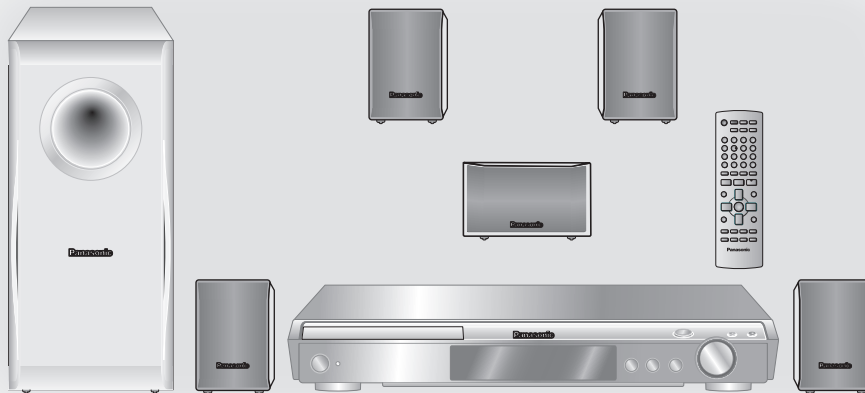


Operating Instructions DVD Home Theater Sound System

Model No. **SC-HT340**



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

Your unit may not look exactly the same as illustrated.

Note

“EB” on the packaging indicates the United Kingdom.

Region number

The player plays DVD-Video marked with labels containing the region number “2” or “ALL”.

Example:



Compatible with a variety of media formats

DVD-RAM, DVD-Video, DivX and more.

page **11**

Enhanced on-screen menus

Program search, audio selections, marker, zoom and more.

page **19**

High performance sound effect

Sound field control (SFC), Dolby Pro Logic II and more.

page **29**

Dear customer

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

Operations in these instructions are described mainly with the remote control, but you can perform the operations on the main unit if the controls are the same.

System	SC-HT340
Main unit	SA-HT340
Front speakers	SB-FS340
Center speaker	SB-PC340
Surround speakers	SB-FS341
Subwoofer	SB-W340

CAUTION!

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

WARNING:

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

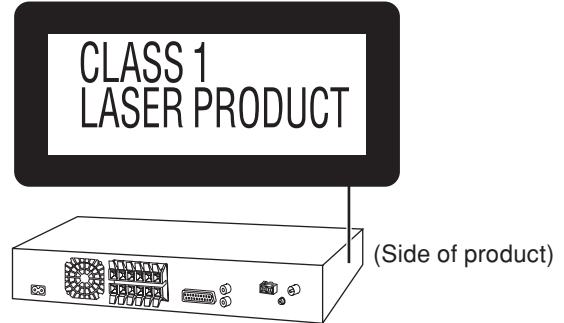
CAUTION!

- DO NOT INSTALL OR PLACE THIS UNIT IN A BOOKCASE, BUILT-IN CABINET OR IN ANOTHER CONFINED SPACE. ENSURE THE UNIT IS WELL VENTILATED. TO PREVENT RISK OF ELECTRIC SHOCK OR FIRE HAZARD DUE TO OVERHEATING, ENSURE THAT CURTAINS AND ANY OTHER MATERIALS DO NOT OBSTRUCT THE VENTILATION VENTS.
- DO NOT OBSTRUCT THE UNIT'S VENTILATION OPENINGS WITH NEWSPAPERS, TABLECLOTHS, CURTAINS, AND SIMILAR ITEMS.
- DO NOT PLACE SOURCES OF NAKED FLAMES, SUCH AS LIGHTED CANDLES, ON THE UNIT.
- DISPOSE OF BATTERIES IN AN ENVIRONMENTALLY FRIENDLY MANNER.

The socket outlet shall be installed near the equipment and easily accessible or the mains plug or an appliance coupler shall remain readily operable.

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

THIS UNIT IS INTENDED FOR USE IN MODERATE CLIMATES.



CAUTION	- LASER RADIATION WHEN OPEN. DO NOT STARE INTO BEAM. FDA 21 CFR 1 Class II
CAUTION	- CLASS 1M VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN. DO NOT VIEW DIRECTLY WITH OPTICAL INSTRUMENTS. IEC60825-1 +A21 Class 1M
WARNING	- KLASS 1M SYNLIG OCH OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD. BETRÄKTA EJ STRÅLEN DIREKT GENOM OPTISKA INSTRUMENT.
FORSIGTIG	- SYNLIG OG OSYNLIG LASERSTRÅLNING KLASSE 1M. IKKE LÅSE ET ØJ ÅBENT. UNDGÅ AT SE UDEN PÅ MED OPTISKE INSTRUMENTER.
VARO!	- AVATTESSA OLET ALTIINNA LUOKAN 1M NÄKYMÄÄ JA NÄKYMÄTÖNTÄ LASERSÄTELYÄ. ÄLÄ KATSO OPTISELLÄ LAITTEELLA SUORAAN SÄTEESEEN.
VORSICHT	- SICHTBARE UND UNSICHTBARE LASERSTRÄHLUNG KLASSE 1M. WENN ABDECKUNG GEÖFFNET, NICHT DIREKT MIT OPTISCHEN INSTRUMENTEN BETRACHTEN.
ATTENTION	- RAYONNEMENT LASER VISIBLE ET INVISIBLE, CLASSE 1M, EN CAS D'OUVERTURE. NE PAS REGARDER DIRECTEMENT À L'AIDE D'INSTRUMENTS D'OPTIQUE.
注意	- ここを開くと可視及び不可視レーザ光が出ます。 ビームを見たり、触れたりしないでください。
注意	- 打开时有可见及不可见激光辐射。避免光束照射。 GB7241.1-2001/13B 类 ROLXS0075

Inside of product

Caution for AC Mains Lead

(For United Kingdom)
("EB" area code model only)

For your safety, please read the following text carefully.

This appliance is supplied with a moulded three pin mains plug for your safety and convenience.

A 5-ampere fuse is fitted in this plug.

Should the fuse need to be replaced please ensure that the replacement fuse has a rating of 5-ampere and that it is approved by ASTA or BSI to BS1362.

Check for the ASTA mark  or the BSI mark  on the body of the fuse.

If the plug contains a removable fuse cover you must ensure that it is refitted when the fuse is replaced.

If you lose the fuse cover the plug must not be used until a replacement cover is obtained.

A replacement fuse cover can be purchased from your local dealer.

CAUTION!

