHUSETTS

60 Glacier Drive
Suite G
Westwood, MA 02090

MINNESOTA

7850-12th Avenue South
Airport Business Center
Bloomington, MN 55425

OHIO

2236 Waycross Road
Civic Center Plaza
Forest Park, OH 45240

PENNSYLVANIA

2221 Cabot Blvd. West
Suite B
Langhorne, PA 19047

TEXAS

13615 Welch Road
Suite 101
Farmers Branch
TX 75244

WASHINGTON

20425-84th Avenue South
Kent, WA 98032

HAWAII

99-859 Iwaiwa Street
Aiea, Hawaii 96701
Phone (808) 488-1996
Fax (808) 486-4369

Reference

Service in Puerto Rico

*Matsushita Electric of Puerto Rico, Inc. Panasonic Sales Company/Factory Servicenter:
Ave. 65 de Infanteria, Km. 9.5, San Gabriel Industrial Park, Carolina, Puerto Rico 00985
Phone (787) 750-4300 Fax (787) 768-2910*

Warranty (U.S.A.)

ONLY FOR 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
Corporation of Puerto Rico, Inc.
Ave. 65 de Infanteria, Km. 9.5, San Gabriel Industrial
Park, Carolina, Puerto Rico 00985

Panasonic/Technics Audio Products Limited Warranty

Panasonic Consumer Electronics Company or Panasonic Sales Company (collectively referred to as "the warrantor") will repair this product with new or refurbished parts in the event of a defect in materials or workmanship, free of charge, in the U.S.A. or Puerto Rico as follows (all time periods start from the date of original purchase):

COMPACT DISC PLAYERS, DIGITAL VERSATILE DISC PLAYERS, RADIOS, RADIO CASSETTE PLAYERS/RECORDERS (with and without CD Players), CASSETTE RECORDERS, MICROCASSETTE RECORDERS/TRANSCRIBERS, IC RECORDERS, RECEIVERS, TUNERS, AMPLIFIERS, SUBWOOFER AMPLIFIERS, TURNTABLES, CASSETTE DECKS, AUDIO PROCESSORS, EQUALIZERS, AUDIO MIXERS, REMOTE CONTROLS, HOME THEATER SYSTEMS (receiver/amplifiers, speakers), RACK SYSTEMS (receivers, tuners, amplifiers, cassette decks, CD players, equalizers, rack system speakers, EXCLUDING; audio racks)—labor and parts for one (1) year.

ALL AUDIO RACKS (cabinets)—parts only 30 days.

TECHNICS STAND ALONE SPEAKERS, SUBWOOFER SPEAKERS—labor and parts for three (3) years.

ACCESSORIES—HEADPHONES, CARTRIDGES, MICROPHONES, ADAPTERS—labor and parts for ninety (90) days.

BATTERIES—(when applicable)—New rechargeable batteries in exchange for defective rechargeable batteries for ten (10) days. Non-rechargeable batteries are not warranted.

RECHARGEABLE BATTERY PACKS—(when applicable)—New rechargeable battery packs in exchange for defective rechargeable battery packs for ninety (90) days. Non-rechargeable battery packs are not warranted.

Carry-in or mail-in service in the U.S.A. can be obtained during the warranty period by contacting a Panasonic Services Company (PASC) Factory Servicenter listed in the Servicenter Directory. Or call toll free, 1-800-211-7262 to locate a PASC authorized Servicenter. Carry-in or mail-in service in Puerto Rico can be obtained during the warranty period by calling the Panasonic Sales Company telephone number listed in the Servicenter Directory.

This warranty is extended only to the original purchaser. A purchase receipt or other proof of date of original purchase will be required before warranty service is rendered.

This warranty only covers failures due to defects in materials and workmanship which occur during normal use and does not cover normal wear to the stylus (when applicable) or a dealer installed cartridge or stylus. The warranty does not cover damages which occur in shipment or failures which are caused by products not supplied by the warrantor, or failures which result from accident, misuse, abuse, neglect, mishandling, faulty installation, misapplication, set-up adjustments, maladjustment of consumer controls, improper operation or maintenance, improper antenna, inadequate signal reception or pick-up, alteration, modification, power line surge, improper voltage supply, lightning damage, commercial use, such as; hotel, office, restaurant, or other business or rental use of the product, or service by anyone other than a PASC Factory Servicenter or a PASC authorized Servicenter, or damage that is attributable to acts of God.

