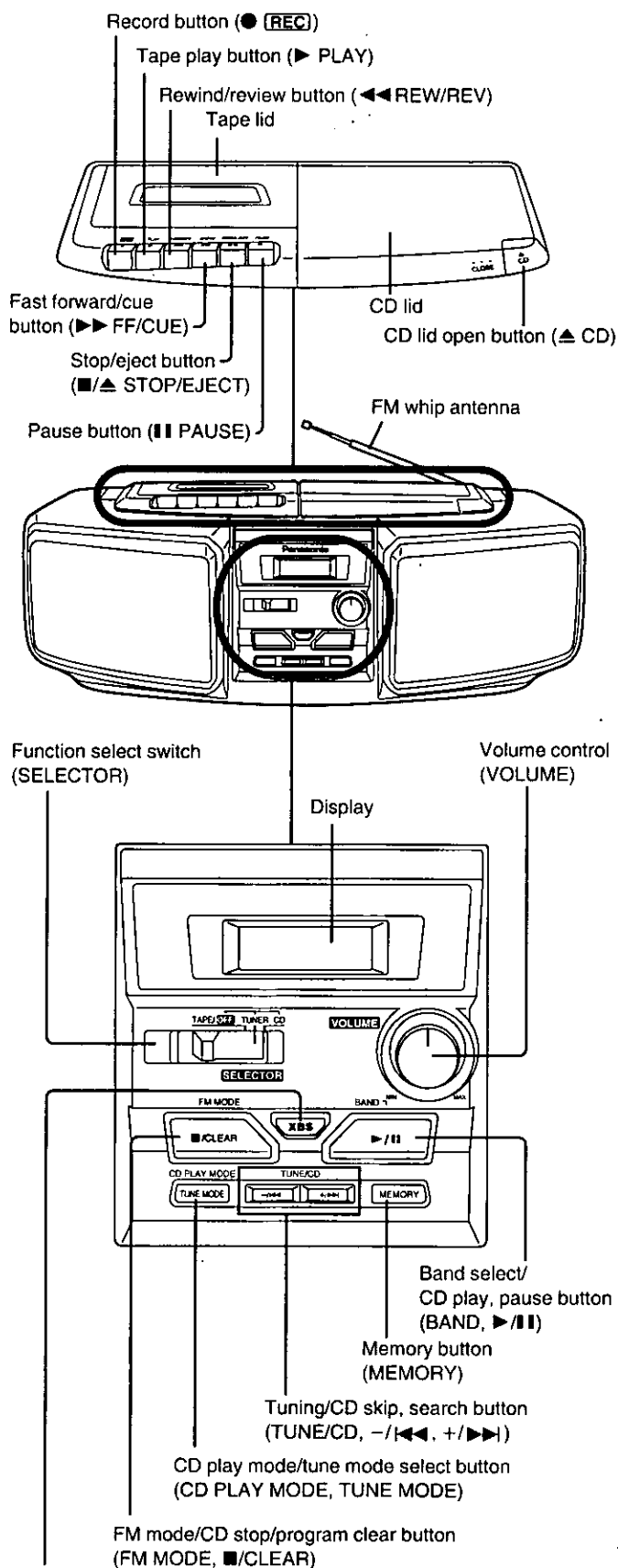




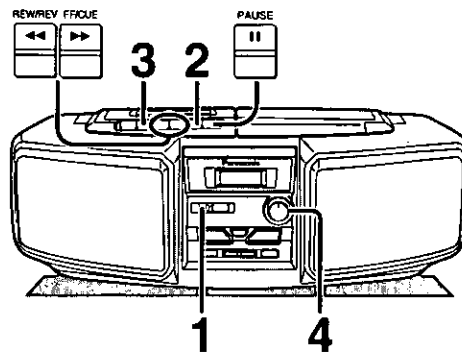
# Controls



**XBS button (XBS)**  
 Press to boost the bass sounds.  
 Press again to turn off.

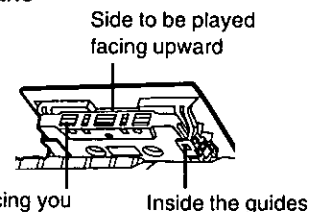
# Listening to tapes

This unit is suitable for playing normal tapes, but high and metal position tapes will not be played to their full potential.