IF THE FITTED MOULDED PLUG IS UNSUITABLE FOR THE SOCKET OUTLET IN YOUR HOME THEN THE FUSE SHOULD BE REMOVED AND THE PLUG CUT OFF AND DISPOSED OF SAFELY.

THERE IS A DANGER OF SEVERE ELECTRICAL SHOCK IF THE CUT OFF PLUG IS INSERTED INTO ANY 13-AMPERE SOCKET.

If a new plug is to be fitted please observe the wiring code as stated below.

If in any doubt please consult a qualified electrician.

IMPORTANT

The wires in this mains lead are coloured in accordance with the following code:

Blue: Neutral, Brown: Live.

As these colours may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

The wire which is coloured Blue must be connected to the terminal which is marked with the letter N or coloured Black or Blue.

The wire which is coloured Brown must be connected to the terminal which is marked with the letter L or coloured Brown or Red.

WARNING: DO NOT CONNECT EITHER WIRE TO THE EARTH TERMINAL WHICH IS MARKED WITH THE LETTER E, BY THE EARTH SYMBOL \perp OR COLOURED GREEN OR GREEN/YELLOW.

THIS PLUG IS NOT WATERPROOF—KEEP DRY.

Before use

Remove the connector cover.

How to replace the fuse

The location of the fuse differ according to the type of AC mains plug (figures A and B). Confirm the AC mains plug fitted and follow the instructions below. Illustrations may differ from actual AC mains plug.

1. Open the fuse cover with a screwdriver.

Figure A

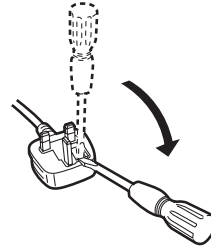
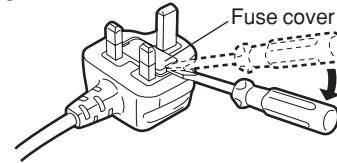


Figure B



2. Replace the fuse and close or attach the fuse cover.

Figure A

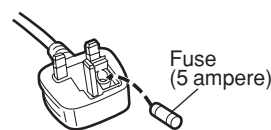
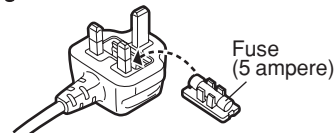


Figure B





-If you see this symbol-

Information on Disposal for Users of Waste Electrical & Electronic Equipment (private households)



This symbol on the products and/or accompanying documents means that used electrical and electronic products should not be mixed with general household waste.

For proper treatment, recovery and recycling, please take these products to designated collection points, where they will be accepted on a free of charge basis. Alternatively, in some countries you may be able to return your products to your local retailer upon the purchase of an equivalent new product.

Disposing of this product correctly will help to save valuable resources and prevent any potential negative effects on human health and the environment which could otherwise arise from inappropriate waste handling. Please contact your local authority for further details of your nearest designated collection point.

Penalties may be applicable for incorrect disposal of this waste, in accordance with national legislation.

For business users in the European Union

If you wish to discard electrical and electronic equipment, please contact your dealer or supplier for further information.

Information on Disposal in other Countries outside the European Union

This symbol is only valid in the European Union. If you wish to discard this product, please contact your local authorities or dealer and ask for the correct method of disposal.

Safety precautions

Placement

Set the unit up on an even surface away from direct sunlight, high temperatures, high humidity, and excessive vibration. These conditions can damage the cabinet and other components, thereby shortening the unit's service life.

Do not place heavy items on the unit.

Voltage

Do not use high voltage power sources. This can overload the unit and cause a fire.

Do not use a DC power source. Check the source carefully when setting the unit up on a ship or other places where DC is used.

AC mains lead protection

Ensure the AC mains lead is connected correctly and not damaged. Poor connection and lead damage can cause fire or electric shock. Do not pull, bend, or place heavy items on the lead.

Grasp the plug firmly when unplugging the lead. Pulling the AC mains lead can cause electric shock.

Do not handle the plug with wet hands. This can cause electric shock.

Foreign matter

Do not let metal objects fall inside the unit. This can cause electric shock or malfunction.

Do not let liquids get into the unit. This can cause electric shock or malfunction. If this occurs, immediately disconnect the unit from the power supply and contact your dealer.

Do not spray insecticides onto or into the unit. They contain flammable gases which can ignite if sprayed into the unit.

Service

Do not attempt to repair this unit by yourself. If sound is interrupted, indicators fail to light, smoke appears, or any other problem that is not covered in these instructions occurs, disconnect the AC mains lead and contact your dealer or an authorized service center. Electric shock or damage to the unit can occur if the unit is repaired, disassembled or reconstructed by unqualified persons.

Extend operating life by disconnecting the unit from the power source if it is not to be used for a long time.



GETTING STARTED



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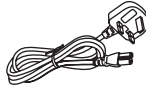
Accessories

Please check and identify the supplied accessories. Use numbers indicated in parentheses when asking for replacement parts. (Product numbers correct as of March 2006. These may be subject to change.)

1 Remote control
(N2QAYZ000005)



1 AC mains lead
(K2CT3CA00004)



1 Antenna plug adaptor
(K1YZ02000013)



2 Remote control batteries



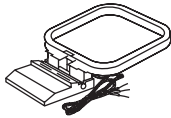
1 FM indoor antenna
(RSA0007-L)



1 Sheet of speaker-cable sticker

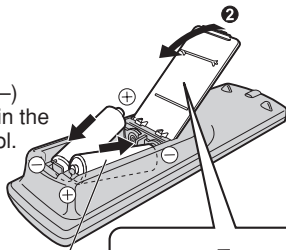


1 AM loop antenna
(N1DAAAA00002)



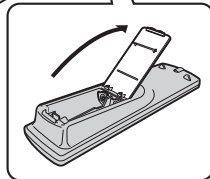
Preparing the remote control

1 Insert so the poles (+ and -) match those in the remote control.



R6/LR6, AA

• Do not use rechargeable type batteries.



Do not:

- mix old and new batteries.
- use different types of batteries at the same time.
- heat or expose batteries to flame.
- take apart or short circuit the batteries.
- attempt to recharge alkaline or manganese batteries.
- use batteries if the covering has been peeled off.

Mishandling of batteries can cause electrolyte leakage which can severely damage the remote control.

Remove the batteries if the remote control is not going to be used for a long period of time. Store in a cool, dark place.