LIMITS AND EXCLUSIONS

There are no express warranties except as listed above.

THE WARRANTOR SHALL NOT BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OF THIS PRODUCT, OR ARISING OUT OF ANY BREACH OF THIS WARRANTY, INCLUDING WITHOUT LIMITATION, DAMAGE TO TAPES, RECORDS OR DISCS. ALL EXPRESS AND IMPLIED WARRANTIES, INCLUDING THE WARRANTIES OF MERCHANTABILITY, AND FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED TO THE APPLICABLE WARRANTY PERIOD SET FORTH ABOVE. 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 above exclusions or limitations 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 Consumer Affairs Department at the company address indicated above.

If you ship the product

Carefully pack and send it prepaid, adequately insured and preferably in the original carton. Attach a postage-affixed letter, detailing the complaint, to the outside of the carton.

Do NOT send the product to the Executive or Regional Sales offices. They are NOT equipped to make repairs.

Customer's Record

Model
No. _____

Dealer's
Name _____

Serial
No. _____
or

Dealer's
Address _____

Date
of
Purchase _____

Specifications

AMPLIFIER SECTION

Power output	
1% Total harmonic distortion	
30 Hz–160 Hz, both channels driven	(Low channel) 9 W per channel (6Ω)
160 Hz–20 kHz, both channels driven	(High channel) 4 W per channel (6Ω)
Total Bi-Amp power	13 W per channel
Input sensitivity	
AUX	250 mV
Input impedance	
AUX	47 kΩ
Output impedance	
Headphone	16-32Ω

FM TUNER SECTION

Frequency range	87.9–107.9 MHz (200 kHz steps)
	87.5–108.0 MHz (100 kHz steps)
Sensitivity	1.8 μV (IHF)
S/N 26 dB	1.5 μV
Antenna terminal(s)	75Ω (unbalanced)

AM TUNER SECTION

Frequency range	
AM	520 – 1710 kHz (10 kHz steps)
Sensitivity	
AM	
S/N 20 dB (at 999 kHz)	500 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
Frequency response	
(+3 to -6 dB at DECK OUT)	
NORMAL (TYPE I)	50 Hz – 13 kHz
HIGH (TYPE II)	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	Stereo
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)	
Superwoofer	10 cm (3 ¹⁵ / ₁₆ ") cone type
Full range	8 cm (3 ¹ / ₈ ") cone type
Impedance	High (6Ω), Low (6Ω)
Input power	High 10 W (Music) Low 35 W (Music)
Output sound pressure level	86 dB/W (1.0 m)
Cross over frequency	110 Hz
Frequency range	55 Hz–25 kHz (–16 dB) 75 Hz – 22 kHz (–10 dB)
Dimensions (WxHxD)	140 x 240 x 213 mm (5 ¹ / ₂ " x 9 ⁷ / ₁₆ " x 8 ³ / ₈ ")
Mass	2.3 kg (5.1 lb)

GENERAL

Power supply	AC 120 V, 60 Hz
Power consumption	64 W
Standby	0.6 W
Dimensions (WxHxD)	180 x 241 x 318 mm (7 ³ / ₃₂ " x 9 ¹ / ₂ " x 12 ¹ / ₂ ")
Mass	4.6 kg (10.1 lb)

Notes:

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

Maintenance

If the surfaces are dirty

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

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

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

For a cleaner crisper sound

Clean the heads regularly to assure good quality playback and recording.

Use a cleaning tape (not included).

Product Service

Do not attempt to remove the cover(s) or repair the unit yourself. Refer servicing to qualified personnel only.

Product information

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

In the U.S.A., contact the Panasonic Customer Call Center at 1-800-211-7262, or e-mail consumerproducts@panasonic.com, or web site (<http://www.panasonic.com>).

In Canada, contact Panasonic Canada Inc. Customer Care Centre at 905-624-5505, web site (www.panasonic.ca), or an authorized Servicentre closest to you.

**Panasonic Consumer Electronics
Company, Division of Matsushita
Electric Corporation of America**

One Panasonic Way Secaucus,
New Jersey 07094
<http://www.panasonic.com>

**Panasonic Sales Company,
Division of Matsushita Electric of
Puerto Rico, Inc. ("PSC")**

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