

# Panasonic®

## DVD Stereo System

### Operating Instructions



The SC-PM88 model is only for U.S.A.

Model No. **SC-PM08/SC-PM88**



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-PM08	SC-PM88
Main unit		SA-PM08	SA-PM88
Speakers	Front	SB-PM08	SB-PM08
	Center	SB-PC80	SB-PC80
	Surround	SB-PS80	SB-PS80

## 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.**

DANGER	LASER RADIATION WHEN OPEN AVOID DIRECT EXPOSURE TO BEAM	(Inside of product)
DANGERS	RADIATION LASER LORSQU'IL OUVERT ÉVITER TOUTE EXPOSITION AU FAISCEAU	(Intérieur de l'appareil)
ADVARSEL	LASERSTRÅLING VED ÅBNING, NÅR SIKKERHEDSÅBRYDRE ER UD AF FUNKTION. UNDGÅ UDSETTELSE FOR STRÅLING	(Indersiden af apparatet)
VARO!	AVATTIÄSSÄ JA SUOJALUKITUS OHTETTÄESSÄ OLET ALLTIMA LASERSTRÄLLELLE. ÄLÄ KATSO SÄTEESSEIN	(Tuotteen sisällä)
WARNING	LASERSTRÅLING NÅR DENNA DEL ÄR ÖPPNAD OCH SPÅRSEN ÄR URKOPPLAD. BETRÄKTA EJ STRÅLEN	(Apparatens insida)
ADVARSEL	LASERSTRÅLING NÅR DENDEL ÅPNES OG SIKKERHEDSGLAS BRITES. UNDGÅ EKSPONERING FOR STRÅLEN	(Produktets inside)
VORSICHT	LASERSTRÄHLUNG, WENN ABDECKUNG GEÖFFNET NICHT DEM STRAHL AUSSETZEN	(Im Inneren des Gerätes)

## 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

## 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>)

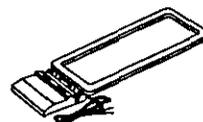
- AC power supply cord . . . . . 1 pc  
 (RJA0065-A)



- FM indoor antenna . . . . . 1 pc  
 (RSA0006~J)



- AM loop antenna (RSA0032) . . . . . 1 pc



- Video cord . . . . . 1 pc.  
 (RJL1P016B15A)



- Remote control . . . . . 1 pc  
 (RAK-PM901WK)



- Remote control batteries . . . . . 2 pcs.



- Speaker feet . . . . . 12 pcs  
 (RKA0072-KJ)  
 Replacements sold in sets of 4



Before use

## Before use

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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.

### WARNING:

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

### CAUTION:

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



### CAUTION

**RISK OF ELECTRIC SHOCK  
DO NOT OPEN**



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



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



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

# PRECAUTIONS

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

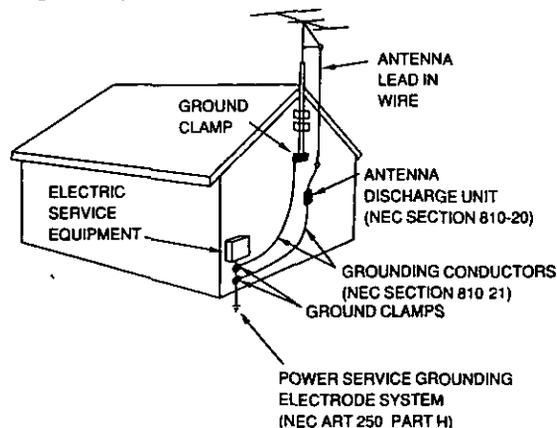
## Safety

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

## Installation

### Environment

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



NEC—NATIONAL ELECTRICAL CODE

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

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

### Placement

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



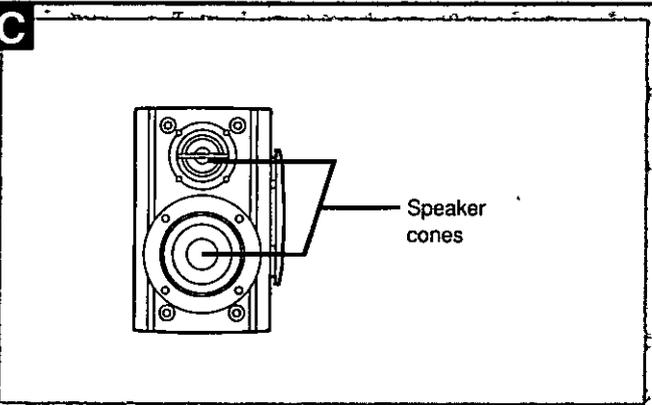
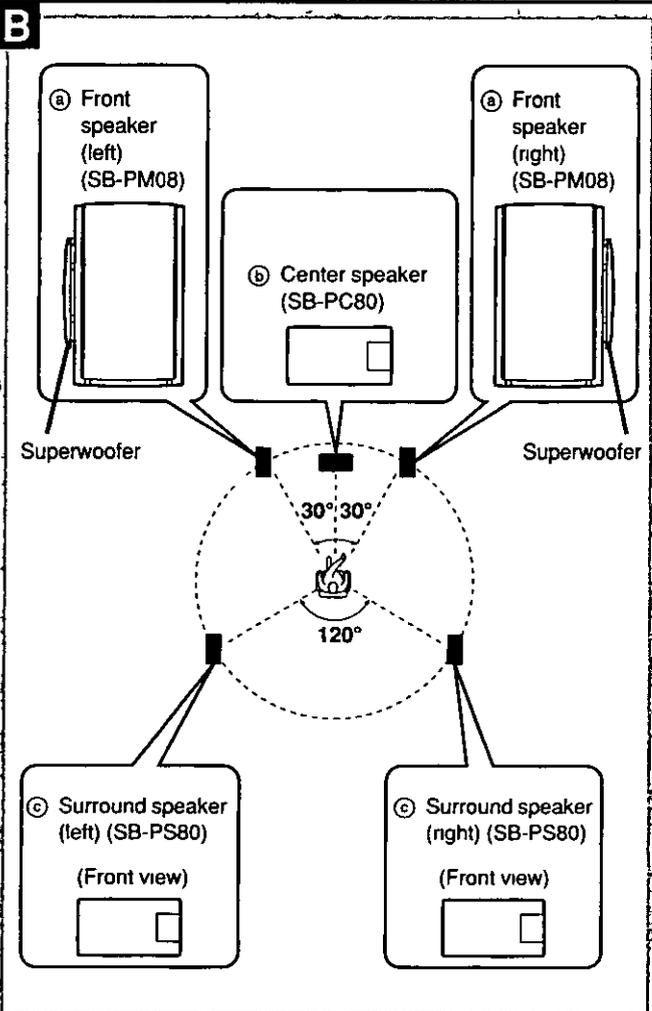
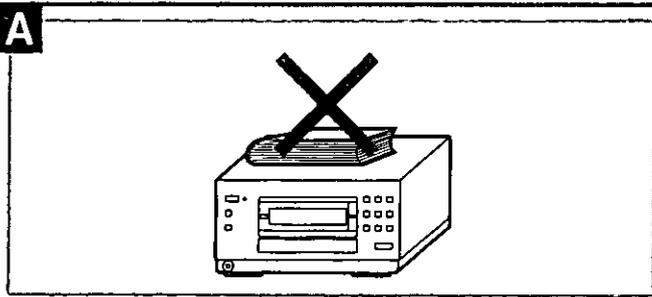
## Maintenance

(See back cover for details.)

Clean the cabinet, panel and controls with a soft cloth lightly moistened with mild detergent solution. Do not use any type of abrasive pad, scouring powder or solvent such as alcohol or 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., call 1-800-211-7262,  
e-mail [consumerproducts@panasonic.com](mailto:consumerproducts@panasonic.com),  
or visit [www.panasonic.com](http://www.panasonic.com)  
In Canada, call 1-800-561-5505  
or visit [www.panasonic.ca](http://www.panasonic.ca)



# Installation

## Main unit

- A** Do not place anything on top of the unit or block the heat vents in any way  
Allow 10-cm clearance from the rear of the unit

**Note**  
The unit may become warm during operation, but this is normal

## B Position the speakers

The two big speakers are front speakers (**SB-PM08**)  
The small speaker with the short cord is the center speaker (**SB-PC80, CENTER SPEAKER**)  
The small speakers with the long cords are surround speakers (**SB-PS80, SURROUND SPEAKER**)  
The model numbers and speaker names are printed on the back of the speakers

The front, center, and surround speakers should be placed at approximately the same distance from the listening position  
The angles in the diagram are approximate

### (a) Front speakers

Place the speakers so that the superwoofers are on the outside

#### Note

- Keep your speakers at least 10 mm (<sup>13</sup>/<sub>32</sub>" ) away from the system for proper ventilation
- The superwoofers are located on the sides of the speakers. Leave 10-cm clearance for the superwoofers to be effective
- To avoid damage to the speakers, do not touch the speaker cones if you take the nets off **C**

### (b) Center speaker

Place the center speaker directly above the television

### (c) Surround speakers

Place the surround speakers either side of the listening position, or slightly to the rear, about 1 meter higher than ear level  
Place the speakers with the Panasonic logo facing toward the listening position. However, the position should be adjusted to your personal preference, because the effect varies to some degree depending upon the type of music and the music source

## Installation

### Center/surround speakers

#### Attach the speaker feet to the speakers

These speakers can be set-up either standing or lying down, or they can be attached to a wall.

The speaker feet help to keep the speakers in position and prevent scratching of your furniture.

Attach the speaker feet to suit the set up you choose as shown in the illustrations. **A**

Attach to the positions indicated with the shaded circles (●).

Ensure you do not cover the holes when attaching the speaker feet to the rear of the speaker.

#### B Attaching to a wall

The speakers can be attached vertically or horizontally.

Screw the screws (not included) into the wall or pillar as shown in the diagram.

Screw; head diameter: 7.5–9.5 mm ( $\frac{5}{16}$ "– $\frac{3}{8}$ ")  
length: 30–35 mm ( $1\frac{3}{16}$ "– $1\frac{3}{8}$ ")

Set speaker onto screws and slide through bracket to lock into position.

#### Note

The wall or pillar on which the speakers are to be attached should be capable of supporting 5 kg (11 lb.) per screw.

#### C Moving the brand plate

You can rotate the brand plate.

To prevent damage to the plate, wrap the end of a flat-head screwdriver with cloth, insert under the plate and lift it. Rotate to the required position.

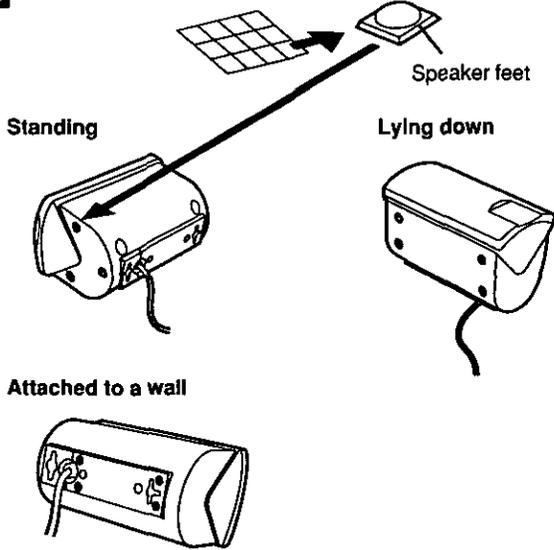
#### Use only the supplied speakers.

The combination of the unit and the included speakers provides the best sound. Using other speakers can damage the unit and sound quality will be adversely affected.

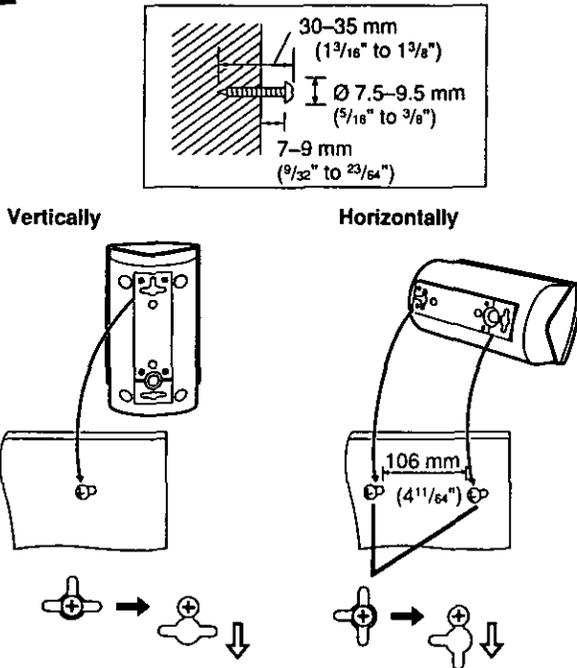
#### Caution

- 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 attempt to attach these speakers to walls using methods other than those described in this manual.

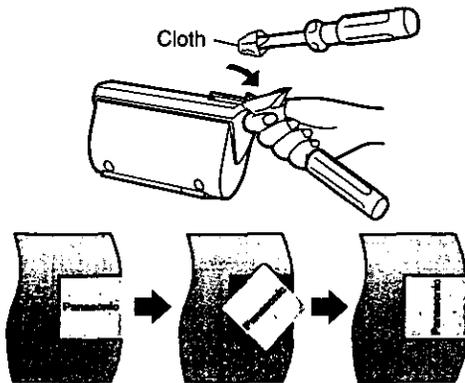
**A**



**B**

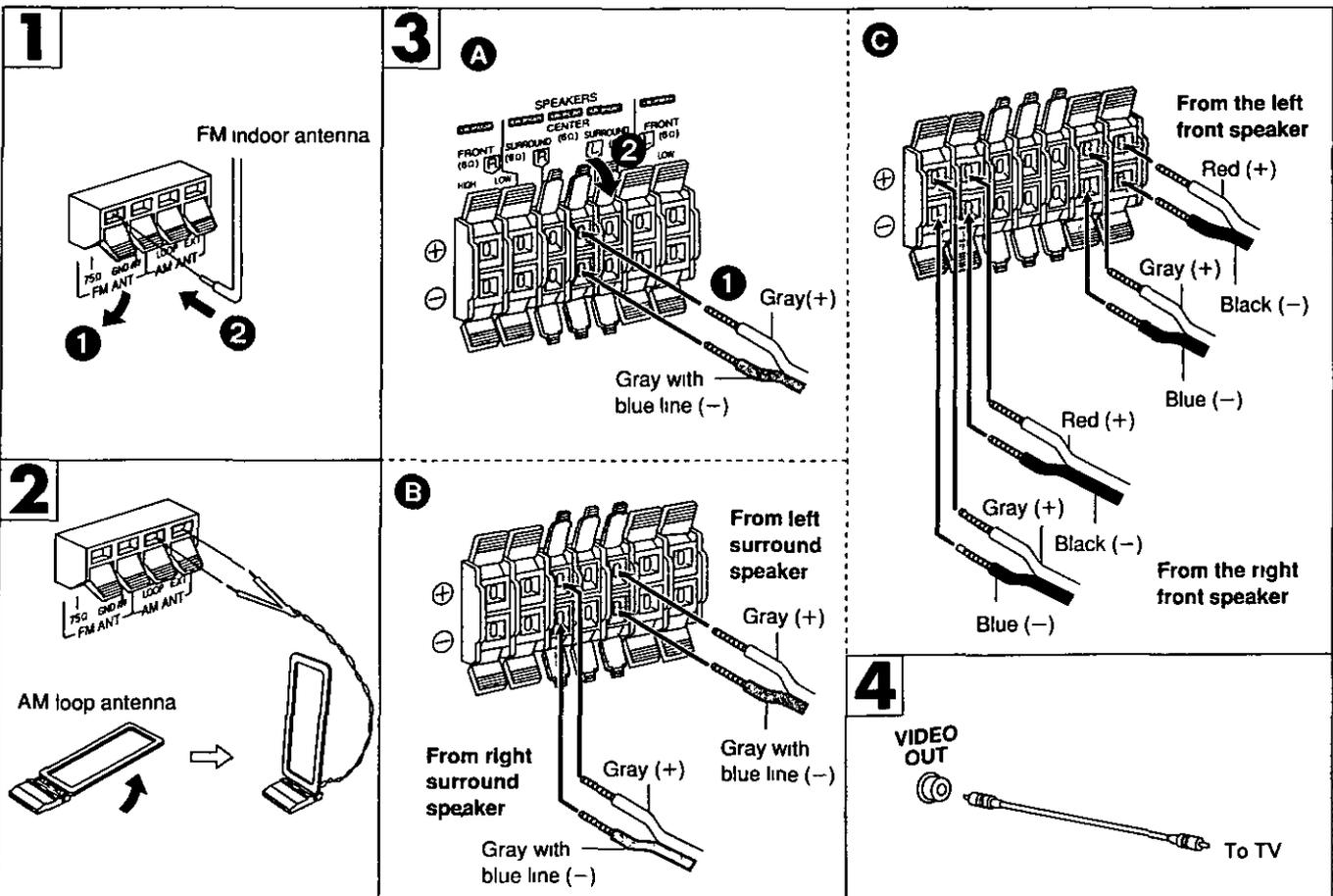
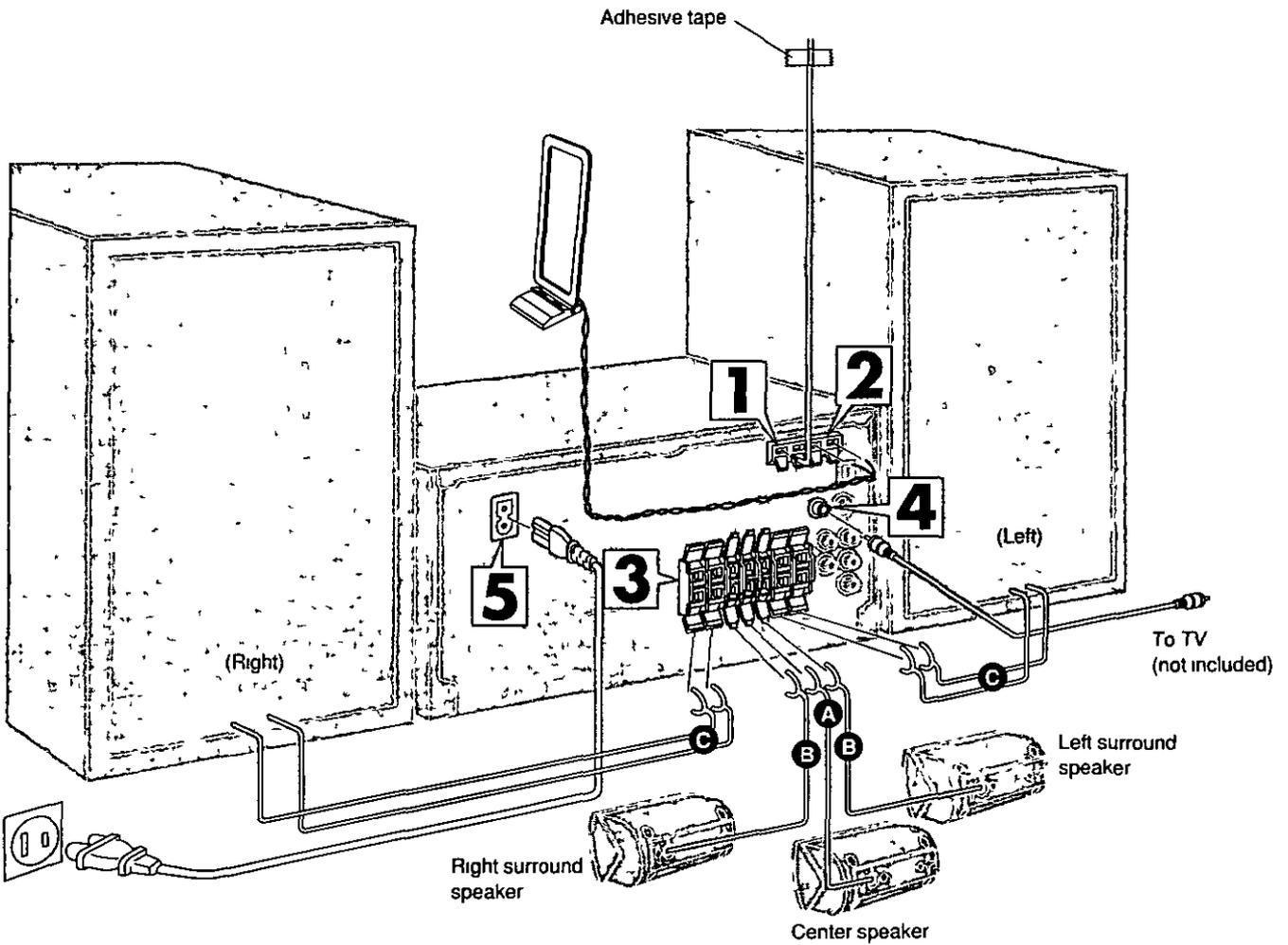