Use

Aim at the display (➔ page 12), avoiding obstacles, at a maximum range of 7 m directly in front of the unit.

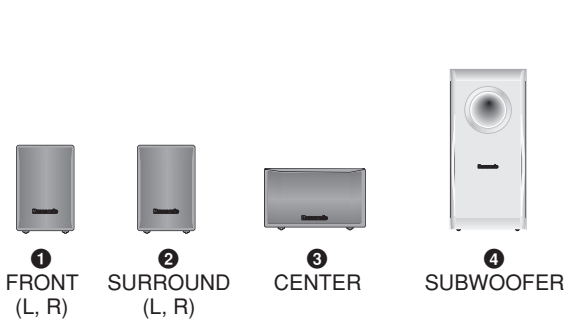


Placement of speakers

How you set up your speakers can affect the bass and the sound field. Note the following points:

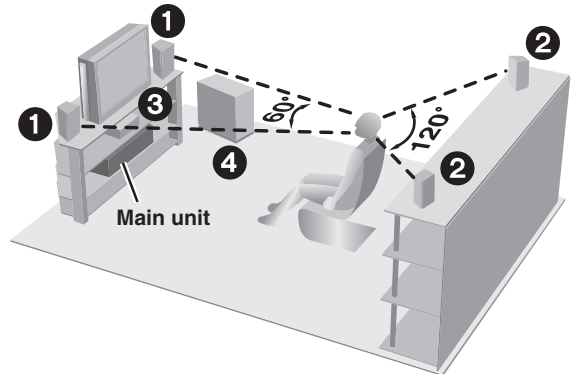
- Place speakers on flat secure bases.
- Placing speakers too close to floors, walls, and corners can result in excessive bass. Cover walls and windows with thick curtains.

SPEAKERS



SETUP EXAMPLE

Place the front, center, and surround speakers at approximately the same distance from the seating position. The angles in the diagram are approximate.



- Other speaker setup options (⇒ page 10).

Use only supplied speakers

- Using other speakers can damage the unit, and sound quality will be negatively affected.
- Set the speakers up on an even surface to prevent them from falling. Take proper precautions to prevent the speakers from falling if you cannot set them up on an even surface.

Main unit

- Keep your speakers at least 10 mm away from the system for proper ventilation.
- To allow proper ventilation and to maintain good airflow around the main unit, position it with at least 5 cm of space on all sides.
- Do not block the ventilation holes of the main unit.

Center speaker

- Vibration caused by the center speaker can disrupt the picture if it is placed directly on the television. Put the center speaker on a rack or shelf.
- To prevent the speakers from falling, do not place directly on top of the television.

Subwoofer

- Place to the right or left of the television, on the floor or a sturdy shelf so that it will not cause vibration. Leave a space of 30 cm from the television.

Caution

- Refrain from holding the speaker's net.

Example: Front speaker



Note

- You can damage your speakers and shorten their useful life if you play sound at high levels over extended periods.
- Reduce the volume in the following cases to avoid damage:
 - When playing distorted sound.
 - When the speakers are reverberating due to a record player, noise from FM broadcasts, or continuous signals from an oscillator, test disc, or electronic instrument.
 - When adjusting the sound quality.
 - When turning the unit on or off.

If irregular coloring occurs on your television

The front and center speakers are designed to be used close to a television, but the picture may be affected with some televisions and setup combinations.

If this occurs, turn the television off for about 30 minutes.

The television's demagnetizing function should correct the problem. If it persists, move the speakers farther away from the television.

Caution

- Use the speakers only with the recommended system. Failure to do so can damage the amplifier and speakers, and can cause fire. Consult a qualified service person if damage occurs or if a sudden change in performance is apparent.
- Do not attempt to attach these speakers to walls using methods other than those described in this manual.

Making the connections

Connect the AC mains lead only after all other connections have been made.

- Ensure that you have the complete accessories before making the connections.

Conserving power

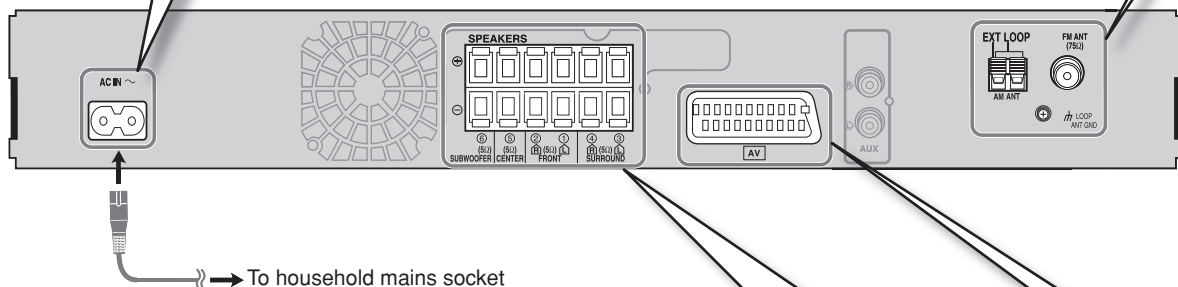
The main unit consumes a small amount of power, even when it is turned off (approx. 1 W). To save power when the unit is not to be used for a long time, unplug it from the household mains socket. You will need to reset some memory items after plugging in the unit.

4 Connect to the power supply.

BE SURE TO READ THE NOTE ON AC MAINS LEAD ON PAGE 3 BEFORE CONNECTION.

Note

The included AC mains lead is for use with this unit only. Do not use it with other equipment.