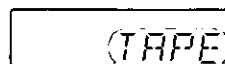


**1** Switch [SELECTOR] to "TAPE/OFF".

**2** Press [■/▲ STOP/EJECT] to open the tape lid and load the tape.  
 Close the tape lid by hand.



**3** Press [▶ PLAY] to start play.  
 Power comes on and play starts.



**4** Adjust the volume.

**To stop play**  
 Press [■/▲ STOP/EJECT]. (Power is switched off.)

<b>To pause</b>	Press [   PAUSE] during playback. To resume, press [   PAUSE].
<b>To rewind/ fast-forward</b>	Press [◀◀ REW/REV] (to rewind) or [▶▶ FF/CUE] (to fast-forward) <u>in the stop mode</u> .
<b>To find a particular spot</b>	Press [◀◀ REW/REV] (to search backward) or [▶▶ FF/CUE] (to search forward) <u>during playback</u> . Tape play is resumed when the button is released.

### Note

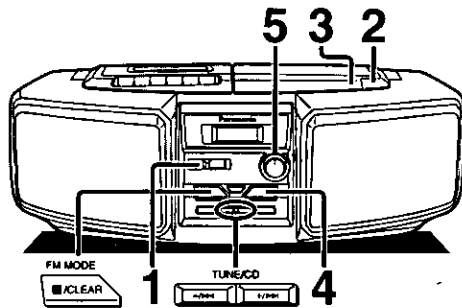
- The unit's power is on in the pause mode. Stop tape and turn the unit off by pressing [■/▲ STOP/EJECT] when leaving the unit.
- Do not press [▶ PLAY] when rewinding or fast-forwarding, as this may jam the tape.  
Be sure to press [■/▲ STOP/EJECT] before the next operation.

### Full auto-stop

The automatic stop system will release the buttons when the tape reaches the end during play, recording, fast forwarding or rewinding.

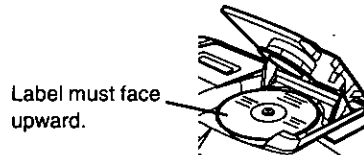
# Listening to CDs

## Normal play



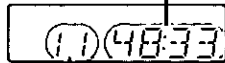
**1** Switch [SELECTOR] to "CD".  
(Power comes on.)

**2** Press [▲ CD] to open the CD lid and insert the CD.



**3** Close the CD lid by hand.  
Press [●●● CLOSE] to close.

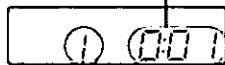
Total playing time



Number of tracks

**4** Press [▶/||] to start play.  
Play starts from the first track and continues to the last track.

Elapsed play time



Track number in play

**5** Adjust the volume.

**To stop play**  
Press [■/CLEAR].

<b>To pause</b>	Press [▶/  ] during playback. To resume, press [▶/  ].
<b>To search forward/backward</b>	Hold down [-/◀◀] (backward) or [+/▶▶] (forward) during playback or when paused.
<b>To skip forward/backward</b>	Press [-/◀◀] (backward) or [+/▶▶] (forward).

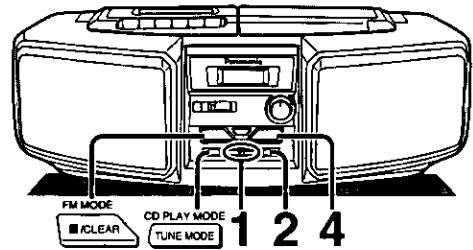
"NO DISC" is displayed if there is no disc in the unit.

### Note

- If interference occurs to radio or televisions, place the unit as far as possible from this equipment.
- Do not press [▲ CD] during play, pause or immediately after you inserted the CD and closed the CD lid. CD may be scratched.