**C**



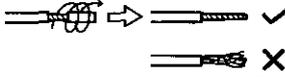
# Basic connections

Before use



### Before connection

- Do not connect the AC power supply cord until all other connections are complete
- To prepare the AM loop antenna, speaker cords and FM antenna, twist the vinyl tip and pull off



## 1 FM antenna.

Fix the other end of the antenna where reception is best

## 2 AM loop antenna.

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

## 3 Speaker cords.

- Ⓐ Center speaker cord
- Ⓑ Surround speaker cords
- Ⓒ Front (L/R) speaker cords

Connect the cords to the terminals of the same color

### Note

- To prevent damage to circuitry, never short-circuit positive (+) and negative (-) speaker wires
- Be sure to connect only positive (red or gray) wires to positive (+) terminals and negative (black, blue or gray with blue line) wires to negative (-) terminals

## 4 TV (not included)

Connect the video connection cord from this unit to your TV  
Alternatively, connect through the S-VIDEO OUT terminal if the TV has an S-VIDEO terminal (→ page 36)

## 5 AC power supply cord.

### Note

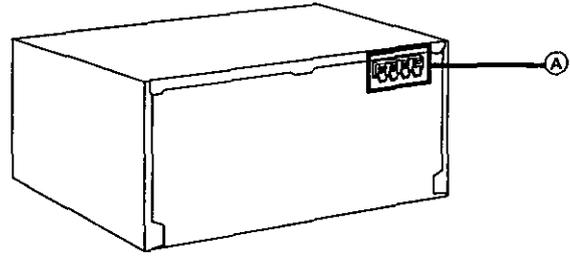
The included AC power supply cord is for use with this unit only. Do not use it with other equipment

### For your reference

Information you enter into the unit's memory, except for time, remains intact for up to a month after the AC power supply cord is disconnected

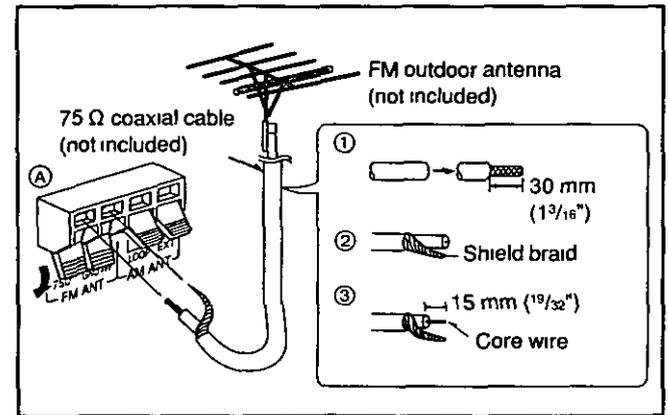
## Optional antenna connections

Use outdoor antennas if radio reception is poor



### FM outdoor antenna

- Disconnect the FM indoor antenna
- The antenna should be installed by a competent technician

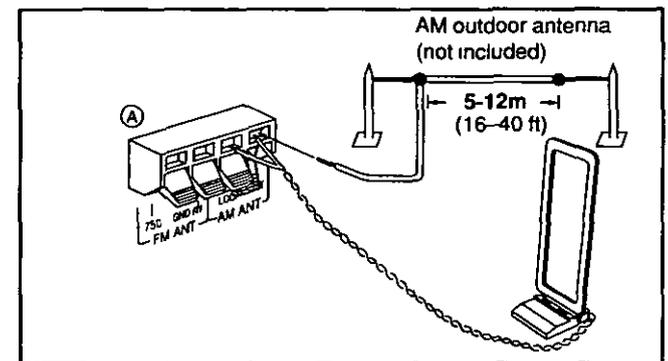


### AM outdoor antenna

Run a piece of vinyl wire horizontally across a window or other convenient location  
Leave the loop antenna connected

### Note

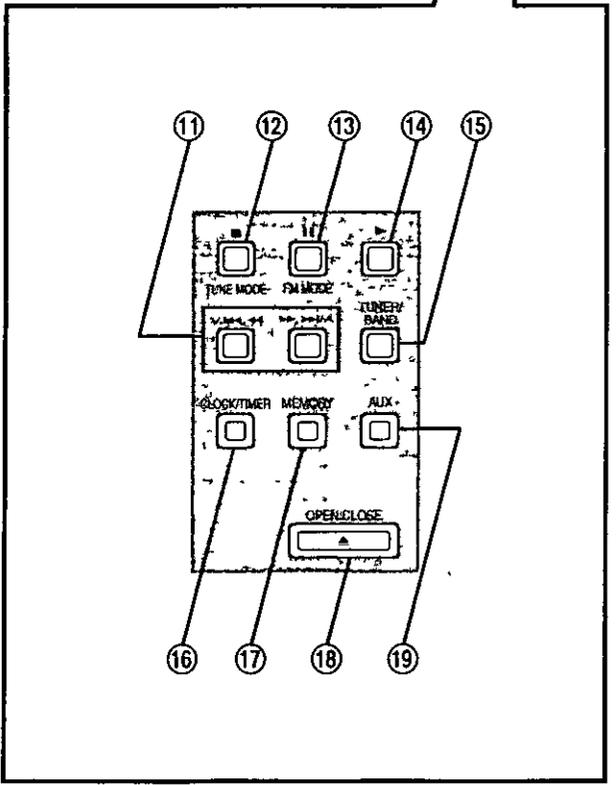
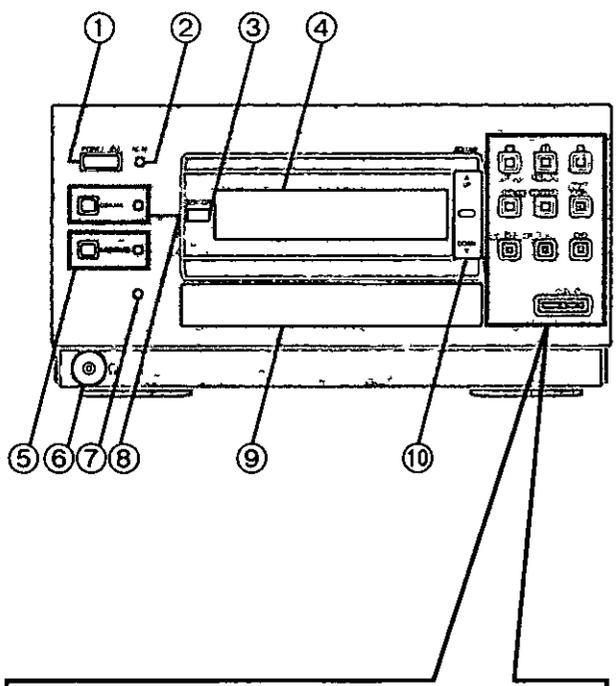
Disconnect the antenna when the unit is not in use. Do not use the antenna during an electrical storm



## Main unit

- ① Standby/on switch (POWER  $\text{O/I}$ ) . . . 12  
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.
- ② AC supply indicator (AC IN)  
This indicator lights when the unit is connected to the AC power supply.
- ③ Remote control signal sensor (SENSOR) . . . 5
- ④ Display
- ⑤ Super surround button and indicator (S SURROUND) . . . . . 32
- ⑥ Headphone jack ( $\text{Q}$ ) . . . . . 35
- ⑦ Dolby Digital Indicator . . . . . 31
- ⑧ Cinema mode button and indicator (CINEMA) . . . 22
- ⑨ Disc tray
- ⑩ Volume control (VOLUME  $\blacktriangle$  UP,  $\blacktriangledown$  DOWN) . . . . . 15, 28
- ⑪ Skip/search/tune/time adjust buttons ( $\blacktriangleleft$ / $\blacktriangleleft$ ,  $\blacktriangleright$ / $\blacktriangleright$ / $\blacktriangle$ ) . . . . . 12, 16, 28, 33
- ⑫ Stop/tuning mode select button ( $\blacksquare$ , TUNE MODE) . . . . . 15, 23, 28
- ⑬ Pause/FM mode select button ( $\text{II}$ , FM MODE) . . . . . 16, 28
- ⑭ Play button ( $\blacktriangleright$ ) . . . . . 12, 15
- ⑮ Tuner/band select button (TUNER/BAND) . . . . . 28
- ⑯ Clock/timer button (CLOCK/TIMER) . . . . . 12, 33
- ⑰ Memory button (MEMORY) . . . . . 29
- ⑱ Disc tray open/close button ( $\blacktriangle$ , OPEN/CLOSE) . . . 15
- ⑲ AUX button (AUX) . . . . . 36

Before use

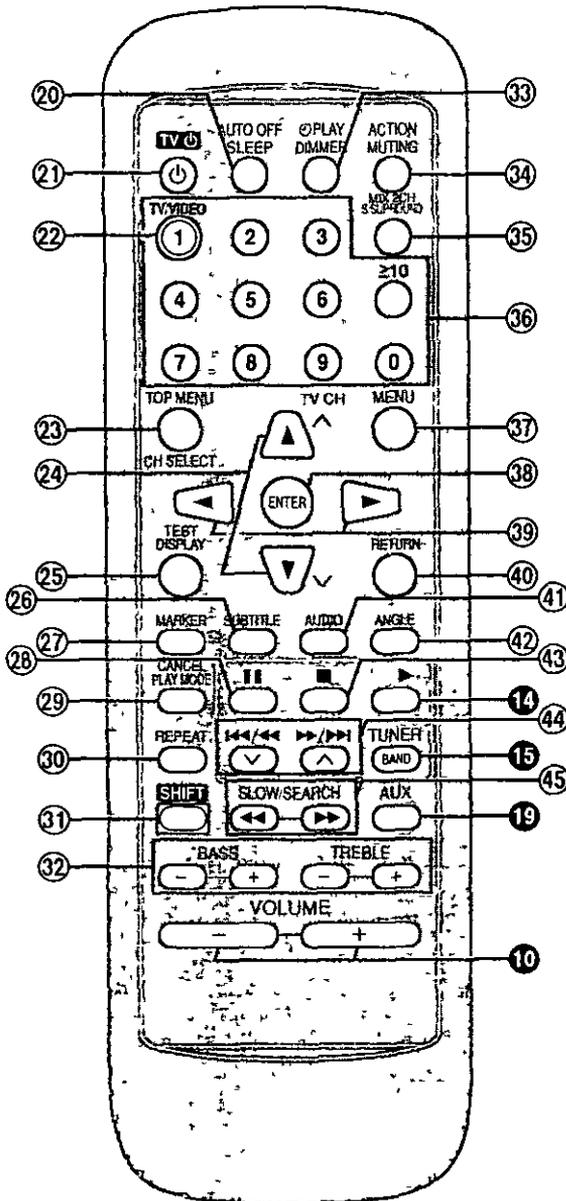


## Front panel controls

## Remote control

Buttons such as ⑩ function in the same way as the controls on the main unit.

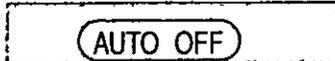
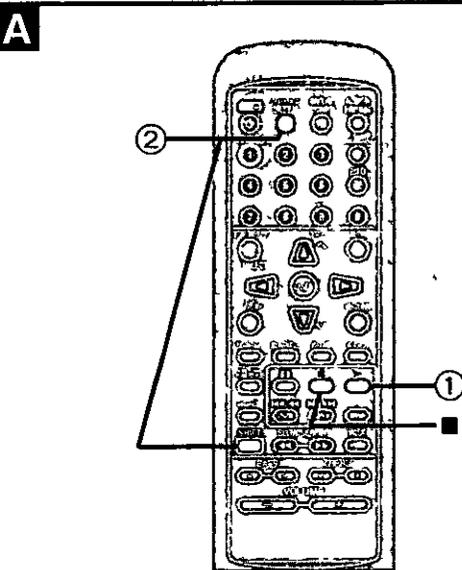
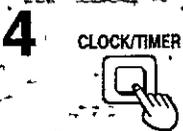
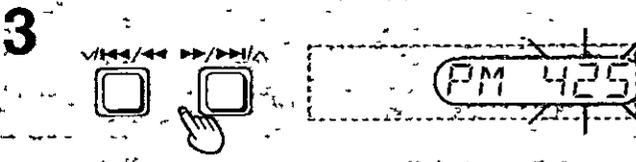
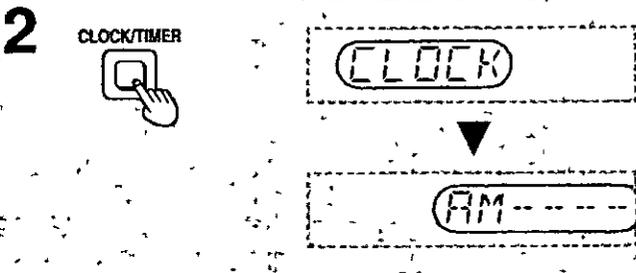
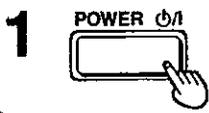
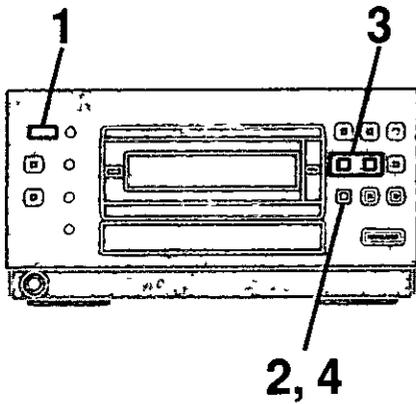
Before use



⑩	Sleep timer button (SLEEP) . . . . .	34
⑪	Standby/on switch (⏻) . . . . .	33, 37
⑫	Top menu button (TOP MENU)	21
⑬	Cursor buttons (◀, ▶, ▲, ▼) . . . . .	13, 17, 31
⑭	On-screen menu icon button (DISPLAY) . . . . .	25
⑮	Subtitle button (SUBTITLE) . . . . .	20
⑯	Marker button (MARKER) . . . . .	19
⑰	Pause button (⏸) . . . . .	16
⑱	Play mode select button (PLAY MODE) . . . . .	23
⑲	Repeat button (REPEAT) . . . . .	18
⑳	Shift button (SHIFT)	
	See below	
㉑	Bass/treble control buttons (BASS -, +, TREBLE -, +) . . . . .	32
㉒	Dimmer button (DIMMER) . . . . .	35
㉓	Muting button (MUTING) . . . . .	35
㉔	Super surround button (S SURROUND) . . . . .	32
㉕	Numbered buttons (0-9, ≥10) . . . . .	13, 23, 29
㉖	Menu button (MENU) . . . . .	21
㉗	Enter button (ENTER) . . . . .	13, 19, 20
㉘	Return button (RETURN) . . . . .	13, 15, 22
㉙	Audio button (AUDIO) . . . . .	20
㉚	Angle button (ANGLE) . . . . .	21
㉛	Stop button (■) . . . . .	15
㉜	Skip/search, tuning button (v, ◀◀/◀, ▲, ▶▶/▶▶) . . . . .	16, 28
㉝	Slow/search button (SLOW/SEARCH ◀◀, ▶▶) . . . . .	16, 17

To operate functions labeled in orange or blue, press [SHIFT] (㉑) and the corresponding button at the same time

㉞	Auto power-off button (AUTO OFF) . . . . .	12
㉟	TV standby/on switch (TV ⏻) . . . . .	37
㊱	TV/video input mode select button (TV/VIDEO) . . . . .	37
㊲	Speaker channel select button (CH SELECT) . . . . .	31
㊳	TV channel select buttons (TV CH ▲, ▼) . . . . .	37
㊴	Test signal button (TEST) . . . . .	31
㊵	Cancel button (CANCEL) . . . . .	19, 23
㊶	Play timer button (⏵PLAY) . . . . .	33
㊷	Initial settings button (ACTION) . . . . .	13
㊸	2 channel down-mixing button (MIX 2CH) . . . . .	31



## Setting the time

This is a 12-hour clock

The example shows how to set the clock for 4 25 p m

**1** Press [POWER ] to turn the unit on.

**2** Press [CLOCK/TIMER] to display "CLOCK".

Each time you press the button  
 CLOCK → → Original display

**3** (Within 7 seconds or so)  
 Press [] or [] to set the time.

The time display can be changed in one minute units by tapping the buttons, and quickly by holding down the buttons

**4** Press [CLOCK/TIMER].  
 The time is set and the original display is restored

### Displaying the clock

Press [CLOCK/TIMER] to display "CLOCK"

The clock is shown for about 5 seconds, then the previous display is restored

## A Auto power-off

### Remote control only

When disc is selected as the source

To save power, the unit turns off if it is left unused for 4 minutes

This function does not work if the source is tuner or AUX or if a disc menu is being displayed

① Press [] to select disc as the source.  
 If play starts, press []

② Press [SHIFT] + [AUTO OFF].  
 "AUTO OFF" is displayed

The setting is maintained even if the unit is turned off

If you select tuner or AUX as the source, "AUTO OFF" goes out. It comes on again when you select disc

### To cancel

Press [SHIFT] + [AUTO OFF] again



## Disc symbols used in these operating instructions

The functions you can use depend on the type of disc you play. These marks are used to indicate which type of disc is available for use.