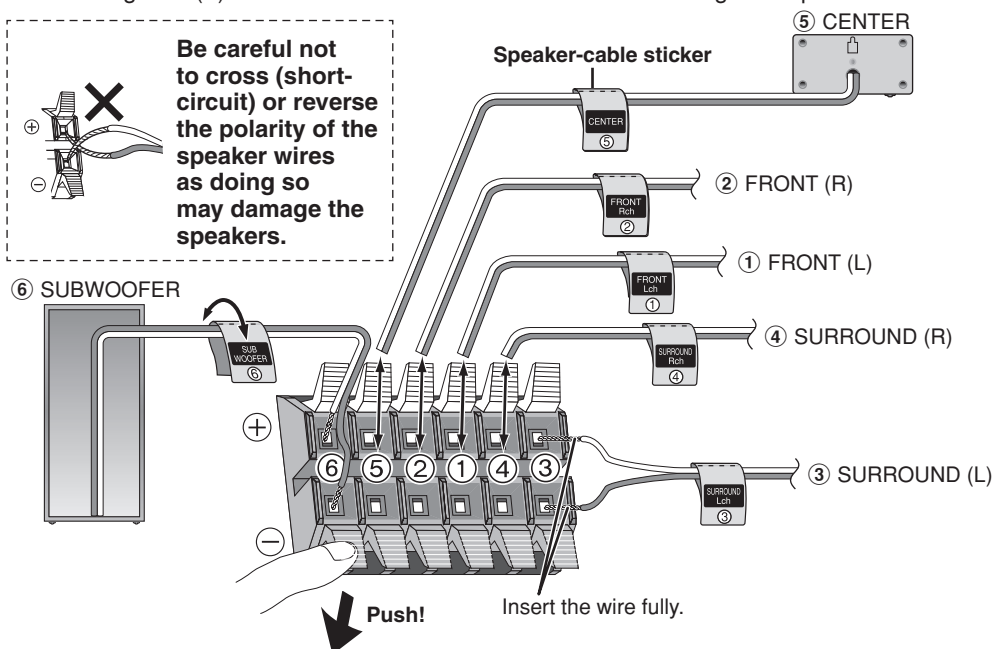


3 Connect to the speakers.

Attach the speaker-cable stickers to make connection easier.

Note

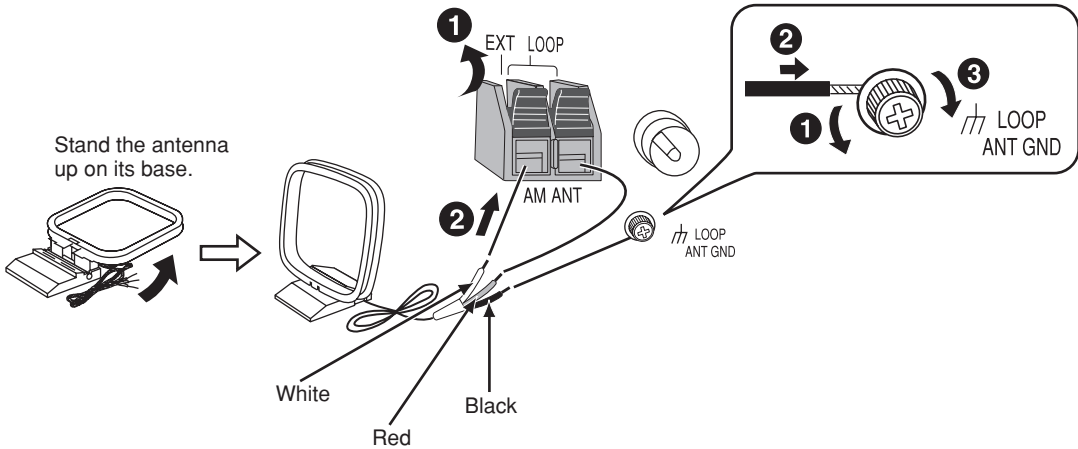
- Never short-circuit positive (+) and negative (-) speaker wires.
- Be sure to connect only positive (white) wires to positive (+) terminals and negative (blue) wires to negative (-) terminals. An incorrect connection can damage the speakers.





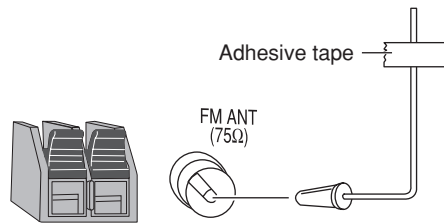
1 Connect to the antennas.

■ AM loop antenna



■ FM indoor antenna

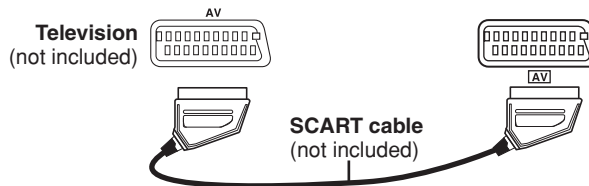
Tape the antenna where reception is best.



2 Connect to the television's SCART terminal.

- Do not connect the unit through a video cassette recorder. Due to copy guard protection, the picture may not be displayed correctly.
- Turn the television off before connecting, and refer to the television's operating instructions.

■ Television with SCART terminal



Using the SCART (AV) terminal

To improve picture quality, you can change the video signal output from the SCART (AV) terminal from "Video" to either "S-Video" or "RGB" to suit the type of television you are using. Select "S-Video" or "RGB" from QUICK SETUP (➔ page 13).

Other speaker setup options

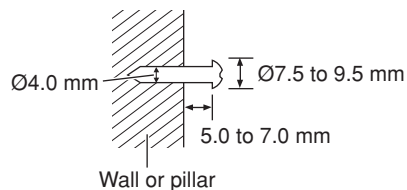
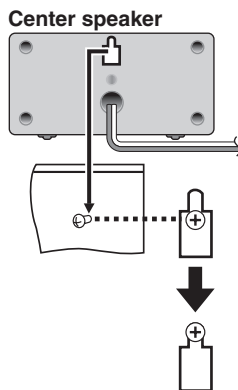
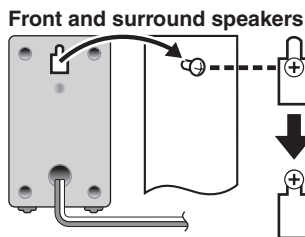
■ Attaching to a wall

You can attach the front, surround and center speakers to the wall.

- The wall or pillar on which the speakers are to be attached should be capable of supporting 10 kg per screw.
- Consult a qualified building contractor when attaching the speakers to a wall. Improper attachment may result in damage to the wall and speakers.

1 Drive a screw (not included) into a wall.

2 Fit the speaker securely onto the screw(s) with the hole(s).



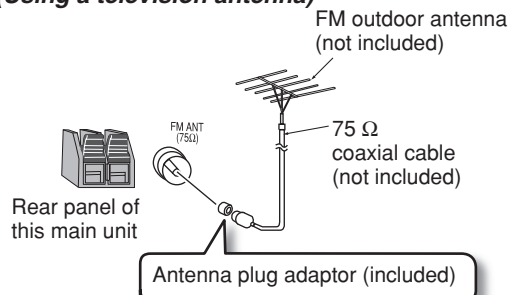
Optional antenna connections

Use outdoor antennas if radio reception is poor.