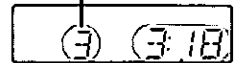
## Program play

You can program up to 24 tracks.



**1** When stopped  
Press [-/◀◀] or [+/▶▶] to select the desired track.

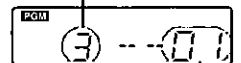
Track number



Play time

**2** Press [MEMORY].  
The track is programmed.

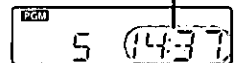
Specified track number



Program order

**3** Repeat steps 1 and 2 until you have programmed all the tracks you want.

Total play time of programmed tracks



**4** Press [▶/||].  
Play starts in the programmed order.



### To stop play

Press [■/CLEAR].

"P" is displayed indicating that the program is still active.

Press [■/CLEAR] again and "CLR" is displayed, the program is cleared, and the normal play mode is restored.

### To check program contents

Press [-/◀◀] or [+/▶▶] when "P" is displayed.

### Display

"-----": Program exceeds 100 minutes but programming and play are still possible.

"FULL": 24 tracks have already been programmed. The program is full.

## CD play modes

You can repeat one track (1-☐), all tracks (☐) or play the tracks in random order (RANDOM).

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

1-☐ → ☐ → RANDOM  
↑ off (no indication) ↓

These modes remain active until canceled.

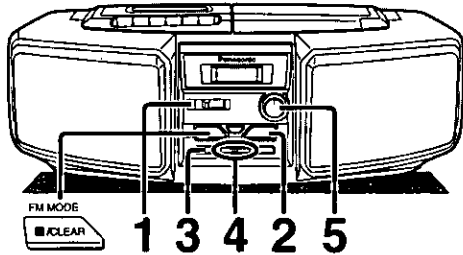
The "all tracks" repeat mode can be used with program play.

### Note

Random and program play cannot be done at the same time.

# Listening to radio broadcasts

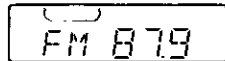
## Normal tuning



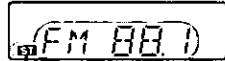
**1** Switch [SELECTOR] to "TUNER".  
(Power comes on.)

**2** Press [BAND] to select the band (FM or AM).

**3** Press [TUNE MODE] to select the normal tuning mode.  
Make sure that "PRESET" is not displayed.



**4** Press [-/◀] or [+/▶] to tune to the desired broadcast.  
The frequency changes one step each time a button is pressed.



"ST" lights up when an FM stereo broadcast is being received.

### Automatic tuning

Keep [-/◀] or [+/▶] depressed and release when the frequency display starts to change. A station with good reception is automatically selected and the process stops.

To stop automatic tuning, press [-/◀] or [+/▶] again.

### Note

Automatic tuning may stop on a frequency where there is no station if there is interference. Press [-/◀] and [+/▶] to fine tune if this occurs.

**5** Adjust the volume.

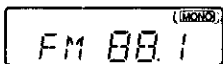
### To improve reception

FM: Extend the whip antenna and adjust direction.

AM: Adjust facing of the unit.

### If noise is excessive in the FM stereo mode

Press [FM MODE]. ("MONO" lights up.)



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

### To receive FM broadcasts allocated in 0.1MHz

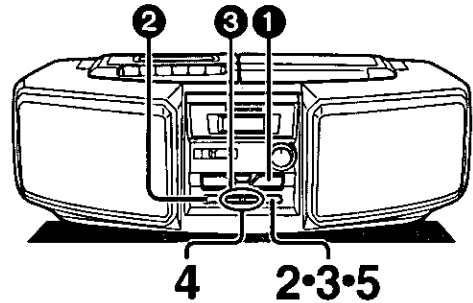
First press [BAND] to select AM. Now, press and hold [BAND]. The display changes in a few seconds to show the current lowest FM frequency. Continue to hold down the button.

The minimum frequency changes and the step is changed at the same time. Changing the step erases all preset stations.

Repeat the above to change the step back.

## Preset tuning

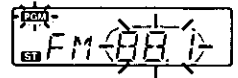
Preset the stations (ten FM and ten AM) to make tuning simpler.