- DVD**: Feature can be used with DVD-Video
- V-CD**: Feature can be used with Video CD
- CD**: Feature can be used with Audio CD

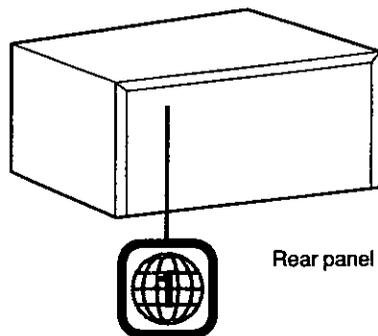
Some features cannot be used even if these symbols are indicated.

## Region numbers

Region numbers are allocated to DVD players and software according to where they are sold.

DVDs can be played on this unit if their region number is the same or includes the same number, or if the DVD is marked "ALL".

Confirm the region number for this unit before choosing discs. The number for this unit is "1".



Examples of discs that can be played by this unit



## Disc selection and care

This unit can play discs bearing any of these marks:

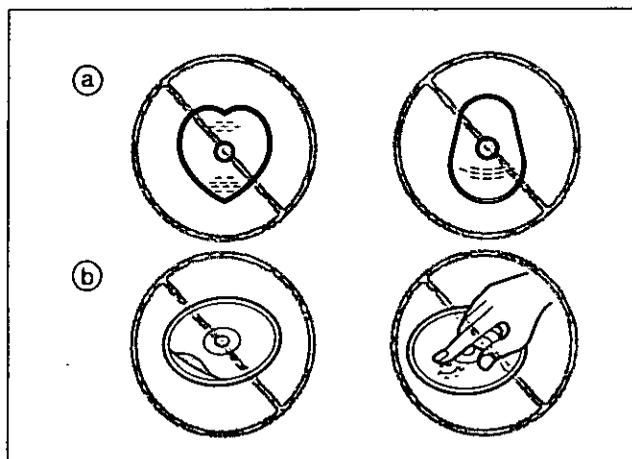


This unit cannot play the following discs:

- DVD with an unsuitable region number (→ left column)
- PAL system discs
- DVD-Audio
- DVD-ROM
- DVD-R
- DVD-RAM
- DVD+RW
- DVD-RW
- DIVX Video Disc
- VSD
- CD-ROM
- CDV
- CVD
- CD-G
- CD-RW
- SACD
- SVCD
- CD-R
- Photo CD, etc.

### Do not;

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



## Discs

Screens illustrated are examples

### Normal play

**DVD** **V-CD** **CD**

#### Preparation

Turn the television on and switch the video input mode on the television to suit the type of connection you have made (e.g. VIDEO 1)

**1** Press [**▲**, OPEN/CLOSE] to open the tray.

The unit comes on automatically

Set the disc on the tray and press [**▲**, OPEN/CLOSE] to close the tray

Some discs start playing automatically

**2** Press [**▶**] to start play.

**A** If a menu screen appears on the television

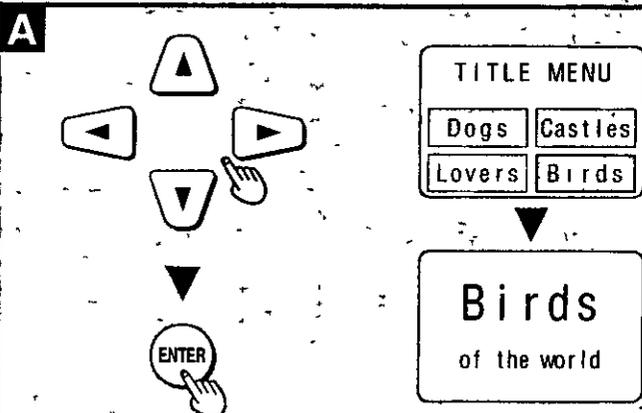
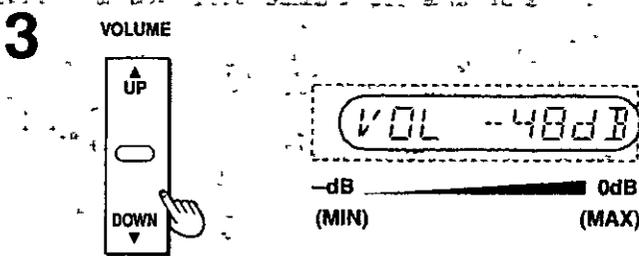
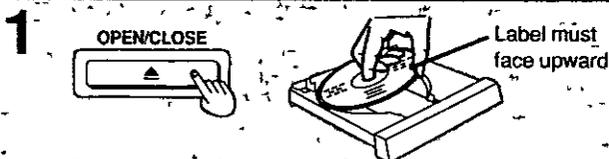
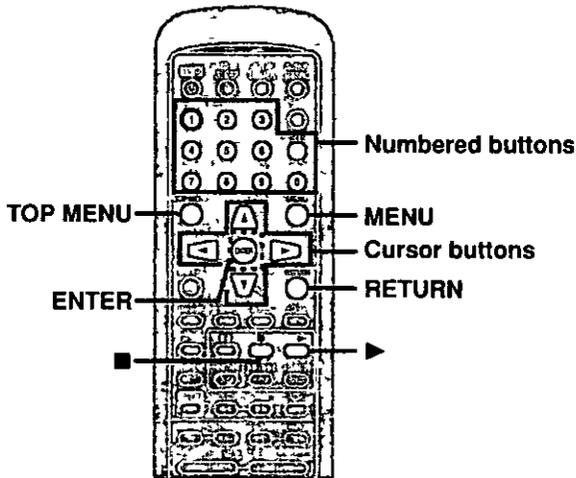
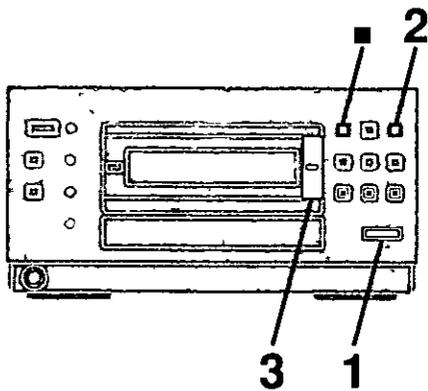
#### Remote control only

Use the cursor buttons (**◀**, **▶**, **▲**, **▼**) to highlight an item and press [ENTER]

You can also select the desired item by pressing the numbered buttons with some discs

To select title No 10 or over, press [**≥10**] then the two digits e.g. Title No 12 [**≥10**] → [**1**] → [**2**]

**3** Adjust the volume.



#### To stop the disc

Press [**■**] (= page 16)

#### Menu play

• With some discs, play may start without showing the menu screen  
To show the menu screen,

DVD Press [MENU], [TOP MENU] or [RETURN] on the remote control

Video CD Press [RETURN] on the remote control

#### Note

The disc continues to rotate while the menu is displayed even after a particular item has finished. When no more items are to be selected, be sure to press [**■**] to clear the menu display

#### "⊙" is displayed on the TV

When the operation is prohibited by the unit or the disc

#### "NO DISC" is displayed on the unit's display

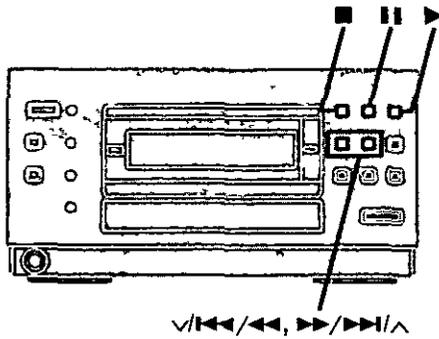
When there is no disc on the tray or the disc is set incorrectly

#### "NO PLAY" is displayed on the unit's display

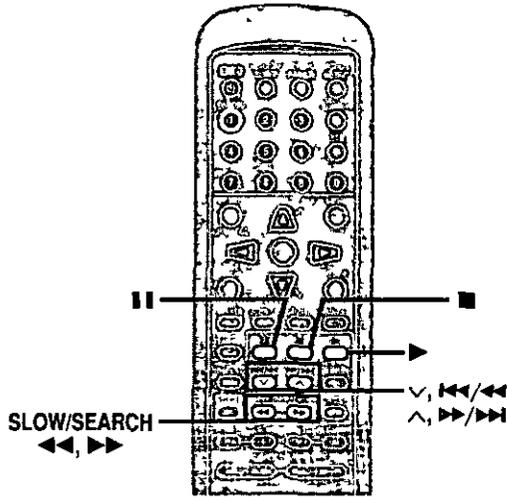
When the disc does not correspond to the unit and cannot be played

#### "96kHz 24bit" is displayed on the unit's display

When the disc is one with high quality sound recorded with a sampling frequency of 96 kHz and 24 bits



∇/∣◀◀/◀◀, ▶▶/▶▶/∧



SLOW/SEARCH  
◀◀, ▶▶

## Discs

### Using the resume function to restart play

If you press [M] during play, the unit remembers the position.

This function does not work if the disc's play time is not displayed

#### A To restart play from that position

Press [▶] while "RESUME" is lit.

#### To review the chapters up to the point where you stopped play (DVD only)

The message "Press PLAY to Chapter Preview" appears for a few seconds before the resume function is activated after pressing [▶]

Press [▶] while the message is on the TV.

The beginning portions of each chapter up to the current one are played

Full play resumes from the point where you stopped play

#### B To cancel the resume function

Press [■] while "RESUME" is lit.

#### Note

- The position is saved even if the unit is turned off
- Resume is canceled if the disc tray is opened
- Chapter preview is not possible with some DVDs

### C Pause (Still picture)

Press [II] during play.

Press [▶] to resume play

### D Skip

Chapters on DVD and tracks on Video CD and CD can be skipped

Press [∇/∣◀◀/◀◀] or [▶▶/▶▶/∧] during play

∇/∣◀◀/◀◀ Backward

▶▶/▶▶/∧ Forward

Each press increases the number of skips

#### Note

- If pressed while a Video CD menu is on the screen, you may return to the previous menu
- If pressed while playing a Video CD with PBC, you may return to a menu screen

### E Search

#### Remote control

Press [SLOW/SEARCH (◀◀ or ▶▶)] during play.

◀◀ Backward

▶▶ Forward

Each press increases the speed of the search There are 5 speeds

- If pressed while playing a Video CD with PBC, you may return to a menu screen

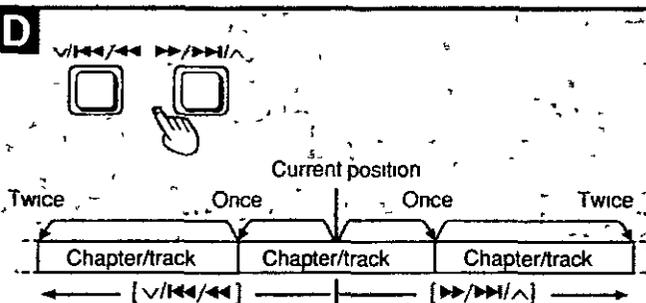
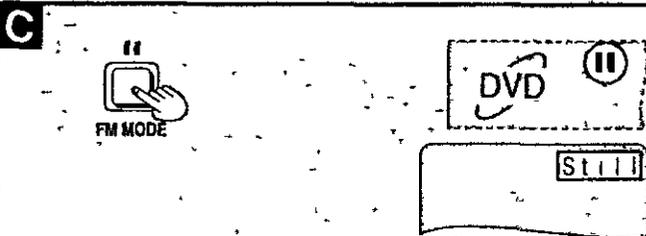
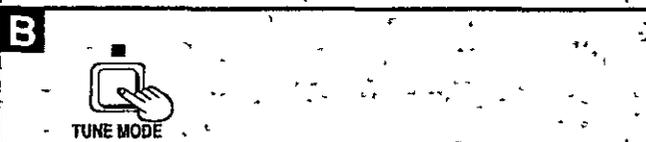
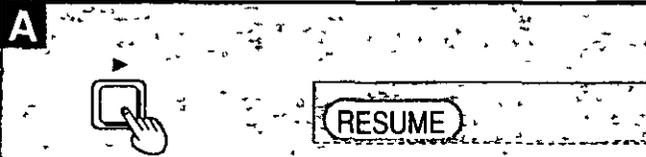
Press [▶] to resume play

#### Main unit and remote control

Press and hold [∇/∣◀◀/◀◀] or [▶▶/▶▶/∧] during play

Search speed cannot be changed

Play resumes when you release the button



## Other methods of disc play

### A Frame-by-frame viewing

DVD VCD

Remote control only

- 1 Press [II] during play.
- 2 Press the cursor buttons [◀] or [▶].
  - ◀ Backward
  - ▶ Forward

**Note**

You cannot move backwards with Video CD

- The frame changes each time you press a cursor button
- The frames change in succession if you press and hold a cursor button
- The frame also advances each time you press [II]

To resume play

Press [▶]

### B Slow-motion play

DVD VCD

Remote control only

- 1 Press [II] during play.
- 2 Press [SLOW/SEARCH (◀◀ or ▶▶)].
  - ◀◀ Backward
  - ▶▶ Forward

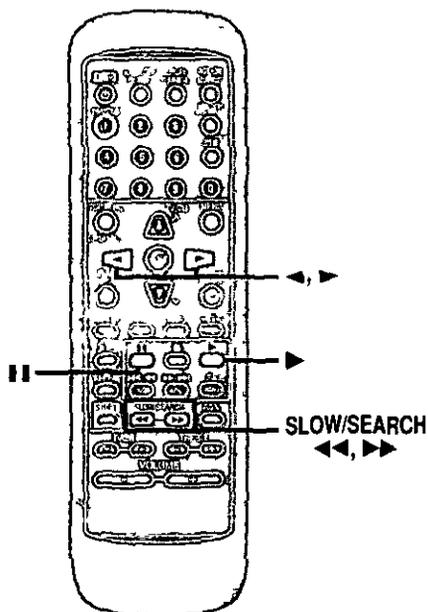
Each press increases the speed of the slow motion. There are 5 speeds.

**Note**

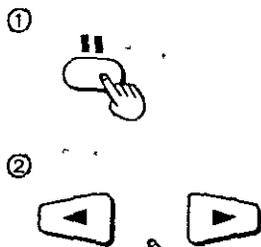
You cannot move backwards with Video CD

To resume play

Press [▶]

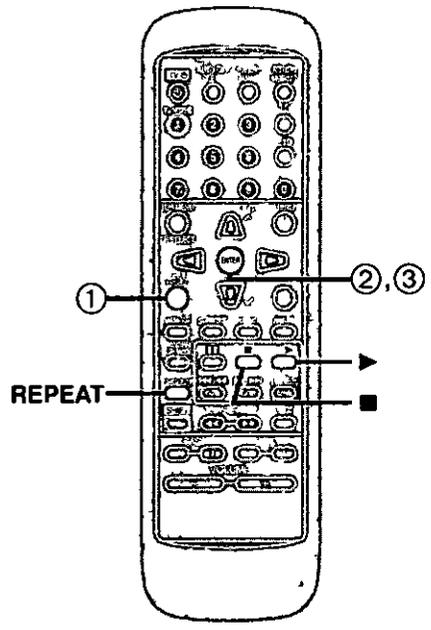


**A**



**B**





Other methods of disc play

**A Repeat function**

**DVD** **VCD** **CD**

Remote control only

Press [REPEAT] during play.

Each time you press the button

**DVD**

- ① C-REPEAT (C) Current chapter is repeated
- ↓
- ② T-REPEAT (T) Current title is repeated
- ↓
- ③ REPEAT OFF Repeat mode is canceled

**Video CD, CD**

- ① T-REPEAT (T) Current track is repeated
- ↓
- ② ALL REPEAT (A) All tracks on the disc are repeated
- ↓
- ③ REPEAT OFF Repeat mode is canceled

**To cancel repeat play**

Press [REPEAT] to select "REPEAT OFF"  
Repeat is also canceled when you press [STOP] to stop play

- When playing Video CDs and CDs, you can combine random play (→ page 24) and repeat play

**Note**

Repeat play does not work if the play time for the disc is not displayed

**To repeat only your favorite tracks**

- Video CD and CD only
- 1 Program the tracks you want (→ page 23)
  - 2 Press [ENTER]
  - 3 Press [REPEAT] to select "ALL REPEAT"

**B Repeating a specific section (A-B repeat)**

**DVD** only

- ① While playing  
Press [DISPLAY] twice to display on-screen menu icons for player information (→ page 25).
- ② Press [ENTER] at the starting point (A).
- ③ Press [ENTER] at the finishing point (B).