Note

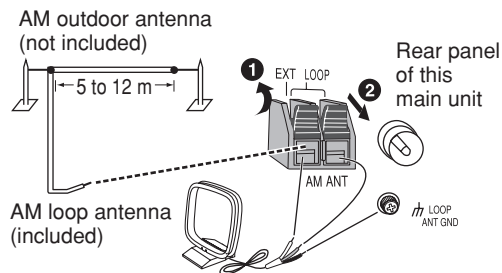
- Disconnect the outdoor antenna when the unit is not in use.
- Do not use the outdoor antenna during a lightning storm.

FM outdoor antenna (Using a television antenna)



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

AM outdoor antenna (Using a vinyl wire)



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

Disc information

Note about using a DualDisc

- The digital audio content side of a DualDisc does not meet the technical specifications of the Compact Disc Digital Audio (CD-DA) format so playback may not be possible.
- Do not use a DualDisc in this unit as it may not be possible to insert it correctly and it may get scratched or scraped.

■ Discs that cannot be played

DVD-RW version 1.0, DVD-Audio, DVD-ROM, CD-ROM, CDV, CD-G, SACD, Photo CD, DVD-RAM that cannot be removed from their cartridge, 2.6-GB and 5.2-GB DVD-RAM, and "Chaoji VCD" available on the market including CVD, DVCD and SVCD that do not conform to IEC62107.



Discs that can be played

Operations in these instructions are described mainly with formats. Icons such as **DVD-V** show the formats.

	<p>DVD-Video DVD-V</p> <p>—</p>
	<p>Video CD VCD</p> <ul style="list-style-type: none"> • Including SVCD (Conforming to IEC62107)
	<p>DVD-RAM DVD-VR MP3 JPEG MPEG4 DivX *3, *4</p> <ul style="list-style-type: none"> • DVD-VR Recorded with devices using Version 1.1 of the Video Recording Format (a unified video recording standard), such as DVD video recorders, DVD video cameras, personal computers, etc. • JPEG Recorded with Panasonic SD multi cameras or DVD video recorders using the DCF (Design rule for Camera File system) Standard Version 1.0. • MPEG4 Recorded with the Panasonic SD multi cameras or DVD video recorders [conforming to SD VIDEO specifications (ASF standard)/MPEG4 (Simple Profile) video system/G.726 audio system].
	<p>DVD-R (DVD-Video) *1/DVD-RW (DVD-Video) DVD-V</p> <ul style="list-style-type: none"> • Discs recorded and finalized *2 on DVD video recorders or DVD video cameras. <p>DVD-R (VR) *1/DVD-RW (VR) DVD-VR</p> <ul style="list-style-type: none"> • Discs recorded and finalized *2 on DVD video recorders or DVD video cameras using Version 1.1 or (or 1.2 DVD-R DL only) of the Video Recording Format (a unified video recording standard). <p>DVD-R/DVD-RW MP3 JPEG MPEG4 DivX *3, *4</p> <ul style="list-style-type: none"> • Finalize *2 the disc after recording.
<p>—</p>	<p>+R (Video) *1/+RW (Video) DVD-V</p> <ul style="list-style-type: none"> • Discs recorded and finalized *2 on DVD video recorders or DVD video cameras.
	<p>CD CD WMA MP3 JPEG VCD MPEG4 DivX *3, *4</p> <ul style="list-style-type: none"> • This unit can play CD-R/RW recorded with the above formats. Close the sessions or finalize *2 the disc after recording. • CD This unit is compatible with HDCD, but does not support the Peak Extend function (a function which expands the dynamic range of high-level signals). HDCD-encoded CDs sound better because they are encoded with 20 bits, as compared with 16 bits for all other CDs. • WMA MP3 JPEG This unit also plays HighMAT discs. • WMA This unit does not support Multiple Bit Rate (MBR: a file that contains the same content encoded at several different bit rates).

*1 Includes single-sided, dual layer discs.

*2 A process that allows play on compatible equipment.

*3 Plays all versions of DivX® video (including DivX®6) with standard playback of DivX® media files. Certified to the DivX Home Theater Profile. GMC (Global Motion Compensation) is not supported.

*4 Functions added with DivX Ultra are not supported.

• It may not be possible to play all the above-mentioned discs in some cases due to the type of disc or condition of the recording.

Video systems

- This unit can play PAL and NTSC, but your television must match the system used on the disc.
- PAL discs cannot be correctly viewed on an NTSC television.
- This unit can convert NTSC signals to PAL 60 for viewing on a PAL television (➔ page 24, "NTSC Disc Output" in "Video" tab).

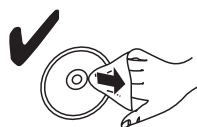
- Do not use record cleaning sprays, benzene, thinner, static electricity prevention liquids or any other solvent.
- Do not use scratch-proof protectors or covers.
- Do not use the following discs:
 - Discs with exposed adhesive from removed stickers or labels (rented discs, etc).
 - Discs that are badly warped or cracked.
 - Irregularly shaped discs, such as heart shapes.

Disc handling precautions

- Do not attach labels or stickers to discs. This may cause disc warping, rendering it unusable.
- Do not write on the label side with a ball-point pen or other writing instrument.

To clean discs

Wipe with a damp cloth and then wipe dry.



Overview of controls

ENGLISH

GETTING STARTED

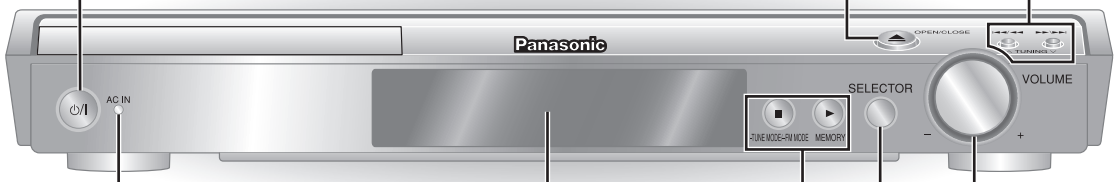
Main unit

Standby/on switch [⏻/⏻] (14)

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.

⏮/⏪, ⏩/⏭/⏴/⏵ TUNING ^
 Skipping or slow-search play,
 Select the radio stations (28)

▲ OPEN/CLOSE
 Open or close the disc tray (14)



AC supply indicator [AC IN]

This indicator lights when the unit is connected to the AC mains supply.