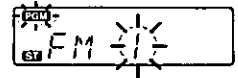
## How to preset

**1** Tune to the desired station.  
Follow steps 1-4 on the left.

**2** Press [MEMORY].

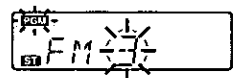


**3** While they are flashing Press [MEMORY].

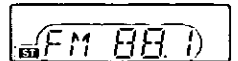


Preset channel

**4** While they are flashing Press [-/◀] or [+/▶] to select the desired channel.



**5** Press [MEMORY].  
(This completes presetting.)



**6** Repeat steps 1-5 to preset other stations.

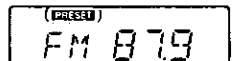
### Note

If "PGM" goes off during presetting, return to step 2.

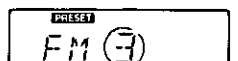
## To listen to preset channels

**1** Press [BAND] to select the band (FM or AM).

**2** Press [TUNE MODE] to select the preset tuning mode.  
Make sure that "PRESET" is displayed.



**3** Press [-/◀] or [+/▶] to select the desired channel (1-10).



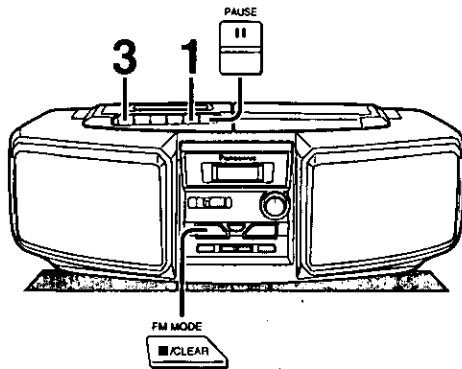
Preset channel

# Recording

You can record radio broadcasts or CDs.

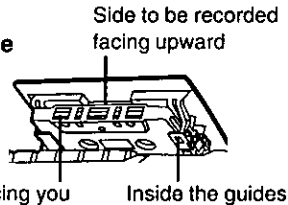
## Before recording

- This unit is suitable for recording normal tapes, but it cannot record onto high and metal position tapes to their full potential and prior recordings will not be erased.
- The recording level is set automatically.



- 1 Press **■/▲ STOP/EJECT** to open the tape lid and load the tape.

Close the tape lid by hand.



- 2 Select the source to be recorded.

### When recording radio broadcasts

Tune in the station.

(Follow steps 1–4 of "Normal tuning" on page 4.)

### When recording CDs

Insert the CD to be recorded.

(Follow steps 1–3 of "Normal play" on page 3.)

If you want to record programmed tracks, program desired tracks before proceeding to step 3.

- 3 Press **● [REC]** to start recording.

**▶ [PLAY]** is also depressed with **● [REC]**.

Recording starts (one side only).

The CD also starts playing if in CD mode.

## To stop recording

Press **■/▲ STOP/EJECT**. (The CD does not stop.)

## To stop recording temporarily

Press **|| PAUSE**. (The CD does not stop.)

Press once again to resume recording.

## To record on the other side of the tape

Turn the tape over and press **● [REC]**.

## If the CD finishes before the tape

Recording continues. Press **■/▲ STOP/EJECT** to stop it.

## If the tape finishes before the CD

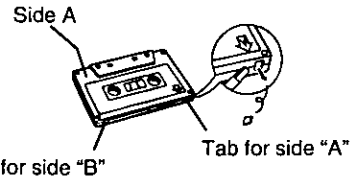
The CD continues playing. Press **■/CLEAR** to stop it.

## Note

Noise may be recorded if this unit is near a TV. Keep the units at least 1.5 meters apart.

## Erasure prevention

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



## To re-record on a protected cassette

Cover the hole with adhesive tape



## To erase a tape

- 1 Set **[SELECTOR]** to "TAPE/ OFF".

- 2 Insert the tape with the side to be erased facing up and the tape facing towards you.

- 3 Press **● [REC]**.

**▶ [PLAY]** is depressed at the same time.

## Reference

Changes to volume and sound quality do not effect recording.