**To cancel A-B repeat**

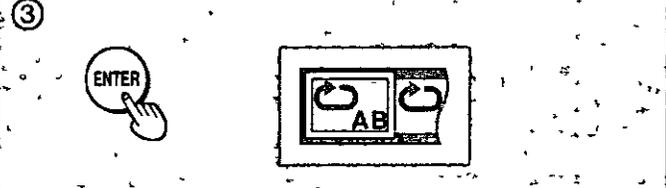
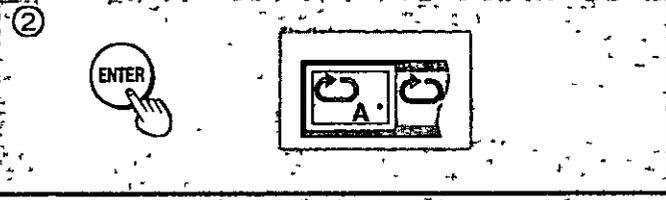
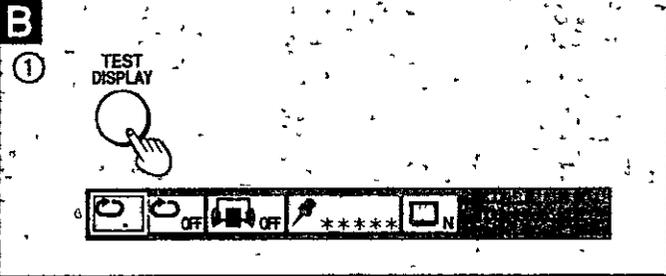
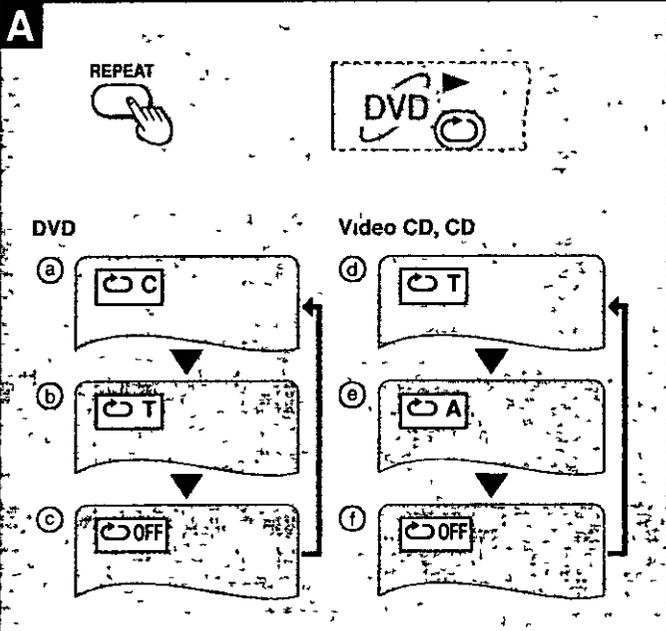
Press [ENTER]

**To clear the on-screen menu icons**

Press [DISPLAY] until the on-screen menu icons clear  
Pressing [RETURN] also clears the on-screen menu icons

**Note**

- This feature cannot be used if the play time for the disc is not displayed
- The player automatically determines the end of a title as point B
- Subtitles may not appear around A and B



## Other methods of disc play

### Marking a position

DVD V-CD CD

#### Remote control only

This feature allows you to mark up to 5 points on a disc so you can return to them easily at a later time.

#### To mark a position

- 1** Press [MARKER] during play.  
The marker display appears
- 2** Press [ENTER] at the point you want to mark.

#### To mark another position

While the marker display is on the screen

- ① Press the cursor buttons [◀] or [▶] to select another "\*"
  - ② Press [ENTER]

#### Recalling a marked position

- 1** If the marker display is not on the screen  
Press [MARKER].  
The marker display appears
- 2** Press the cursor buttons [◀] or [▶] to highlight the required marker.
- 3** Press [ENTER] to recall the position.

#### To clear a marker

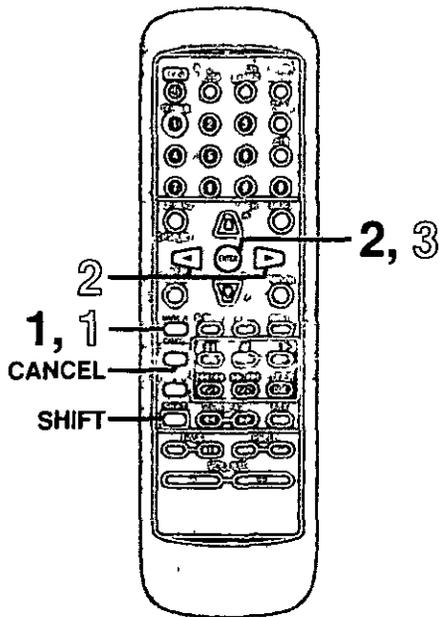
- ① If the marker display is not on the screen  
Press [MARKER]
- ② Press the cursor buttons [◀] or [▶] to highlight the marker you want to clear
- ③ Press [SHIFT] + [CANCEL]

#### To clear the marker display

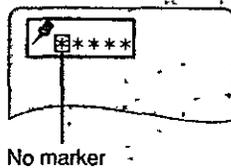
Press [MARKER]

#### Note

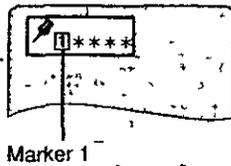
- This feature can not be used,
  - If the play time for the disc is not displayed
  - During program play (⇒ page 23) or random play (⇒ page 24)
- Some subtitles may fail to appear around the marker (DVD)
- Markers clear in the following situations
  - The unit is turned off
  - The tray is opened
  - A source other than disc is selected



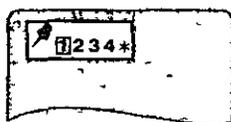
**1**



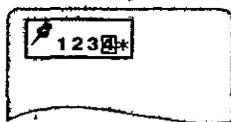
**2**



**1**



**2**



**3**



## Changing soundtrack and subtitle languages

### DVD

#### Remote control only

Some DVDs have multiple soundtracks and subtitle languages recorded on them. You can change these during play.

#### To change the soundtrack Press [AUDIO] during play.

The soundtrack display appears.  
The number changes each time you press the button.

#### To change the subtitle language Press [SUBTITLE] during play.

The subtitle display appears.  
The number changes each time you press the button.

The number can also be changed with the cursor buttons (▲ or ▼) or the numbered buttons.

See the bottom of page 27 for a key to language abbreviations.

#### To turn the subtitles on/off

- ① Press [SUBTITLE] to display the subtitle display
- ② Press the cursor buttons [◀] or [▶]

#### To clear the display

Press [ENTER]

#### For your reference

Soundtrack and subtitle languages can be set before play with the initial settings (⇒ "1 Disc Languages", page 38).  
(Some discs are designed to start in a certain language despite the initial setting.)

You can only select the languages recorded on the disc.

### A Switching vocals on/off for karaoke discs

### DVD

#### Remote control only

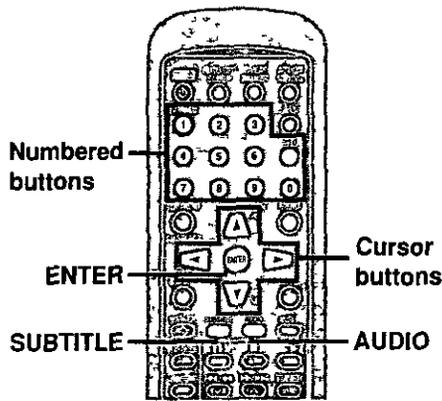
- ① Press [AUDIO] during play.
- ② Press the cursor buttons (◀, ▶) or [AUDIO] to change the setting.

- Solo --- No vocal  
ON Vocal
- Duet --- No vocal  
1 + 2 Vocal 1 and 2  
V1 Vocal 1  
V2 Vocal 2

Choose "---" for solo karaoke.  
Choose "V1" or "V2" to duet with the player.

#### To clear display

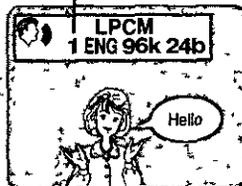
Press [ENTER]



#### To change the soundtrack



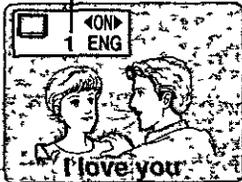
Soundtrack number



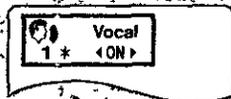
#### To change the subtitle language



Subtitle number



### A



#### To clear display

Press [ENTER]

## Other methods of disc play

### A Switching angles

#### DVD

##### Remote control only

Some DVDs allow you to view the same scene from different angles. "ANGLE" lights up on the unit's display during scenes recorded with multiple angles to indicate this feature is available.

#### Press [ANGLE] during play.

The angle display appears.

The angle number changes each time you press the button.

The number can also be changed with the cursor buttons (▲ or ▼) or the numbered buttons.

#### To clear the display

Press [ENTER].

### B Using menus to play

#### DVD

##### Remote control only

By calling up menus during play, you can start play from a specific title or chapter.

Menu content depends on the disc. These operating instructions describe the basic steps.

#### 1 Press [TOP MENU] or [MENU].

A menu screen is displayed.

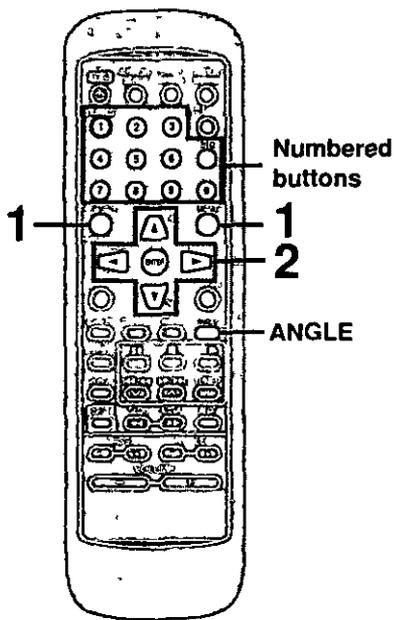
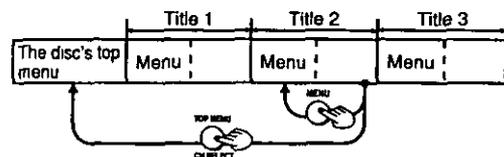
(Press again to return to what you were watching with some discs.)

#### 2 Select an item with the cursor buttons (◀, ▶, ▲, ▼) and press [ENTER] to confirm the selection.

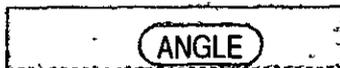
You can select items with the numbered buttons with some discs.

Repeat if another menu is shown.

DVDs can have several menus. The menu displayed by pressing [TOP MENU] may be different to the menu displayed by pressing [MENU].



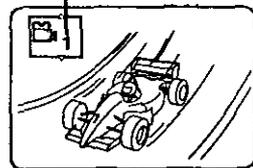
### A



ANGLE



Angle number



### B

#### 1

TOP MENU

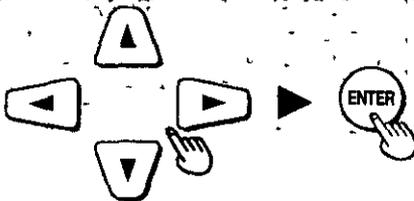


CH SELECT.

MENU



#### 2



## Other methods of disc play

### A Changing the picture quality for movie viewing (Cinema mode)

DVD V-CD

You can enjoy better pictures by changing the picture quality

Press **[CINEMA]**.

The CINEMA indicator lights and the CINEMA display appears on the screen

Each time you press the button

C (CINEMA is on) ← N (CINEMA is off)

To cancel

Press **[CINEMA]** to display "N"

The indicator turns off

### B Raising dialog volume (Dialog Enhancer)

DVD

This function makes the dialog in movies easier to hear

This function is effective with Dolby Digital, three channels or over, where the dialog is recorded in the center channel

**1 Press [DISPLAY] twice during play.**

The on-screen menu icons for player information (→ page 25) are displayed

**2 Press the cursor buttons (◀ or ▶) to select the Dialog Enhancer icon.**

**3 Press the cursor buttons (▲ or ▼) to turn the mode on.**

Each time you press the button

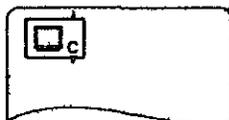
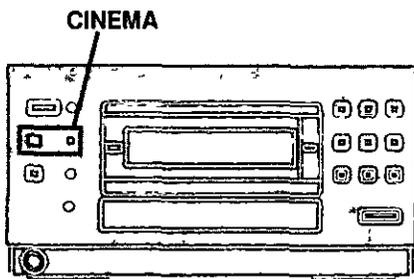
ON (Louder volume for dialog) ← OFF (Normal volume)

To clear the on-screen menu icons

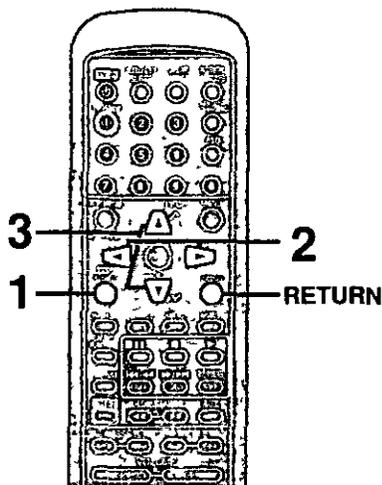
Press **[DISPLAY]** until the on-screen menu icons clear

Pressing **[RETURN]** also clears the on-screen menu icons

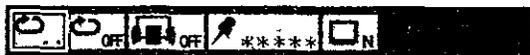
A



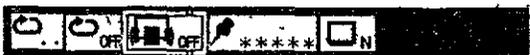
B



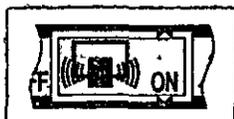
1 TEST DISPLAY



2



3



## Other methods of disc play

### Program play

**VECD** **CD**

#### Remote control only

You can select up to 24 tracks to play in the order you choose

**Preparation** Press [▶] then [■] to select disc as the source  
You can program individual tracks even if the disc is a Video CD with PBC

**1** While stopped  
**Press [PLAY MODE] to select "PGM".**  
Each time you press the button  
PGM → RANDOM → Original display

**2** Select the track with the numbered buttons.

To select tracks numbered 10 and over  
Press [≥10] then the two digits

Repeat step 2 to program all tracks you want in the required order

**3** Press [▶].  
All the tracks are played in the selected order

#### To exit program mode

Press [PLAY MODE] to clear "PGM"  
Program contents will be saved in the memory

#### To check program contents

While stopped  
Press [v, ◀◀/▶▶] or [^, ▶▶/▶▶▶]  
Each time you press a button, a track number and its program order are displayed

#### To add to the program

While stopped  
(Press [■] to cancel the resume function if it is on)  
Repeat step 2 above

#### To cancel tracks

While stopped  
(Press [■] to cancel the resume function if it is on)  
From the last programmed track  
Press [SHIFT] + [CANCEL]  
All tracks  
Press [■]  
Program mode is also canceled

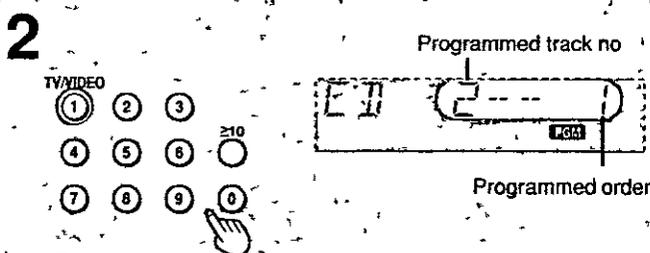
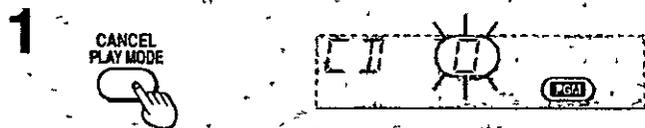
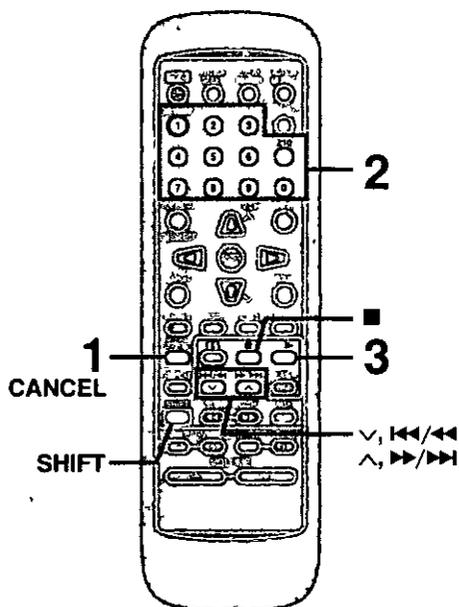
#### When "PGM FULL" is displayed

24 tracks have been programmed No further tracks can be programmed

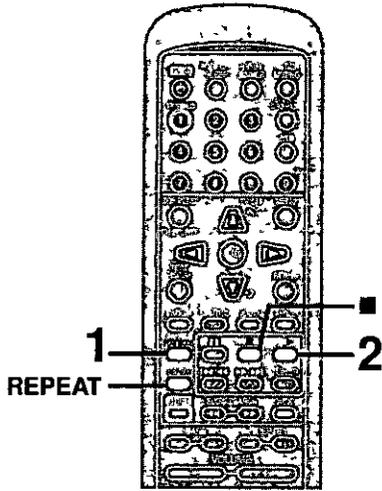
• You can combine repeat play (⇌ page 18) and program play

#### Note

- Skipping is done in the programmed order
- You can search only within the track playing in program play



A



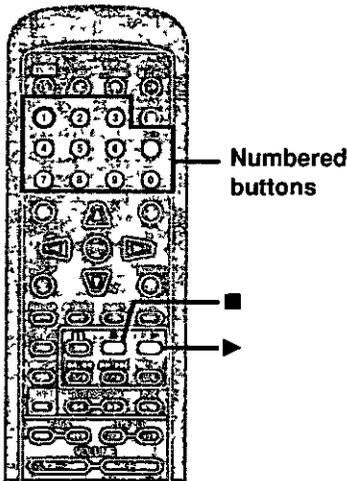
1

CANCEL  
PLAY MODE

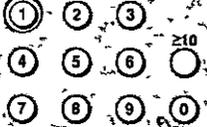
2



B

Numbered  
buttons

TV/VIDEO



Selected track number



## Other methods of disc play

## A Random play

V-CD CD

## Remote control only

Plays all tracks on a disc once each in random order

**Preparation** Press [▶] then [■] to select disc as the source  
If the disc is a Video CD with PBC, menu play is automatically canceled during random play

**1** While stopped  
Press [PLAY MODE] to select "RANDOM".

Each time you press the button  
PGM → RANDOM → Original display

**2** Press [▶] to start play.

## To cancel

Press [PLAY MODE] to clear "RANDOM"

- You can combine repeat play (⇌ page 18) and random play
  - ① Press [PLAY MODE] to select "RANDOM"
  - ② Press [▶] to start play
  - ③ Press [REPEAT] to select "ALL REPEAT"

## Note

- You cannot skip to tracks already played
- You can search only within the track playing in random play

## B Starting play from a specific track

V-CD CD

## Remote control only

Preparation Press [▶] to select disc as the source

Select the track with the numbered buttons.