Display

+ , - VOLUME
 Turn the volume up or down (14)

■/-TUNE MODE/- FM MODE

Stop playback, Select the tuning mode (28),
 Adjust the FM reception condition (28)

▶/MEMORY

Disc playback (14), Memorize the receiving radio stations (28)

SELECTOR (14, 28)

DVD/CD → FM → AM → TV →
 AUX → Returns to DVD/CD

Remote control

Television operations (31)

Adjust the television volume (31)

Switch the main unit on or off (13)

Change the television's video input mode (31)

Select disc's title numbers and etc.,
 Enter numbers (15)

Select the source
DVD: DVD/CD (13)
TUNER/BAND: FM (28) ↔ AM (28)
EXT-IN: TV (31) ↔ AUX (31)

Show the display on the main unit (15)

Adjust the volume of the main unit (30)

Select preset radio stations (28)

Basic operations for play (15)

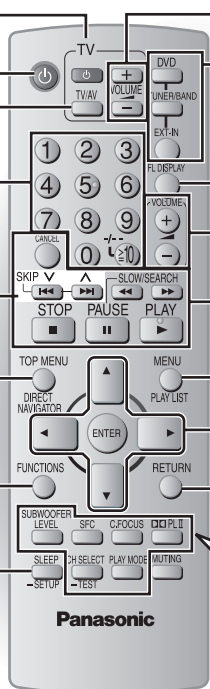
Show a disc top menu (15)
 or program list (15)

Show a disc menu or play list (15)

Show on-screen menu (19),
 Adjust the AM reception condition (28)

Select or confirm menu items on the
 television screen (13), Frame-by-frame (15)
 Return to previous screen (15)

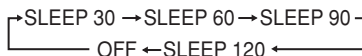
Set the sleep timer,
 Show the Setup menu (13)



SUBWOOFER LEVEL (29)	SFC (29)	C.FOCUS (29)	□□PLII (29)
CH SELECT (30)	PLAY MODE (16)		
-TEST			



This function enables you to turn off the unit automatically after the set time.



To cancel the timer

Press [SLEEP] to select "OFF".

To confirm the remaining time

Press [SLEEP] again.



To mute the sound

- Press the button to activate.
- Press again to cancel.

To cancel

- Press [MUTING] again or reduce the volume to minimum "VOL 0", and then raise it to the required level.
- Muting is cancelled when you switch the unit to standby.

Performing QUICK SETUP

The QUICK SETUP screen assists you to make necessary settings.

To display the picture from this main unit, switch on the television and change the television's input mode which is connected to this main unit (example : VIDEO 1, AV 1, etc.).

To change your television's input mode, refer to its operating instructions.

- This remote control is able to perform some basic television operations (➔ page 31).

1 Switch on the main unit.

2 Select "DVD/CD".

3 Shows the QUICK SETUP screen.

4 Follow the messages and make the setting.

5 Finish the QUICK SETUP.

6 Press to exit.

To change these settings later

Select "QUICK SETUP" in "Others" tab (➔ page 25).

■ Details of settings				
Menu language Choose the language for the on-screen messages.	• <u>English</u> • Español	• Français • Polski	• Deutsch • Svenska	• Italiano • Nederlands
TV Type Select to suit the type of television.	• <u>Standard (Direct View TV)</u> • CRT Projector • Projection TV		• LCD TV/Projector • Plasma TV	
TV Aspect Choose the setting to suit your television and preference.	• <u>4:3</u> : Regular aspect television • 16:9: Widescreen television			
AV Output	• <u>Video</u>	• S-Video	• RGB	

- Underlined items in the above table are the factory preset.





Stop



The position is memorized while "RESUME" is on the display.

- Press [▶, PLAY] to resume.
- Press [■, STOP] again to clear the position.

Pause



• Press [▶, PLAY] to resume playback.

Search (during play)



• Play speed increases up to 5 steps.

• Press [▶, PLAY] to resume normal playback.

Slow-motion play (during pause)



• Play speed increases up to 5 steps.

• [VCD] Slow motion play is for forward direction only.

• Except [MPEG4] [DivX].

• Press [▶, PLAY] to resume normal playback.

Main unit display



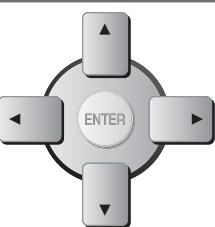
[DVD-V] [DVD-VR] [WMA] [MP3] [MPEG4] [DivX]
Time display ↔ Information display

[JPEG]
When Slideshow (→ page 20) is on:
SLIDE ↔ Information display
When Slideshow (→ page 20) is off:
PLAY ↔ Information display

Track or content skip



Group or content skip (during play)

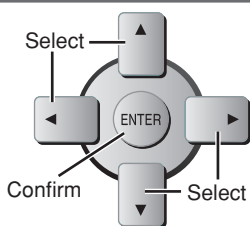


[WMA] [MP3] [JPEG] [MPEG4] [DivX]

- This feature does not work during program and random play (→ page 16).

Group skip: Press [▲, ▼].
Content skip: Press [◀, ▶].

On-screen item select



Enter numbers

[1] [2] [3] [DVD-V] (while stopped) [DVD-VR] [VCD]
[CD]

[4] [5] [6] Example: To select 12,
[≥10] → [1] → [2]

[7] [8] [9]

[0] [+/-] [≥10]

[VCD] with Playback control (PBC)
Press [■, STOP] and then press the numeric buttons to cancel the PBC functions.

Note

- The numeric buttons that can function depend on the number of tracks on the VCD.



[WMA] [MP3] [JPEG] [MPEG4] [DivX]

Example: To select 123,
[1] → [2] → [3] → [ENTER]

Cancel the numbers



Disc menus

TOP MENU [DVD-V]
Shows a disc top menu.

DIRECT NAVIGATOR [DVD-VR]
Shows the program (→ page 18).

MENU [DVD-V] [MPEG4] [DivX]
Shows a disc menu.

PLAY LIST [DVD-VR]
Shows the play list (→ page 18).

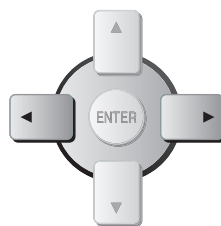
RETURN [VCD] with Playback control (PBC)
Shows a disc menu.

Frame-by-frame (during pause)



[DVD-V] [DVD-VR] [VCD]

• [VCD] Forward direction only.