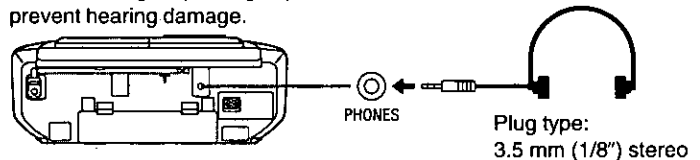
To prevent interruptions to recording, supply AC power to the unit or replace the batteries.

# Using headphones (not included)

Turn down the volume and connect the headphones to the PHONES jack.

## Note

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



# Maintenance

## Cleaning inside the deck

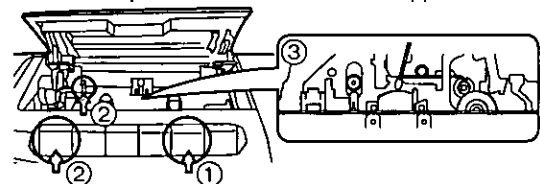
Regularly clean the parts the tape contacts (the shaded portions in the illustration). Use alcohol only.

- ① Press **■/▲ STOP/EJECT** to open the lid.

- ② Hold down the tab and press **● [REC]**.

The mechanism will move out so it can be seen.

- ③ Clean the shaded portions with a cotton swab dipped in alcohol.



## Care of the CD lens

Clean the lens regularly to prevent malfunctions. Use a blower to remove dust and a cotton swab if it is extremely dirty.

Recommended product:

Lens cleaner kit ( part no. SZZP1038C).



Lens

## CAUTION!

THIS PRODUCT UTILIZES A LASER.  
USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

DO NOT OPEN COVERS AND DO NOT REPAIR YOURSELF. REFER SERVICING TO QUALIFIED PERSONNEL.

## CAUTION:

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

## WARNING:

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



## CAUTION

RISK OF ELECTRIC SHOCK  
DO NOT OPEN



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



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



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

# Precautions

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

## Safety

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

## Installation

### Environment

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

### Placement

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



## Maintenance

Clean the cabinet, panel and controls with a soft cloth lightly moistened with mild detergent solution.

Do not use any type of abrasive pad, scouring powder or solvent such as alcohol or benzene.

## Service

- 1. Damage Requiring Service**—The unit should be serviced by qualified service personnel when:
  - (a) The AC power supply cord or the plug has been damaged; or
  - (b) Objects have fallen or liquid has been spilled into the unit; or
  - (c) The unit has been exposed to rain; or
  - (d) The unit does not appear to operate normally or exhibits a marked change in performance; or
  - (e) The unit has been dropped, or the enclosure damaged.
- 2. Servicing**—The user should not attempt to service the unit beyond that described in the operating instructions. All other servicing should be referred to an authorized service personnel.  
**For the address of an authorized servicenter:**  
*In the U.S.A. 1-800-211-7262 or web site*  
*(<http://www.panasonic.com>)*  
*In Canada 905-624-5505 or web site*  
*([www.panasonic.ca/adbckca.htm](http://www.panasonic.ca/adbckca.htm))*

### 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 of the following measures:

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

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

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

## 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.

### 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 in product operation, refer to the servicenter directory.

## Use of batteries

- Do not use rechargeable type batteries.
- Do not mix old and new batteries, or batteries of different types (manganese and alkaline, etc.)
- Always remove old, weak or worn-out batteries promptly and dispose of them properly.
- Never subject batteries to excessive heat or flame; do not attempt to disassemble them, and be sure they are not short-circuited.
- If this unit is not to be used for a long period of time or is used only from an AC power source, remove the batteries and store them in a cool, dark place.
- If a battery leaks, remove all batteries and dispose of them properly.
- Thoroughly clean the battery compartment before inserting new batteries.
- If the electrolyte comes into contact with skin or clothes, flush with water immediately.
- Keep batteries out of reach of children.
- Do not attempt to recharge alkaline or manganese batteries.
- Batteries installed with incorrect polarities may leak and damage the unit.