To select a track 10 or over, press [≥10] then the two digits  
Play starts from the selected track

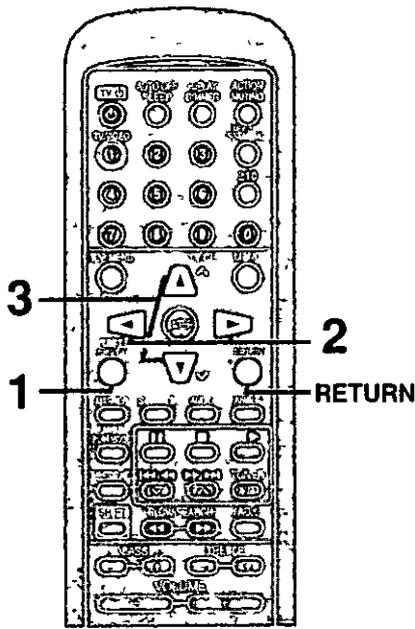
- When playing Video CDs with PBC, press [■] to stop the disc, then select the track number PBC is canceled  
This does not work with some Video CD with PBC

## Using on-screen menu icons

### DVD

#### Remote control only

On-screen menu icons are long thin menus that contain information about the disc or player. These menus allow you to perform operations by changing this information.



#### 1 Press [DISPLAY].

The on-screen menu icons appear. It changes each time you press the button (see below).

#### 2 Press the cursor buttons [◀] or [▶] to select an icon.

#### 3 Press the cursor buttons [▲] or [▼] to change the setting.

#### To clear the on-screen menu icons

Press [DISPLAY] until the original display is restored. Pressing [RETURN] also clears the on-screen menu icons.

#### For your reference

- Some items require different operations to change the contents, so refer to the icon descriptions (= pages 26 and 27) for details.
- The on-screen menu icons disappear after performing some operations, such as changing the title or chapter.
- If the on-screen menu icons are partially cut off or fail to appear, change the position with the initial settings, "4 On-Screen Messages" (= page 38).

### A Types of on-screen menu icons

There are 3 different types of on-screen menu icons.

#### On-screen menu icons for disc information

You can change the title or chapter, or change the position by specifying the time.

You can also switch soundtrack, subtitles and angles.

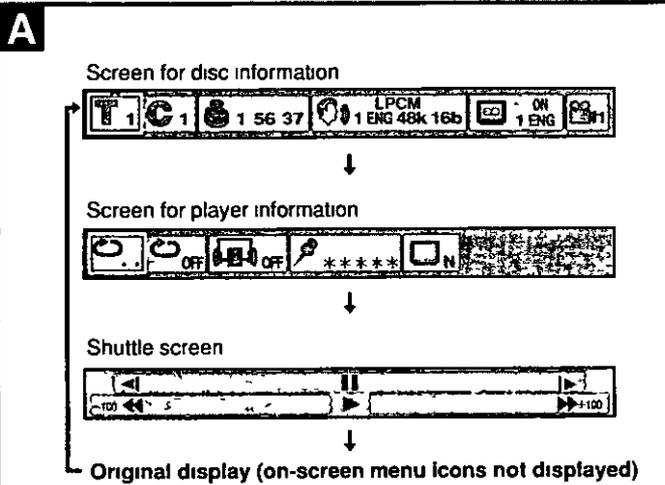
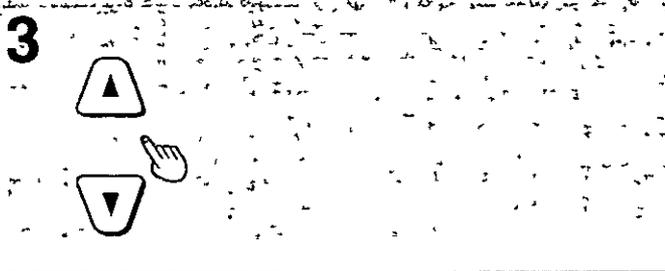
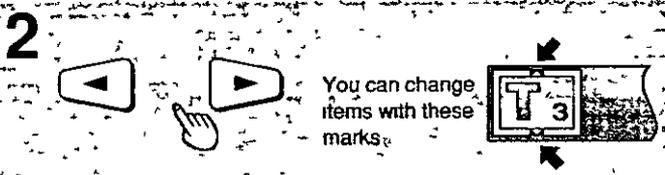
#### On-screen menu icons for player information.

You can start repeat play or mark a position and recall it.

You can also turn on/off Cinema and Dialog Enhancer.

#### Shuttle screen

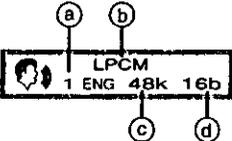
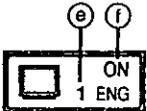
You can fast forward, go backward or start slow-motion play.



## Using on-screen menu icons

### Detailed descriptions of each icon

#### Screen for disc information

Icon	Content	Operation
	Title number	Press [▲] or [▼] or the numbered buttons to change the number and press [ENTER]
	Chapter number	Press [▲] or [▼] or the numbered buttons to change the number and press [ENTER]
	Time (select a position to start play by specifying a time)	Press the numbered buttons and press [ENTER]
	<p>a) Soundtrack number See the bottom of page 27 for a key to language abbreviations</p> <p>b) Type of audio signal •LPCM (linear PCM),  Digital (Dolby Digital), DTS</p> <p>c) Sampling rate or number of channels •LPCM 48 kHz or 96 kHz • Digital, DTS 1 to 5 1 channels*</p> <p>d) Number of bits •LPCM 16, 20 or 24 bits</p>	Press [▲] or [▼] or the numbered buttons to change the number
	e) Subtitle number See the bottom of page 27 for a key to language abbreviations	Press [▲] or [▼] or the numbered buttons to change the number
	f) Subtitles on or off	Press [▲] or [▼]
	Angle number	Press [▲] or [▼] or the numbered buttons to change the number

•Some discs will not allow some of these operations

\* The number of channels recorded on the disc

Example

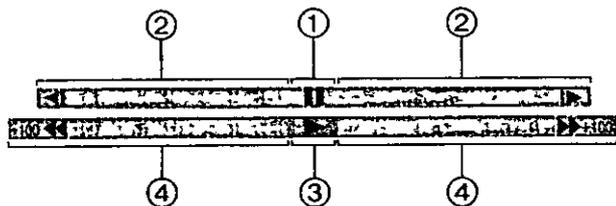
3/2 1ch

1	Subwoofer signal (not displayed if there is no subwoofer signal)
0	No surround
1	Mono surround
2	Stereo surround (left/right)
1	Center
2	Front left + Front right
3	Front left + Front right + Center

### Screen for player information

Icon	Content	Operation
	Start and finish points for A-B repeat	Press [ENTER] at the start point and press [ENTER] again at the finish point Press [ENTER] to cancel A-B repeat
	Select a repeat play mode C (chapter), T (title), OFF	Press [▲] or [▼]
	Dialog Enhancer on or off	Press [▲] or [▼]
	First press [ENTER] to select the icon	Press [ENTER]
	Mark a position	Press [ENTER]
	Recall a mark	Press [◀] or [▶] to select the mark and press [ENTER] to recall the position
	Erase a mark	Press [◀] or [▶] to select the mark and press [SHIFT] + [CANCEL]
	Cinema on (C) or off (N)	Press [▲] or [▼]

### Shuttle screen



5 levels of speed can be selected in either direction

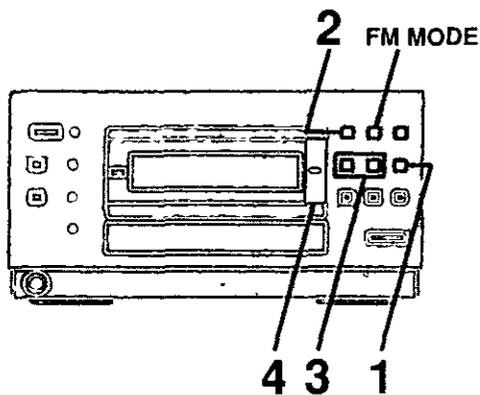
Content	Operation
① Pause	Press [▲]
② Slow-motion play ◀ Backward ▶ Forward	Press [▲] to pause and press [◀] or [▶]
③ Play	Press [▼]
④ Search ◀◀ Backward ▶▶ Forward The numbers indicate the maximum speed	Press [◀] or [▶]

### Language abbreviations

ENG	English	POR	Portuguese	FRA	French	RUS	Russian	DEU	German	JPN	Japanese
ITA	Italian	CHI	Chinese	ESP	Spanish	KOR	Korean	NLD	Dutch	MAL	Malay
SVE	Swedish	VIE	Vietnamese	NOR	Norwegian	THA	Thai	DAN	Danish	*	Others

## The radio: manual tuning

Radio stations can be tuned manually by selecting the station's frequency or they can be preset into channels to make it easy to tune (→ page 29)



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

The unit comes on automatically  
Each time you press the button  
FM ↔ AM

### 2 Press [TUNE MODE] to select "MANUAL".

Each time you press the button  
MANUAL ↔ PRESET

### 3 Press [v/|◀◀/◀◀] or [▶▶/▶▶/|/∧] to select the frequency of the required station.

If you press and hold [v/|◀◀/◀◀] or [▶▶/▶▶/|/∧] for a moment, the frequency starts changing automatically and stops when a station is found. It may also stop if there is outside interference. Press and hold [v/|◀◀/◀◀] or [▶▶/▶▶/|/∧] again to restart. You can also stop the frequency changing by pressing [v/|◀◀/◀◀] or [▶▶/▶▶/|/∧].

"TUNED" is displayed when a radio station is tuned  
"ST" is displayed when a stereo FM broadcast is being received

### 4 Adjust the volume.

#### A If noise is excessive in FM

### Press [FM MODE] to display "MONO".

This mode improves sound quality if reception is weak but broadcasts are heard in monaural.  
Press [FM MODE] again to cancel the mode

Leave "MONO" off for normal listening  
Stereo and monaural broadcasts are automatically played as they are received

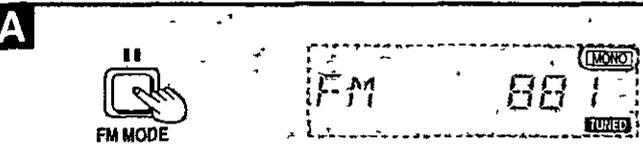
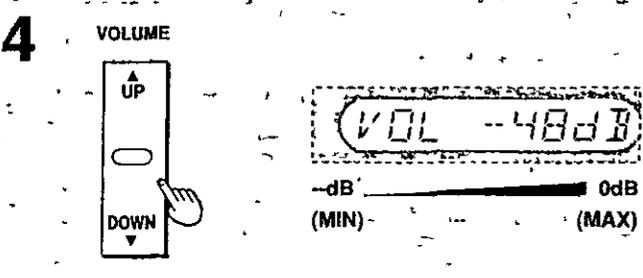
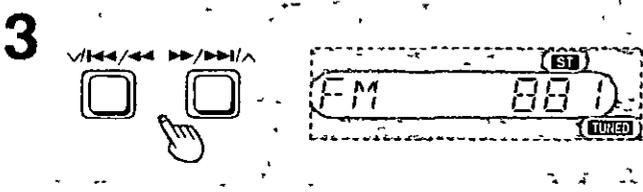
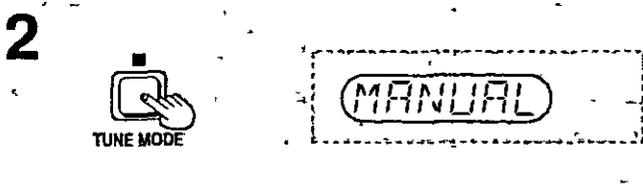
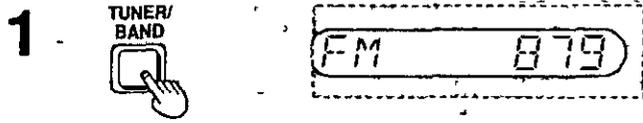
#### Allocation settings

#### FM frequency step

The step is set to 0.2 MHz at the factory. It can be changed to enable the tuner to receive stations broadcast in 0.1 MHz steps.  
Any FM frequencies that have been preset will be changed by this procedure. Be sure to carry out presetting again.

Press and hold [TUNER/BAND]. After a few seconds the display changes to a flashing display of the current minimum frequency. Continue to hold [TUNER/BAND] down. When the minimum frequency changes, release the button.

To return to the original step, repeat the above steps.



## The radio: preset tuning

There are two methods of presetting stations

**Automatic presetting** 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 12 stations can each be set in the FM and AM bands

### A Automatic presetting

Do the following once each for FM and AM

#### Preparation

Tune to the frequency where presetting is to begin (⇒ page 28)

#### Press and hold [MEMORY].

Release the button when "AUTO" is displayed

The tuner presets 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/BAND] to select "FM" or "AM".
- ② Press [MEMORY] then press [ $\sqrt{}$ /I<<</><<] or [ $\ggg$ />>>I/^] to tune to the required station
- ③ Press [MEMORY] then press [ $\sqrt{}$ /I<<</><<] or [ $\ggg$ />>>I/^] to select a channel.

You can also select channels with the numbered buttons on the remote control

- ④ Press [MEMORY]

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

### B Selecting channels

Remote control:

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

The unit comes on automatically  
Each time you press the button  
FM ↔ AM

- 2 Press [ $\sqrt{}$ , I<<</><<] or [^, >>>/>>>I] to select the channel.

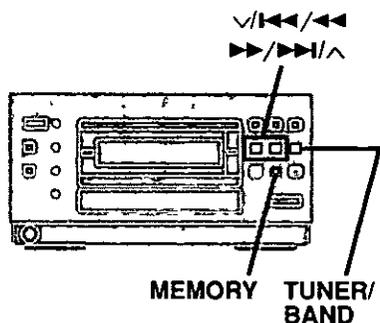
You can select the channel with the numbered button(s)  
To select channel 10 or over  
Press [≥10] then the two digits

- 3 Adjust the volume.

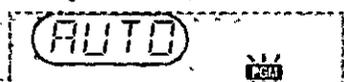
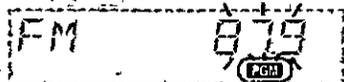
Main unit:

- ① Press [TUNER/BAND] to select "FM" or "AM"
- ② Press [TUNE MODE] to select "PRESET"  
Each time you press the button  
MANUAL ↔ PRESET
- ③ Press [ $\sqrt{}$ /I<<</><<] or [ $\ggg$ />>>I/^] to select the channel
- ④ Adjust the volume

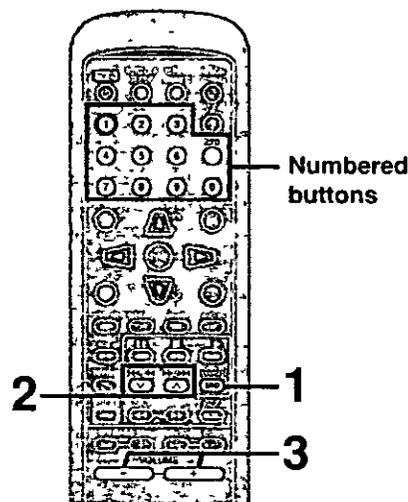
A



MEMORY

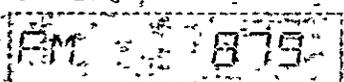


B

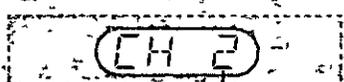
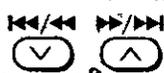


1

TUNER BAND



2



Preset channel

3

VOLUME

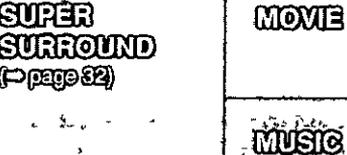


# Enjoying surround sound

The following chart gives a summary of this unit's surround features

**Note**

- All the features are only effective if speakers are used. No discernable effect will be heard through headphones
- You may experience a reduction in sound quality when these surround systems are used with some sources. If this occurs, turn the surround system off

Surround system	Features	Software
 <p><b>DOLBY DIGITAL</b> (→ page 31)</p>	<ul style="list-style-type: none"> <li>•Dolby Digital is a discrete 5.1 (6) channel surround system developed for cinema use The sound signals in Dolby Digital format are compressed to 1/10 their original size, allowing an entire movie to be recorded on a single DVD</li> <li>•This unit automatically recognizes DVDs that have been recorded with Dolby Digital</li> <li>•Not all Dolby Digital sources are recorded with 5.1 (6) channels Some sources marked Dolby Digital may be recorded with 2 channels</li> </ul>	<p>DVDs encoded with Dolby Digital can be identified with this mark</p> 
 <p><b>SUPER SURROUND</b> (→ page 32)</p> <p><b>MOVIE</b></p> <p><b>MUSIC</b></p>	<ul style="list-style-type: none"> <li>•This mode adds surround effects to movie software that hasn't been recorded with the above system</li> <li>•In MOVIE mode you can adjust the volume of the surround speakers to get the best surround effect</li> </ul> <p>This mode adds surround effects to stereo sources</p>	<p>Any source Sound will not come from the surround speakers if the source is monaural</p>

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 "Dolby" and the double-D symbol are trademarks of Dolby Laboratories  
 Confidential unpublished works © 1992-1997 Dolby Laboratories All rights reserved

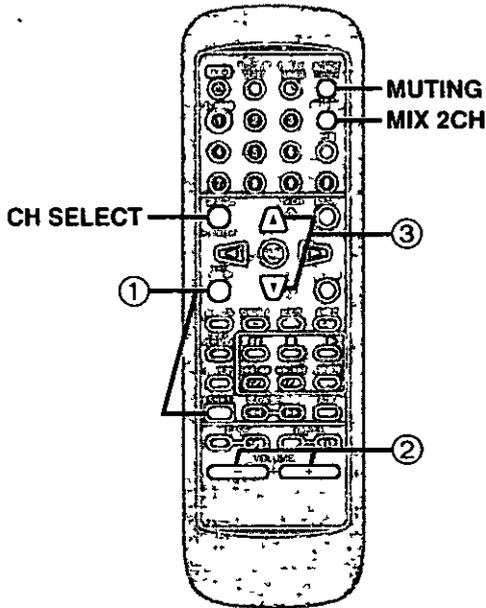
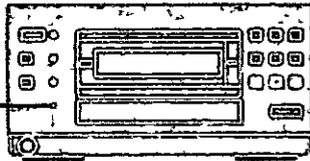
Sound field operations

**DOLBY DIGITAL**

**Play a DVD encoded with Dolby Digital.**

The DOLBY DIGITAL indicator lights

DOLBY DIGITAL indicator



**Remote control only**

**A Subwoofer (not included)**

The included front speakers have superwoofers, but you can enhance the bass effect by connecting another subwoofer (→ page 36 for connection)

If you connect a subwoofer

Press and hold [MUTING] until "SUBW ON" is displayed

If you disconnect the subwoofer

Press and hold [MUTING] until "SUBW OFF" is displayed

**B To down-mix Dolby Digital (5.1 channels) signals to 2 channels**

Press [SHIFT] + [MIX 2CH]

To cancel, press [SHIFT] + [MIX 2CH]

**C Speaker level adjustments**

If the level of the speakers appears to be different while listening to a source, adjust the level of the speakers to the same apparent level. Sit in the normal listening position and make the adjustments with the remote control.