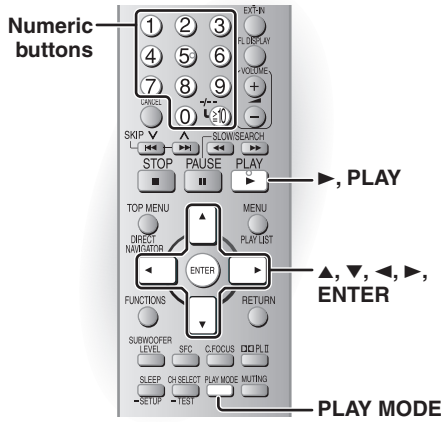


Return to previous screen



Note

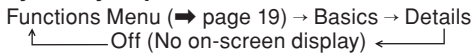
- Disc continues to rotate while menus are displayed. Press [■, STOP] when you finish to preserve the unit's motor and your television screen.
- Total title number may not be displayed properly on +R/+RW.



Displaying current playback condition

Press [FUNCTIONS].

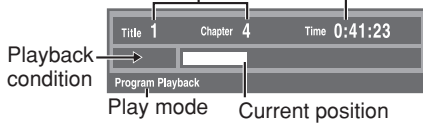
Every time you press the button:



Basics

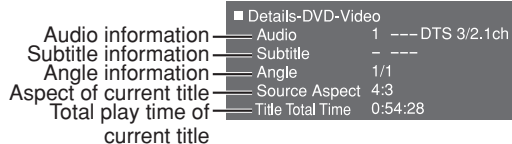
Example: [DVD-V]

Current playback number Elapsed play time



Details

Example: [DVD-V]



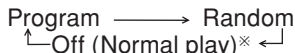
- [MPEG4] [DivX] Video and audio information is not displayed during search.



Program and Random play

Press [PLAY MODE] while stopped.

Program and random playback screens appear sequentially.



- *Select "Off" condition to exit the program or random mode.

To exit program or random play mode

Press [PLAY MODE] several times while stopped.

Note

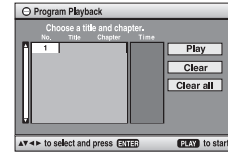
- Selecting "Play as Data Disc" in Other Menu (to page 22) will be effective if the following functions are not available to play WMA, MP3, JPEG, MPEG4 or DivX video contents.
- [DVD-V] Some items cannot be played even if you have programmed them.

Program play (up to 32 items)

[DVD-V] [VCD] [CD] [WMA] [MP3] [JPEG] [MPEG4] [DivX]

- 1 Press the numeric buttons to select the items. ([WMA] [MP3] [JPEG] [MPEG4] [DivX] Press [ENTER] to confirm the selection.)

Example: [DVD-V]



- Repeat this step to program other items.
- To select a 2-digit number
Example: To select 25, [2] → [5]
[WMA] [MP3] [JPEG] [MPEG4] [DivX]
[2] → [5] → [ENTER]

- 2 Press [▶, PLAY].

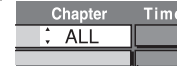
To select an item using the cursor buttons

Press [ENTER] and [▲, ▼] to select an item, then press [ENTER] again to confirm.

To select all the items

While the "Chapter", "Track" or "Content" field is highlighted, press [▲, ▼] to select "ALL". Then press [ENTER] again to confirm.

Example: [DVD-V]



To change the selected program

1. Press [▲, ▼] to select the program number.
2. Press the numeric buttons to change each item.
([WMA] [MP3] [JPEG] [MPEG4] [DivX] Press [ENTER] to confirm the selection.)

To clear the selected program

1. Press [▲, ▼] to select the program number.
2. Press [CANCEL] (or press [▲, ▼, ◀, ▶] to select "Clear" and press [ENTER]).

To clear the whole program

Select "Clear all" with [▲, ▼, ◀, ▶] and press [ENTER].

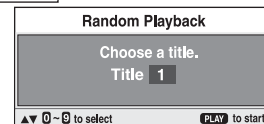
The whole program is also cleared when the unit is turned off, the disc tray is opened or another source is selected.

Random play

[DVD-V] [WMA] [MP3] [JPEG] [MPEG4] [DivX]

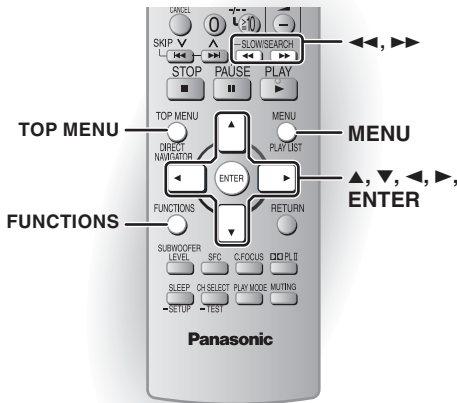
- 1 Press the numeric buttons to select a group or a title. ([WMA] [MP3] [JPEG] [MPEG4] [DivX] Press [ENTER] to confirm the selection.)

Example: [DVD-V]



- To deselect a group, press the numeric buttons corresponding to the group you want to clear.

- 2 Press [▶, PLAY].



Playing data discs

WMA **MP3** **JPEG** **MPEG4** **DivX**

Selecting "Play as Data Disc" in Other Menu (→ page 22) will be effective if the following functions are not available to play WMA, MP3, JPEG, MPEG4 or DivX video contents.

- Playing HighMAT™ discs (→ page 18).

Playing items in order (Playback Menu)

1 Press [TOP MENU].

Example:

Playback Menu		
All contents	All	Total 436
WMA/MP3	Audio	Total 7
JPEG	Picture	Total 427
MPEG4 and DivX video	Video	Total 2

▲▼ to select and press [ENTER]

2 While the menu is displayed Press [▲, ▼] to select "All", "Audio", "Picture" or "Video" and press [ENTER].

To exit the screen
Press [TOP MENU].

Playing from the selected item (Navigation Menu)

1 Press [MENU].

Example:

Navigation Menu		Group and content number currently playing
002 My favorite2	005 Japanese	001 Lady Starfish
Perfume	002 Metal Gear	002 Metal Gear
001 My favorite1	003 Life on Jupiter	003 Life on Jupiter
002 My favorite2	004 Starperson	004 Starperson
001 Brazilian		
002 Chinese		
003 Czech		
004 Hungarian		
005 Japanese		
006 Mexican		
007 Philippine		
008 Swedish		
009 Piano		
010 Vocal		

: JPEG
 : WMA/MP3
 : MPEG4 and DivX video

Group: 005/023 Content: 001/0005

RESULT to display the sub menu [ENTER] to exit

2 Press [◀] followed by [▲, ▼] to select the group and press [ENTER].

3 To play content in the group in order Press [ENTER].

To start play from the selected content
Press [▲, ▼] to select and press [ENTER].