## Audio software

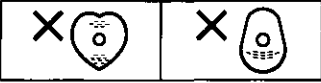
Take note of the following points to extend the life of your equipment. Always read the instructions provided with the software.

### Discs

Choose discs with this mark:



However, continued use of irregular shape CDs can damage the unit.



#### Do not;

- use discs that have extra labels or stickers attached. Carefully remove leftover adhesive before use.
- 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.

### 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 taken up before the tape is played.
- Endless tapes can get caught up in the deck's moving parts if used incorrectly.

## Technical specifications

<b>Frequency range</b>	87.9–107.9 MHz (200 kHz steps)
<b>FM</b>	87.5–108.0 MHz (100 kHz steps)
	520–1710 kHz (10 kHz steps)
<b>AM</b>	44.1 kHz
<b>Sampling frequency</b>	16 bit linear
<b>Decoding</b>	2 channel, stereo
<b>Beam source</b>	Semiconductor laser (wavelength 780 nm)
<b>No. of channels</b>	Less than possible measurement data
<b>Wow and flutter</b>	MASH (1 bit DAC)
<b>D/A converter</b>	4 track, 2 channel, stereo
<b>Track system</b>	Variable sound monitor
<b>Monitor system</b>	AC bias
<b>Recording system</b>	Multi Pole magnet
<b>Erasing system</b>	
<b>Frequency range</b>	50–12000 Hz
<b>Normal position</b>	
<b>Speakers</b>	10 cm (4") 4Ω×2
<b>Jacks</b>	
<b>Output</b>	PHONES: 3.5 mm stereo (32Ω)
<b>Power requirement</b>	
<b>AC</b>	120 V, 60 Hz
<b>Battery</b>	Power consumption: 14 W
	9 V (Six R20/LR20, D, UM-1 batteries)
	• Do not use rechargeable type batteries.
	6 V (Four R6/LR6, AA, UM-3 batteries)
	• Do not use rechargeable type batteries.
<b>Memory back-up</b>	
<b>Dimensions (W×H×D)</b>	456×167×266 mm (17 <sup>15</sup> / <sub>16</sub> "×6 <sup>9</sup> / <sub>16</sub> "×10 <sup>15</sup> / <sub>32</sub> "
<b>Weight</b>	3.1 kg (6 lb 13 oz) without batteries
<b>Note</b>	Specifications are subject to change without notice. Weight and dimensions are approximate.

MASH is a trademark of NTT.

## Troubleshooting guide

If you are in doubt about some of the check points, or if the remedies indicated in the chart do not solve the problem, refer to the directory of Authorized Service Centers (enclosed with this unit) to locate a convenient service center, or consult your dealer for instructions.

For detailed instructions, contact an authorized servicenter in the U.S.A. and Panasonic Canada Inc. Customer Care Center in Canada.

In the U.S.A. 1-800-211-7262 or web site (<http://www.panasonic.com>)

In Canada 905-624-5505 or web site ([www.panasonic.ca/faq.html](http://www.panasonic.ca/faq.html))

### Common problem

The unit doesn't work on batteries.	Is the AC power cord connected to the unit? Disconnect when using batteries. Have the batteries been inserted correctly? Check that the poles (- and +) are correctly aligned.
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### CD

"E" is displayed.	Indicates an incorrect operation. Read the instructions.
Play doesn't start or display is incorrect.	Clean the CD. Wait for an hour for condensation to dry, then try again. Make sure the label is facing up. Replace the CD if it is scratched, warped, or irregularly shaped.

### Cassette deck

Recording not possible.	Has the cassette's tab been removed. Cover the hole with tape.
Poor sound quality.	Clean the heads.
The cassette cannot be ejected or the lid can't be closed when loading a cassette.	The batteries are flat. Replace the batteries or connect to household AC power. Press [▶ PLAY] then [■ / ▲ STOP/EJECT].

### Radio

A lot of noise.	Is another remote control being used? Use it further away from this unit. Is a TV on? Move the unit away from the TV or turn it off.
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