**Remote control only**

**Preparation**

- Turn super surround off
- Disconnect the headphones

① While stopped

Press [SHIFT] + [TEST] to output a test signal

A test signal is output from the speakers in the following order:

- Lch Front left speaker
- Cch Center speaker
- Rch Front right speaker
- RSch Right surround speaker
- LSch Left surround speaker

No signal is output for the subwoofer

② Press [VOLUME (- or +)] to set the volume level of the front speakers normally used for enjoying the source

③ While the speaker to be adjusted is outputting a signal, Press the cursor buttons [▲] (to increase level) or [▼] (to decrease level) to adjust the level of each speaker. You can adjust the level between -6 dB and +6 dB

Repeat step ③ to adjust the level accordingly

**To stop the test noise**

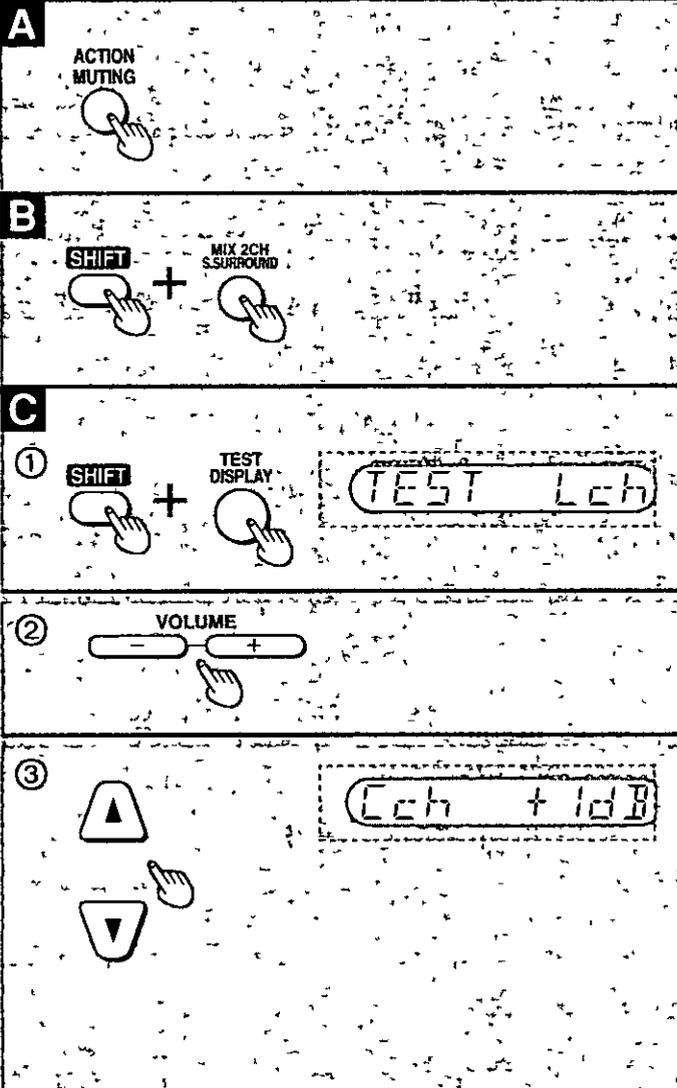
Press [SHIFT] + [TEST] again

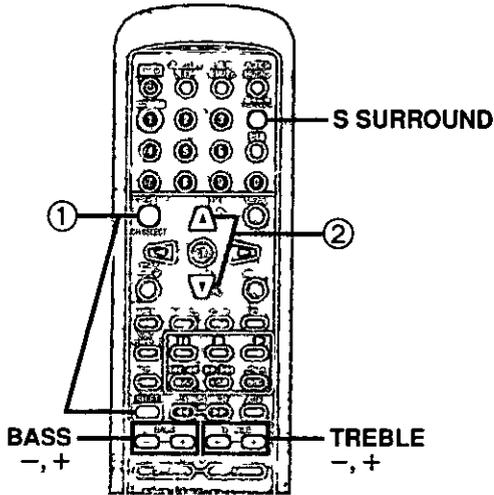
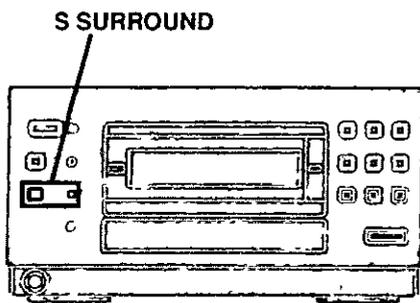
**To select a specific speaker**

- 1 Press [SHIFT] + [CH SELECT] to select the speaker. Each time you press the buttons: Lch → Cch → Rch → RSch → LSch → SWch  
 SWch Subwoofer (Adjust only when connected)
- 2 Press the cursor buttons [▲] or [▼] to adjust the level

**Note**

The test cannot be started if a CD or Video CD is loaded





Enjoying surround sound

**SUPER SURROUND**

Press [S.SURROUND] to select "MOVIE" or "MUSIC".

Each time you press the button  
MUSIC → MOVIE → OFF

The S SURROUND indicator lights

**To cancel**

Press [S SURROUND] to select "OFF"  
The indicator turns off

**Note**

Turn SUPER SURROUND off when playing a DVD recorded with 5.1-channel Dolby Digital. The Surround effects will not be reproduced correctly if this is left on.

**A Surround speaker level adjustments**

These adjustments are only effective in "MOVIE" mode

**Remote control only**

While super surround movie is on

① Press [SHIFT] + [CH SELECT]

② Press the cursor buttons [▲] (to increase level) or [▼] (to decrease level)

You can adjust the level between -6 dB and +6 dB

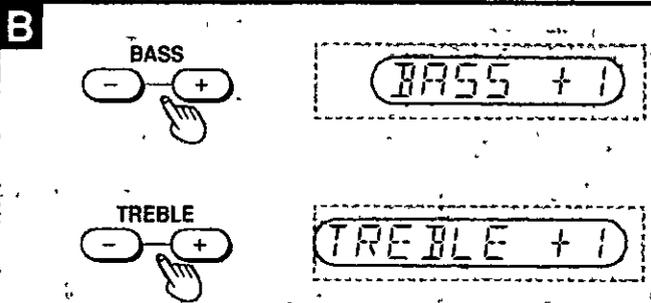
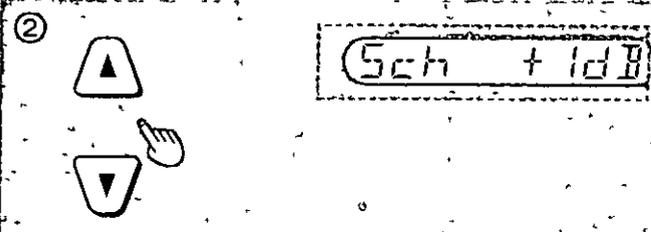
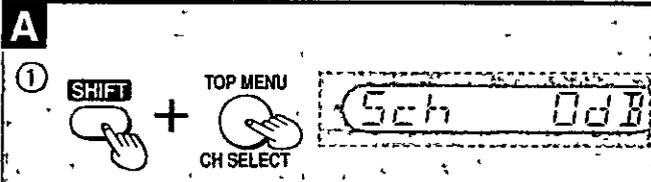
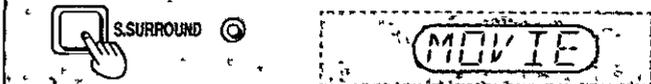
**B Adjusting the tone**

**Remote control only**

Vary bass and treble levels between -4 and +4

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

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



## Using the timers

### The play timer

This timer starts play of the selected source at the selected time. The example shows settings for play between 6:30 a.m. and 7:40 a.m.

#### Preparation:

- Press [POWER  $\odot$ /I] to turn the unit on, set the time (→ page 12)
- Select the desired source for timer play
  - Disc**  
Press [▶] then insert an Audio CD, etc
  - The radio**  
Press [TUNER/BAND] and tune in the desired station
- Set the volume for timer play

#### Setting the timer

### 1 Press [CLOCK/TIMER] to select "⊙PLAY".

Each time you press the button  
CLOCK→⊙PLAY→Original display

### 2 ON time setting

- ① Within 8 seconds  
Press [ $\vee$ /I◀◀/◀◀] or [▶▶/▶▶I/∧] to select the start time.

- ② Press [CLOCK/TIMER].

### 3 OFF time setting

- ① Press [ $\vee$ /I◀◀/◀◀] or [▶▶/▶▶I/∧] to select finish time.

- ② Press [CLOCK/TIMER].

The original display is restored

#### Turning the timer on

#### Remote control only

### 4 Press [SHIFT] + [⊙PLAY] to display "⊙PLAY".

Each time you press the button  
⊙PLAY↔Original display

### 5 Press [⏻] to turn the unit off.

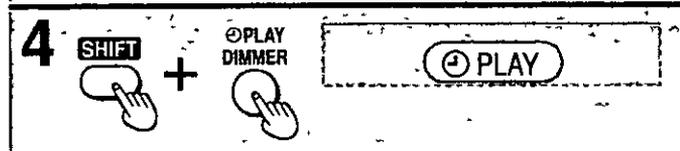
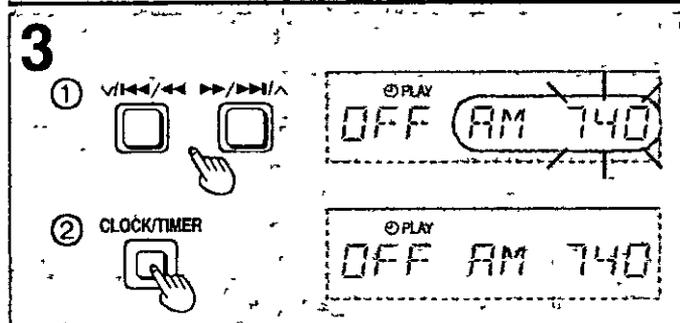
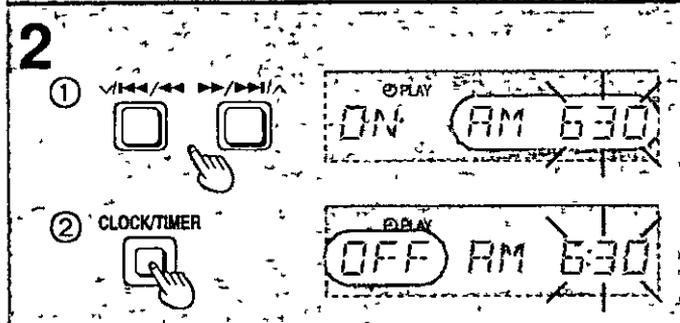
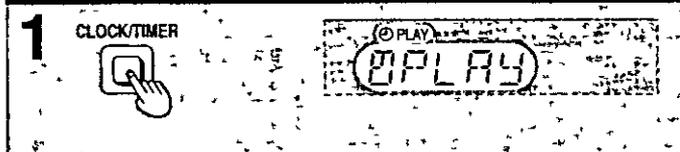
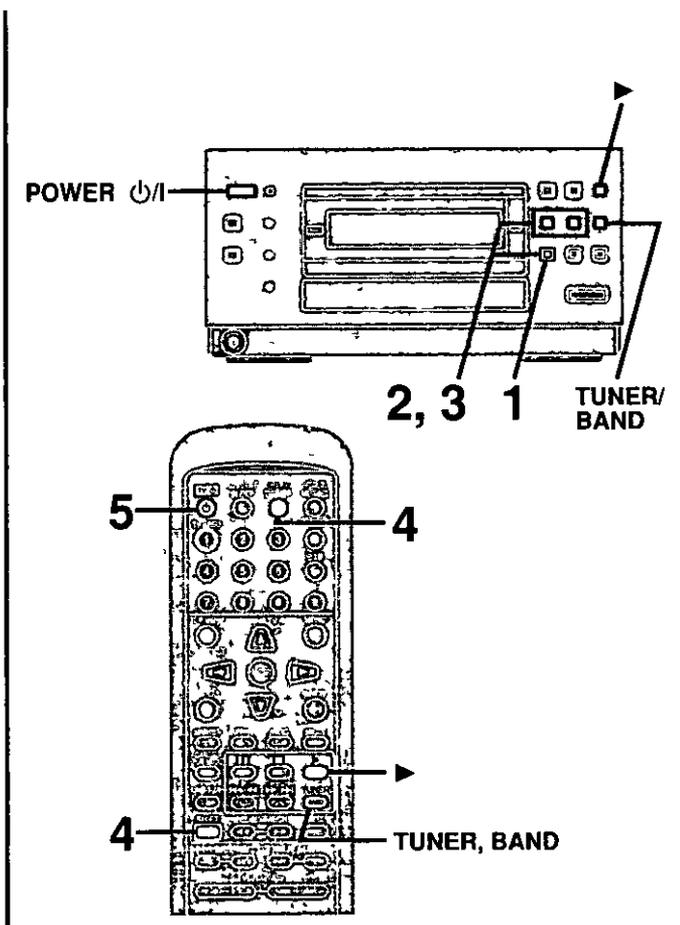
The timer will start in the set condition at the set time.  
The volume increases gradually to the set level

#### If you set the timer incorrectly

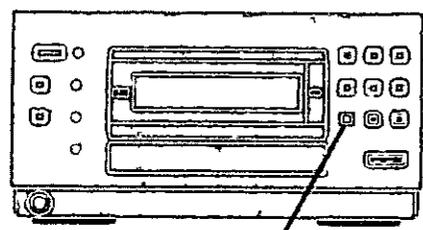
Repeat the procedure from step 1

#### To cancel the timer

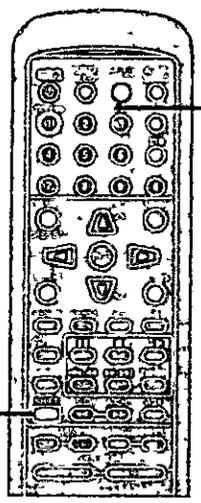
- ① Press [⏻] to turn the unit on
- ② Press [SHIFT] + [⊙PLAY] to clear "⊙PLAY"



**A**



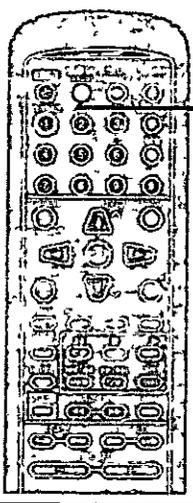
CLOCK/TIMER



PLAY

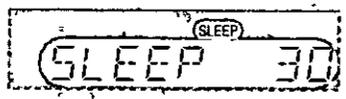
SHIFT

**B**



SLEEP

AUTO OFF  
SLEEP



**Using the timers**

**A Using the play timer**

**Turning the timer on and off**

The timer comes on at the set time if "⊙ PLAY" is displayed. The timer can be turned on and off by pressing [SHIFT] + [⊙ PLAY].

**Checking the timer**

Press [CLOCK/TIMER].

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

The timer conditions are shown in the following order: Start time → Finish time → Source → Volume.

**Playing the unit after the timer is set**

The unit can be used after the timer is set. Turn the unit off before the set time.

**Note**

- If you turn the unit off and on again while the 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 play a connected unit, set the other unit's timer to the same time. (See the other unit's instruction manual.)
- The timer cannot be used to start program and random play.

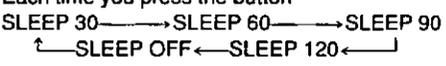
**B The sleep timer**

**Remote control only**

This timer turns the unit off after a set time.

**Press [SLEEP] to select the time (minutes).**

Each time you press the button:



**To cancel the sleep timer**

Press [SLEEP] to select "SLEEP OFF".

**To confirm the remaining time**

While the timer is functioning:

Press [SLEEP].

The remaining time is shown for about 5 seconds.

**To change the setting**

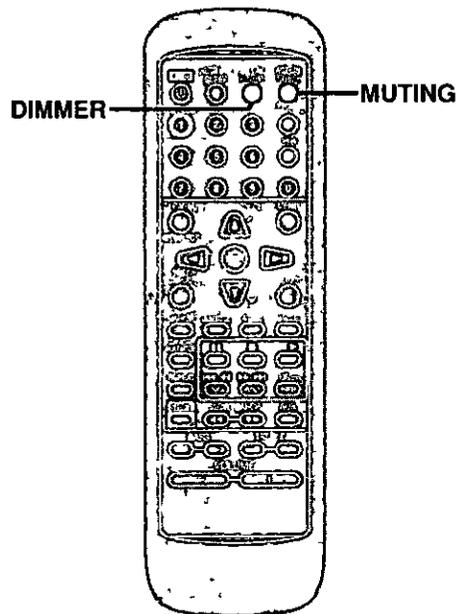
Press [SLEEP] to display the remaining time, then press again to select the required time.

**Using the timers together**

The play and sleep timer can be used together.

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

## Convenient functions



### A Dimming the display

**Remote control only**

**Press [DIMMER].**

The display's shutter closes

**To restore the display**

Press [DIMMER] again

### B Muting the volume

**Remote control only**

**Press [MUTING].**

Volume is reduced to minimum

**To cancel**

Press [MUTING] again

"MUTING" goes out

To cancel from the unit, reduce the volume to minimum (— dB), then raise to the required level

Muting is also canceled when the unit is turned off

### C Using headphones (not included)

**Reduce the volume before connection.**

Audio is automatically switched to stereo (2ch)

Avoid listening for prolonged periods of time to prevent hearing damage

Plug type 3.5 mm (1/8 in) stereo

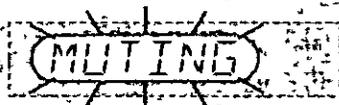
**A**

PLAY  
DIMMER

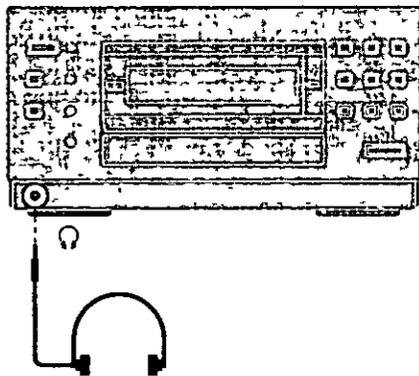


**B**

ACTION  
MUTING



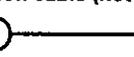
**C**

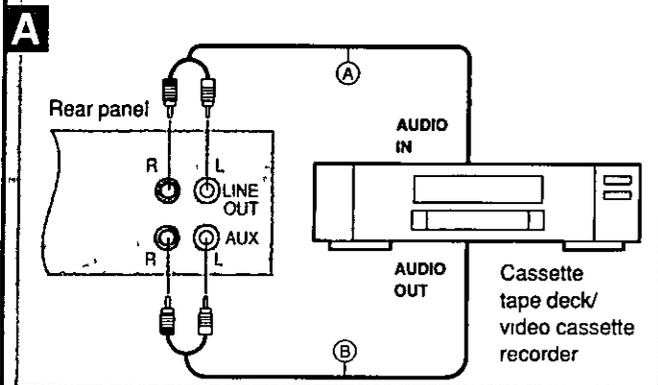


## External unit connections

- Turn the unit off before making connections
- Refer to the manual of the other unit for details (Cables, cords and equipment not included)

### Stereo connection cable (not included)

White (L)     
 Red (R) 



### A Cassette tape deck/video cassette recorder

You can play the sound from a cassette tape deck or a video cassette recorder through this unit's speakers or record sound from the unit onto a cassette tape or a video cassette

To record to a cassette or video deck, connect to LINE OUT (A)

To listen to sound from another unit through this unit's speakers, connect to AUX (B)

### B Record player

Sound cannot be produced unless a phono equalizer (not included) is connected

A record player with a built-in phono equalizer is recommended

### C Amplifier with DTS decoder

You can enjoy DTS by connecting an amplifier that has a DTS decoder (⇒ page 41 for setting)

Remove the dust cap on this unit's rear panel and connect using an optical fiber cable

### D TV with an S-VIDEO terminal

The S-VIDEO output terminal achieves a more vivid picture than the VIDEO output terminal by separating the color and luminance signals before transmitting them to the television (Actual results depend on the television)

### S-VIDEO cord

(not included)



### E Subwoofer

The included front speakers have superwoofers, but by connecting a subwoofer, you can enhance the bass effect found on DVDs encoded with Dolby Digital (⇒ page 31 for operation)

## Using other equipment

### F Listening to an external source

#### 1 Press [AUX].

The unit comes on automatically

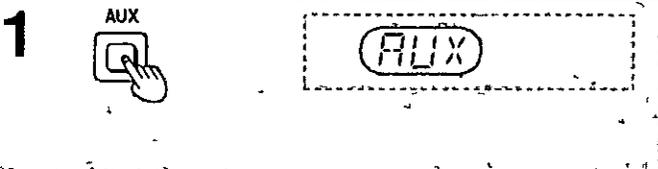
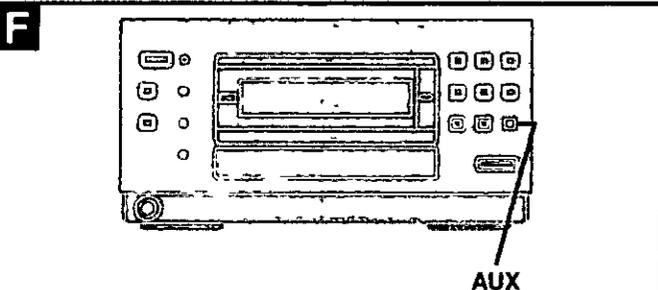
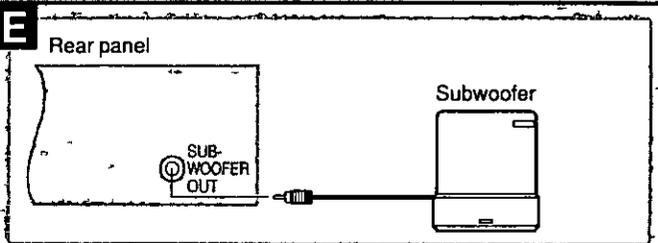
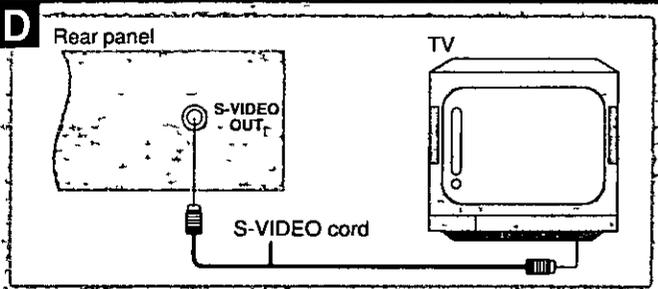
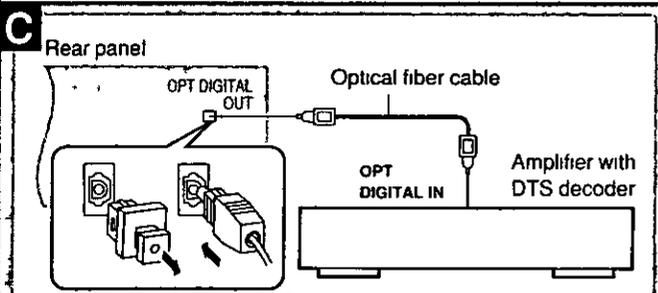
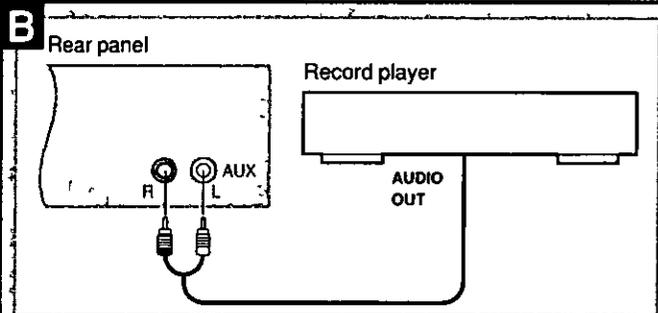
#### 2 Operate the unit.

See the unit's manual for details on operation and connection

### Recording onto an external unit

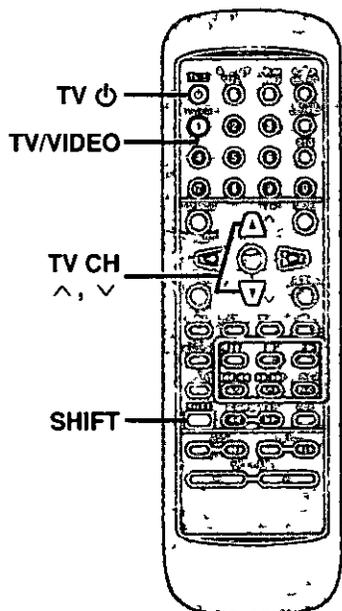
Select the desired source

Start recording on the external unit and start playing the source to be recorded



## Using other equipment

### A Operating a television with the remote control



Change the remote control code in either of the following circumstances (→ see below)

- If the Panasonic TV cannot be operated as a result of a difference in the remote control code
- If you wish to operate some other make of TV

**Turning the television on/off**

Press [SHIFT] + [TV ⏻].

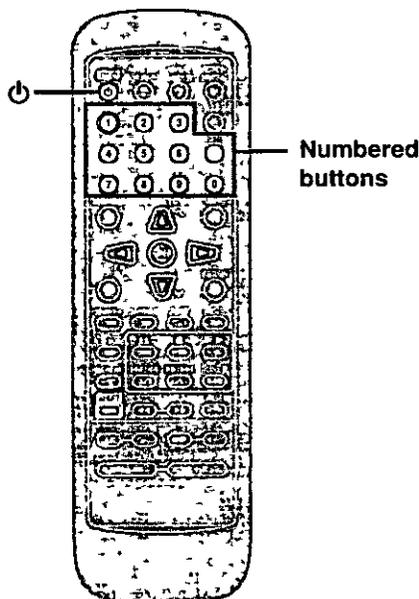
**Switching the television's video input mode**

Press [SHIFT] + [TV/VIDEO].

**Changing channels**

Press [SHIFT] + [TV CH (^ or v)].

### B Changing the remote control code



① Aim the remote control at the TV and press and hold [⏻].

② Continue to hold down [⏻] and carefully and slowly press the numbered buttons to enter the two-digit code.

(Refer to the table below for the code number)

When the two-digit code number is entered, the remote control will automatically output the on/off signal

If the remote control has been correctly changed to the code for the TV, the TV will be switched on or off

If there is more than one code number indicated in the code table, repeat the above procedure until you find a code number for which the TV is switched on or off

#### Note

- Even after changing the code there may be cases where certain operations cannot be done or operation is not possible at all
- Changes to the codes are canceled when the remote control's batteries are replaced. Repeat the above operation to reenter the code

Manufacturer	Code No	Manufacturer	Code No.
Panasonic	01, 02	JVC	25, 26
Sony	03	KTV	27, 28
Akai	04	Magnavox	29, 30, 31
Bell & Howell	05	Marantz	32
Centunon	06	Pioneer	33
Coronad	07	Proscan	34
Daewoo	08, 09, 10, 11	Radioshack	35
Emerson	12, 13, 14, 15, 16	RCA	36, 37, 38, 39, 40, 41
		Samsung	42, 43
Fisher	17	Sears/Toshiba	44
G-E	18, 19, 20	Sharp	45
Gold Star	21, 22	Symphonic	46, 47
Hitachi	23, 24	Zenith	48, 49

# Initial settings

## Summary of initial settings

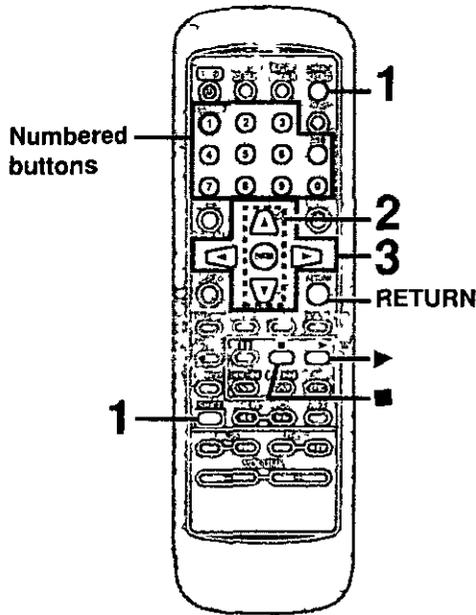
This chart shows the initial settings for this unit

The menu and on-screen message language has been factory preset to English. You can change the language by going to "3 Menu Language" and selecting the preferred language

See page 40 for details on operation

Shaded items are the factory settings

Item		Options	
1 Disc Languages	1 Audio	1 English 2 French 3 Spanish	4 Original 5 Other ****
	2 Subtitle	1 Automatic 2 English 3 French	4 Spanish 5 Other ****
	3 Menus	1 English 2 French 3 Spanish	4 Other ****
2 Ratings		Level 8 (all DVDs can be played) to level 0 (play of all DVDs is prohibited) The factory setting is level 8 You must also set a password if you change the rating to any level other than "8" (⇒ page 41)	
3 Menu Language		1 English 2 Français	3 Español
4 On-Screen Messages	1 On-Screen Messages	1 On	2 Off
	2 Color and Position	1 Blue 2 Violet 3 Green	4 Blue 5 Violet 6 Green
5 TV Aspect		1 4:3 2 16:9	
6 Digital Audio Output	1 PCM Down Conversion	1 No	2 Yes
	2 Dolby Digital	1 Bitstream	2 PCM
	3 DTS Digital Surround	1 Off	2 Bitstream
7 Speaker Setting	Center speaker delay time	0 ms 1 3 ms 2 6 ms	3 9 ms 5 3 ms
	Surround speaker delay time	0 ms 5 3 ms	10 6 ms 15 9 ms
9 Other Settings	1 Still Mode	1 Automatic 2 Field 3 Frame	
	2 Audio during Search	1 On	2 Off
	3 TV Mode (4:3)	1 Pan & Scan	2 Letterbox
	4 D-Range Compression	1 Off 2 On	
	5 Still Picture Display	1 Off	2 On
	6 Black Level Control	1 Lighter 2 Darker	



## Changing the initial settings

### Remote control only

Once the initial settings have been completed, the unit can always be operated under the same conditions

#### Preparation

Press [▶] to select disc as the source

The unit comes on automatically

If play starts, press [■] to stop

- 1 While the disc is stopped  
**Press [SHIFT] + [ACTION].**  
The initial settings menu is displayed
- 2 Press the cursor buttons (▲ or ▼) to highlight the item, and press [ENTER].
- 3 Press the cursor buttons (◀, ▶, ▲, ▼) to select the item, and press [ENTER].  
Repeat step 3 as the menus require to make the changes

Steps 2 and 3 can also be done with the numbered buttons  
Press the number next to the required item  
For example, press [3] to select "3 Menu Language"

#### To return to the previous screen

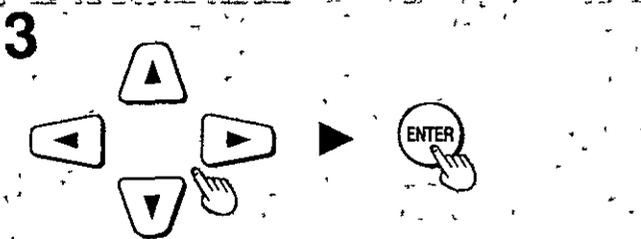
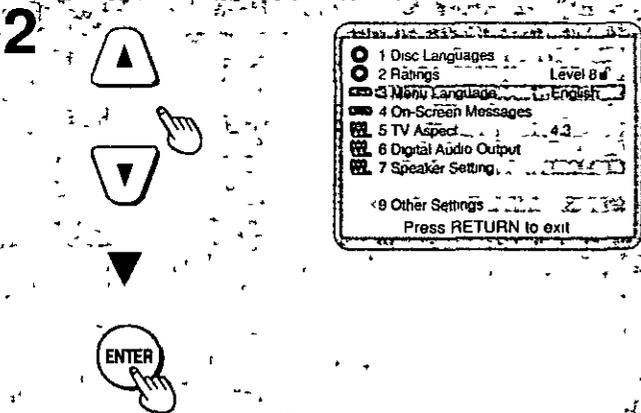
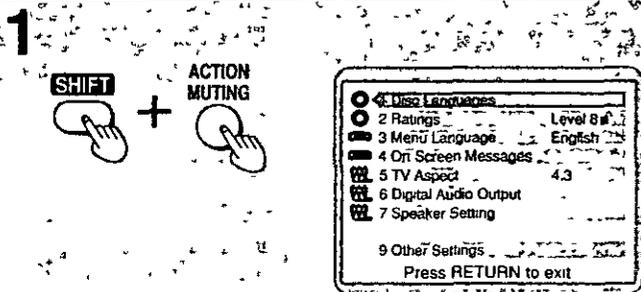
Press [RETURN]

#### To exit the initial settings menu

Press [SHIFT] + [ACTION]

#### Note

The initial settings cannot be accessed while program mode (= page 23) or random mode (= page 24) is on  
Press [PLAY MODE] to cancel the mode



Timer and others

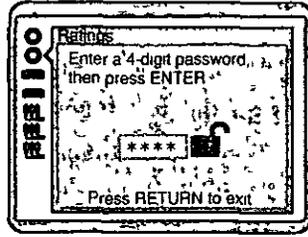
Changes to the initial settings remain intact after the unit is turned off.  
Do the setting procedures again to restore to the original settings.

There is no item 8.

<b>Setting details</b>	
	Select the soundtrack language. Some discs are designed to start in a certain language despite any changes you make here. Input a code number with the numbered buttons when you select "5 Other ****" (⇒ page 43).
	Select the subtitle language. Some discs are designed to start in a certain language despite any changes you make here. Input a code number with the numbered buttons when you select "5 Other ****" (⇒ page 43).
	Select the language for the top menu and other menus shown by the disc. Input a code number with the numbered buttons when you select "4 Other ****" (⇒ page 43).
	Set a ratings level for playing DVDs. The DVDs must have rating levels recorded on them for this feature to be effective. Discs with this feature will be marked. Level 8: All DVDs can be played. Level 7 to level 1: Prohibits play of DVDs with ratings recorded on them. Level 0: Prohibits play of all DVDs. The password screen is shown if you choose levels 7 to 0.
	Select the language used for menus and messages the unit displays on the television (including these menus).
	Choose whether to show the on-screen messages that appear on the television when you perform operations.
	Select the color and position of on-screen messages and icons.
	Select the aspect ratio to suit your television. 4:3: Regular television      16:9: Widescreen television
	Make settings for the audio signals output through OPT. DIGITAL OUT (⇒ page 41).
	The optimum when listening to 5.1 channel sound is for all the speakers, except for the subwoofer, to be the same distance from the listening position. You can adjust the delay time for the center and surround speakers to make up for differences in distances between the speakers (⇒ page 43). These adjustments are effective when playing DVDs encoded with Dolby Digital.
	Select a picture type for when the picture is paused. Field: Less blurred field stills are shown. Select if jittering occurs when "1 Automatic" is selected. Frame: Sharper frame stills are shown. Select if small text or fine patterns cannot be seen clearly when "1 Automatic" is selected.
	Select whether to have sound on or off during the first level of forward search.
	Select how software made for a widescreen television is displayed on a regular television (⇒ page 42).
	Select whether to have dynamic range compression on or off during play of Dolby Digital software. Dynamic range is the difference between the loudest sound and the softest sound. By compressing this range, you can listen at low volume but still enjoy clear dialog.
	Select whether the picture type (I/P/B) is shown when a DVD is paused.
	Lighter or darker picture.

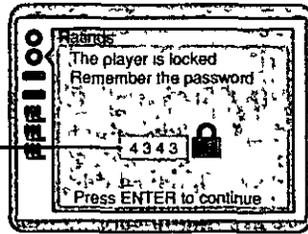
## Entering a password

The password screen is shown if you select levels 7 to 0



- ① Input a 4-digit password with the numbered buttons and press [ENTER]

Example "4343"



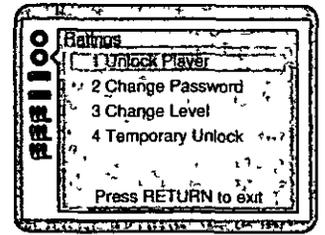
- ② Press [ENTER]  
The initial setting menu is restored

## To change the level setting or the password

- ① Select "2 Ratings"  
The password screen is shown



- ② Input your password with the numbered buttons and press [ENTER]

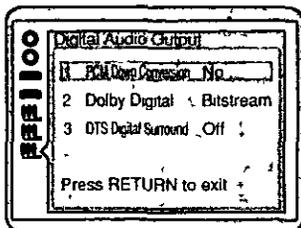


- ③ Select the item with the cursor buttons and press [ENTER]
- 1 Unlock Player The rating level returns to 8 and the player is unlocked
  - 2 Change Password You can change the password. Enter new 4 digits and press [ENTER], then press [ENTER] again
  - 3 Change Level You can change the rating level. Select a new level with the cursor buttons (▲ or ▼), then press [ENTER]
  - 4 Temporary Unlock The player is unlocked temporarily only for the current disc. The player is locked again when the disc tray is opened or the player is turned off

Press [RETURN] to restore the initial setting menu

## Selecting digital output

Select the digital output to be output from the OPT DIGITAL OUT terminal  
Select "6 Digital Audio Output" to display this screen



### 1 PCM Down Conversion

Select the output when playing DVDs recorded in 96 kHz linear PCM

When "1 No" is selected

No digital audio is output

Audio will be output using the original audio recording system if the DVD has not been copyright-protected

When "2 Yes" is selected

Digital audio converted to 48 kHz/16 bit is output

- Digital output of PCM audio is restricted to 48 kHz/16 bit or below for copyright-protection
- If it is set to "2 Yes", the player converts linear PCM to 48 kHz even during analog output

### 2 Dolby Digital

Select the signal format to be output during play of DVDs encoded with Dolby Digital

When "1 Bitstream" is selected

Dolby Digital bitstream (1ch-5.1ch) is output

When "2 PCM" is selected

Digital audio converted to 48 kHz/16 bit PCM (2ch) is output

### 3 DTS Digital Surround

Select the output during play of DVDs encoded with DTS Digital Surround

When "1 Off" is selected

No digital audio is output

When "2 Bitstream" is selected

DTS Digital Surround bitstream is output

### To enjoy DTS

The unit cannot decode DTS

To enjoy DTS, you must connect this unit to an amplifier that has a DTS decoder (⇒ page 36) and select "2 Bitstream"

"DTS" and "DTS Digital Surround" are trademarks of Digital Theater Systems, Inc

## Initial settings

### How different kinds of software appear on your television

DVD software is recorded in a variety of picture formats, and how they appear on your television depends on the software, the kind of television you have, and the picture mode your television is set to

- Letterbox refers to pictures where black bands appear at the top and bottom
- Pan & Scan refers to pictures where part of the picture is cut off so it fills the whole screen

Television and picture mode / Software format	4 3	16 9 full mode	16 9 zoom mode	16 9 auto mode
<b>Wide screen, Pan and Scan</b> 	<b>Edges cut off</b> 	<b>Full screen</b> 	<b>Top and bottom cut off</b> 	<b>Full screen</b> 
<b>Wide screen, non-Pan and Scan</b> 	<b>Letterbox</b> 			
<b>Regular (4 3)</b> 	<b>Full screen</b> 	<b>Screen stretched horizontally</b> 	<b>Top and bottom cut off</b> 	<b>Full screen with black bands on the left and right</b> 
<b>Regular (4 3), letterbox</b> 	<b>Letterbox</b> 	<b>Letterbox with screen stretched horizontally</b> 	<b>Full screen</b> 	<b>Letterbox with extremities of picture stretched</b> 

The names given to the television picture modes depend on the maker of your television. There may also be slight differences in how the pictures appear on the screen. Refer to your television's operating instructions for details.

## Calculating delay time

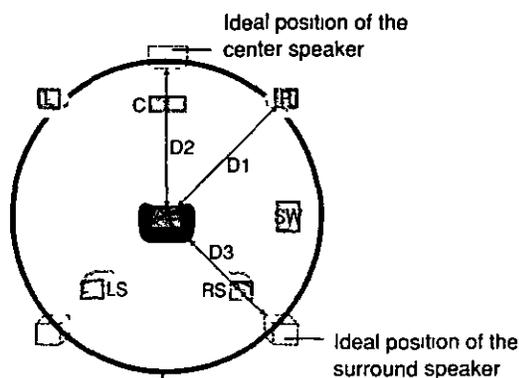
The sound from speakers can reach the listening position at different times depending on placement. You can allow for this difference by changing the delay time of the center and surround speakers.

### Center speaker delay time

If  $D1 \leq D2$ , then set delay time to 0 ms

If  $D1 > D2$ , then set delay time as follows

Difference between D1 and D2	Delay time
50 cm	1.3 ms
100 cm	2.6 ms
150 cm	3.9 ms
200 cm	5.3 ms



It is recommended to place all the speakers inside of this circle

- D1 The distance from the front speaker
- D2 The distance from the center speaker
- D3 The distance from the surround speaker

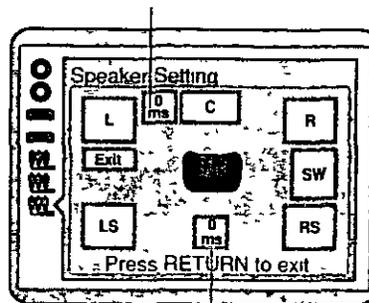
### Surround speaker delay time

If  $D1 \leq D3$ , then set delay time to 0 ms

If  $D1 > D3$ , then set delay time as follows

Difference between D1 and D3	Delay time
200 cm	5.3 ms
400 cm	10.6 ms
600 cm	15.9 ms

Center delay time



Surround delay time

To adjust speaker level balance, exit from the initial settings and use the operations described on page 31

## Language code list

6566 Abkhazian	7074 Fiji	7679 Laotian	8373 Singhalese
6565 Afar	7073 Finnish	7684 Lithuanian	8375 Slovak
6570 Afrikaans	7082 French	7775 Macedonian	8376 Slovenian
8381 Albanian	7089 Frisian	7771 Malagasy	8379 Somali
6577 Amehanc	7176 Galician	7783 Malay	6983 Spanish
6582 Arabic	7565 Georgian	7776 Malayalam	8385 Sundanese
7289 Armenian	6869 German	7784 Maltese	8387 Swahili
6583 Assamese	6976 Greek	7773 Maori	8386 Swedish
6588 Aymara	7576 Greenlandic	7782 Marathi	8476 Tagalog
6590 Azerbaijani	7178 Guarani	7779 Moldavian	8471 Tajik
6665 Bashkir	7185 Gujarati	7778 Mongolian	8465 Tamil
6985 Basque	7265 Hausa	7865 Nauru	8484 Tatar
6678 Bengali, Bangla	7387 Hebrew	7869 Nepali	8469 Telugu
6890 Bhutan	7273 Hindi	7879 Norwegian	8472 Thai
6672 Bihari	7285 Hungarian	7982 Onya	6679 Tibetan
6682 Breton	7383 Icelandic	8065 Punjabi	8473 Tigrinya
6671 Bulgarian	7165 Irish	8083 Pashto, Pushto	8479 Tonga
7789 Burmese	7378 Indonesian	7065 Persian	8482 Turkish
6669 Byelorussian	7365 Interlingua	8076 Polish	8475 Turkmen
7577 Cambodian	7384 Italian	8084 Portuguese	8487 Twi
6765 Catalan	7465 Japanese	8185 Quechua	8575 Ukrainian
9072 Chinese	7487 Javanese	8277 Rhaeto-Romance	8582 Urdu
6779 Corsican	7578 Kannada	8279 Romanian	8590 Uzbek
7282 Croatian	7583 Kashmiri	8285 Russian	8673 Vietnamese
6783 Czech	7575 Kazakh	8377 Samoan	8679 Volapük
6865 Danish	7589 Kirghiz	8365 Sanskrit	6789 Welsh
7876 Dutch	7579 Korean	7168 Scots Gaelic	8779 Wolof
6978 English	7585 Kurdish	8382 Serbian	8872 Xhosa
6979 Esperanto	7665 Latin	8372 Serbo-Croatian	7473 Yiddish
6984 Estonian	7686 Latvian, Lettish	8378 Shona	8979 Yoruba
7079 Faroese	7678 Lingala	8368 Sindhi	9085 Zulu

## 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
---	--

## The remote control

The remote control doesn't work	Check the batteries are inserted correctly  Replace the batteries if they are worn
---------------------------------	--

# Glossary

### Chapter

This is the smallest division on DVD and is roughly equivalent to a track

### Title

This is the largest division on DVD

### Track

This is the smallest division on Video CD and Audio CD, and usually equates to a single song

### PBC (Playback control)

This method of controlling disc play is included on version 2.0 Video CDs. You are able to interact with the disc through menus

## Digital audio

### Bitstream

This is the digital form of multiple channel audio data (e.g. 5.1 channel) before it is decoded into its various channels

### Decoder

A decoder restores the coded audio signals on DVDs to normal. This is called decoding

### DTS (Digital Theater Systems)

This method of coding digital signals was developed by Digital Theater Systems. The signals are compressed at a low ratio to maintain sound quality

### Linear PCM (Pulse code modulation)

PCM is the usual digital method used for Audio CDs. DVDs have a greater volume so they use linear PCM, which has a higher sampling rate

### Sampling rate

This is the number of samples of sound taken per second during conversion to a digital signal. Sampling frequency is expressed in kilohertz (kHz). A high sampling frequency results in a sound close to the original when played back

## Video

### Frame

Frames are the still pictures that go together to make a moving picture. There are about thirty frames shown each second

### Field

One frame is made up of two fields. A regular television shows these fields one after the other to create frames

### Frame still and field still

A still is shown when you pause a moving picture. A frame still is made up of two alternating fields, so the picture may appear blurred, but overall quality is high. A field still is not blurred, but it has only half the information of a frame still so picture quality is lower

### I/P/B

MPEG 2, the video compression standard adapted for use with DVD, codes frames using these three picture types

#### I Intra coded picture (I-picture)

This is the standard picture and is a complete picture in itself. This means it has the best picture quality and is the best to use when adjusting the picture

#### P Predictive coded picture (P-picture)

This picture is calculated based on past I and P-pictures

#### B Bidirectionally-predictive coded picture (B-picture)

This picture is calculated by comparing past and future I and P-pictures so it has the lowest volume of information

# Servicenter List (U.S.A.)

**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-9 pm; Saturday-Sunday 9 am-7 pm, 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

<p><b>CALIFORNIA</b> 6550 Katella Avenue Cypress, CA 90630</p> <p>800 Dubuque Avenue S. San Francisco CA 94080</p> <p>20201 Sherman Way Suite 102 Canoga Park, CA 91306</p> <p>3878 Ruffin Road Suite A San Diego, CA 92123</p> <p><b>COLORADO</b> 1640 South Abilene Street Suite D Aurora, CO 80012</p> <p><b>FLORIDA</b> 3700 North 29<sup>th</sup> Avenue Suite 102 Hollywood, FL 33020</p>	<p><b>GEORGIA</b> 8655 Roswell Road Suite 100 Atlanta, GA 30350</p> <p><b>ILLINOIS</b> 9060 Golf Road Niles, IL 60714</p> <p>1703 North Randall Road Elgin, IL 60123 (Pick-up/Drop-off only)</p> <p><b>MARYLAND</b> 62 Mountain Road Glen Burnie, MD 21061</p> <p><b>MASSACHUSETTS</b> 60 Glacier Drive Suite C Westwood, MA 02090</p>	<p><b>MICHIGAN</b> 37048 Van Dyke Avenue Sterling Heights, MI 48312</p> <p><b>MINNESOTA</b> 7850-12<sup>th</sup> Avenue South Airport Business Center Bloomington, MN 55425</p> <p><b>OHIO</b> 2236 Waycross Road Civic Center Plaza Forest Park, OH 45240</p> <p><b>PENNSYLVANIA</b> 2221 Cabot Blvd. West Suite B Langhorne, PA 19047</p>	<p><b>TEXAS</b> 13615 Welch Road Suite 101 Farmers Branch TX 75244</p> <p><b>WASHINGTON</b> 20425-84<sup>th</sup> Avenue South Kent, WA 98032</p> <p><b>HAWAII</b> 99-859 Iwaiwa Street Aiea, Hawaii 96701 Phone (808) 488-1996 Fax (808) 486-4369</p>
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References

### 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*

FD4030 As of APR '00

# Specifications

## AMPLIFIER SECTION

Input sensitivity	
AUX	250 mV
Input impedance	
AUX	30 k $\Omega$

## FM TUNER SECTION

Frequency range	87.9–107.9 MHz (200 kHz step)
	87.5–108.0 MHz (100 kHz step)
Sensitivity	16.3 dBf (1.8 $\mu$ V, IHF58)
Antenna terminals	75 $\Omega$ (unbalanced)

## AM TUNER SECTION

Frequency range	520–1710 kHz (10 kHz step)
Sensitivity	
S/N 20 dB at 1000 kHz	500 $\mu$ V/m

## DISC SECTION

Disc	
DVD-Video	8 cm/12 cm single-sided, single-layer 8 cm/12 cm single-sided, double-layer 8 cm/12 cm double-sided, double-layer (One layer per side)
Video CD/CD	8 cm/12 cm
Video	
Signal system	NTSC
Output level	Composite video 1 Vp-p (75 $\Omega$ )
S-VIDEO Y	1 Vp-p (75 $\Omega$ )
S-VIDEO C	0.286 Vp-p (75 $\Omega$ /NTSC)
Audio	
Sampling frequency	
CD	44.1 kHz
DVD	48 kHz/96 kHz
Decoding	16/20/24 bit linear
Wow and flutter	Below measurable limit
Digital filter	8 fs
D/A converter	Delta-sigma DAC
Pick up	
Beam Source	Semiconductor Laser
Wavelength	665 nm

## SPEAKER SECTION

### Front speakers SB-PM08

Type	3 way, 3 speaker
Speakers	
Super woofer	14 cm (5 1/2") cone type
Woofer	10 cm (4") cone type
Tweeter	6 cm (2 3/8") cone type
Impedance	
HIGH	6 $\Omega$
LOW	6 $\Omega$
Input power	
HIGH	30 W (Music)
LOW	30 W (Music)
Output sound pressure level	86 dB/W (1.0 m)
Cross over frequency	110 Hz, 6 kHz
Frequency range	43 Hz–22 kHz (–16 dB) 52 Hz–20 kHz (–10 dB)
Dimensions (W×H×D)	179×261×312 mm (7 1/16"×10 9/32"×12 9/32")
Mass	3.7 kg (8.2 lb)

### Center speaker SB-PC80

Type	1 way, 1 speaker
Speaker	
Full range	8 cm (3 1/8") cone type
Impedance	6 $\Omega$
Input power	60 W (Music)
Output sound pressure level	79 dB/W (1.0 m)
Frequency range	80 Hz–22 kHz (–16 dB) 110 Hz–20 kHz (–10 dB)
Dimensions (W×H×D)	88×158×105 mm (3 15/32"×6 7/32"×4 1/8")
Mass	0.8 kg (1.8 lb)

### Surround speakers SB-PS80

Type	1 way, 1 speaker
Speaker	
Full range	8 cm (3 1/8") cone type
Impedance	6 $\Omega$
Input power	60 W (Music)
Output sound pressure level	79 dB/W (1.0 m)
Frequency range	80 Hz–22 kHz (–16 dB) 110 Hz–20 kHz (–10 dB)
Dimensions (W×H×D)	88×158×105 mm (3 15/32"×6 7/32"×4 1/8")
Mass	0.7 kg (1.5 lb)

## GENERAL

Power supply	AC 120 V, 60 Hz
Power consumption	85 W
Standby	Approx. 0.3 W
Dimensions (W×H×D)	250×131×323 mm (9 27/32"×5 5/32"×12 23/32")
Mass	5.2 kg (11.5 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 surfaces are extremely dirty, use a soft cloth dipped in a soap-and-water solution or a weak detergent solution

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

## 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

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

	MODEL NUMBER	SERIAL NUMBER
Main unit	SA-PM08/SA-PM88	_____
Front speakers	SB-PM08	_____
Center speaker	SB-PC80	_____
Surround speakers	SB-PS80	_____

### User memo.

DATE OF PURCHASE \_\_\_\_\_  
DEALER NAME \_\_\_\_\_  
DEALER ADDRESS \_\_\_\_\_  
\_\_\_\_\_  
TELEPHONE NUMBER \_\_\_\_\_

Apparatus Claims of U S Patent Nos 4,631,603, 4,577,216, and 4,819,098, licensed for limited viewing uses only

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