To enjoy listening to WMA/MP3 contents while showing a JPEG image on the screen

Select a JPEG file first, and then select audio contents.

(The opposite order is not effective.)

To exit the screen
Press [MENU].

Using the submenu

1 While the Navigation Menu is displayed Press [FUNCTIONS].

2 Press [▲, ▼] to select an item and press [ENTER].

Items shown differ depending on the type of disc.

✓Multi	Groups and contents are displayed
List	Contents only
Tree	Groups only
Thumbnail	Thumbnail images JPEG
Next group	To go to next group
Previous group	To go to previous group
All	WMA/MP3, JPEG, MPEG4 and DivX video
Audio	WMA/MP3 only
Picture	JPEG only
Video	MPEG4 and DivX video only
Help display	To switch between guide messages and the elapsed play time indicator
Find	To search by content or group title (→ see below)

Searching by a content or group title

Highlight a group title to search the group, or a content title to search its content.

1 While the submenu is displayed (→ see above) Press [▲, ▼] to select "Find" and press [ENTER].

* A Find

2 Press [▲, ▼] to select a character and press [ENTER].

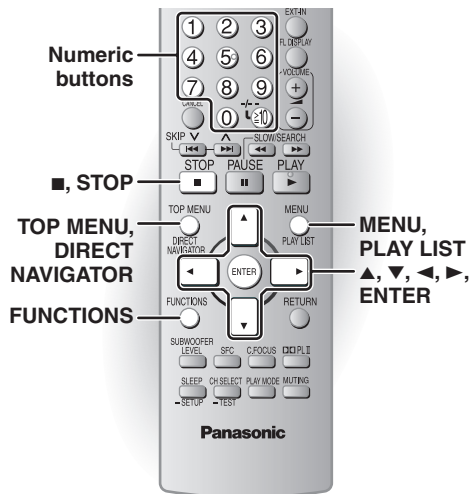
- Repeat to enter another character.
- Lower case is also searched.
- Press [◀▶] to skip between A, E, I, O and U.
- Press [←] to erase a character.
- Leave the asterisk (*) when you search for the titles including the character you enter.
- Erase the asterisk (*) to search for the titles starting with the character you enter. To add the asterisk (*) again, display the submenu again and select "Find".

3 Press [▶] to select "Find" and press [ENTER].

The search result screen appears.

4 Press [▲, ▼] to select the content or group and press [ENTER].





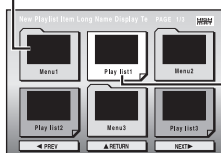
Playing HighMAT™ discs

WMA MP3 JPEG

- 1 Press [TOP MENU].
- 2 Press [▲, ▼, ◀, ▶] to select the item, and then press [ENTER].
 - Repeat this step if necessary.

Example:

Menu: Takes you to the next menu which shows play lists or another menu



Play list: Play starts

To change the menu background

Press [FUNCTIONS].

The background changes to the one recorded on the disc.

To exit the screen

Press [■, STOP].



Selecting from the list

- 1 During play Press [MENU].

Example:



- 2 Press [◀] followed by [▲, ▼] to switch among "Playlist", "Group" and "Content" lists.

- 3 Press [▶] followed by [▲, ▼] to select an item and press [ENTER].

To exit the screen

Press [MENU].

Playing RAM and DVD-R/-RW (DVD-VR) discs

DVD-VR

- Titles appear only if the titles are recorded on the disc.
- You cannot edit programs, play lists and disc titles.



Playing the programs

- 1 Press [DIRECT NAVIGATOR].
- 2 Press [▲, ▼] or the numeric buttons to select the program.
 - Press [▶] to show the contents of the program and the disc.
- 3 Press [ENTER].

To exit the screen

Press [DIRECT NAVIGATOR].



Playing a play list

Applicable only when the disc contains a play list.

- 1 Press [PLAY LIST].
- 2 Press [▲, ▼] or the numeric buttons to select the play list.
- 3 Press [ENTER].

To exit the screen

Press [PLAY LIST].

To play scenes one by one

- 1 While the play list menu is displayed Press [▶].
- 2 Press [▲, ▼] to select "Scene List" and press [ENTER].
 - "Contents" shows play list information.
- 3 Press [▲, ▼, ◀, ▶] to select a scene and press [ENTER].



Playing the selected track in the CD Text disc

CD

Titles appear with CD Text disc playback.

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

Example: CD Text



- 2 Press [▲, ▼] to select the track and press [ENTER].

- Press [FUNCTIONS] to show the playback condition and current position.

To exit the screen

Press [TOP MENU] or [MENU].

Using on-screen menus

1 Display the "Functions" screen.
FUNCTIONS

2 Select the menu.
Return to the previous menu, Select, Go to the next menu, Confirm

3 Make the settings.
1 2 3, 4 5 6, 7 8 9, 0 +/≡ Confirm

4 Press to exit.
RETURN

Items shown differ depending on the type of disc.

Functions Menu

Program Group Title Chapter Track Playlist Content	<p>To start from a specific item Example: DVD-VR To select program 12 Press the numeric buttons: [1] → [2] → [ENTER]</p>
Time ×(Except +R/+RW)	<p>DVD-V DVD-VR DivX To skip incrementally or decrementally* (Time slip) (during play) 1. Press [ENTER] twice to show the Time Slip indicator. 2. Press [▲, ▼] to select the time and press [ENTER]. • To change the steps quickly, press and hold [▲, ▼].</p> <p>DVD-V DVD-VR DivX To start from a specific time* (Time Search)</p> <p>DVD-V DVD-VR VCD CD MPEG4 DivX To change the elapsed or remaining time display</p>
Video	<p>To display the pixel number MPEG4 DivX Fps (frame per second) is also displayed.</p>

Audio	<p>DVD-V DivX (with multiple soundtracks) To select audio soundtrack DVD-VR VCD DivX To select "L", "R" or "LR" DVD-V (Karaoke disc) To select "On" or "Off" for vocals • Read the disc's instructions for details.</p> <p>Signal type/data LPCM/PPCM/□□Digital/DTS/MP3/ MPEG: Signal type kHz (Sampling frequency)/bit/ch (Number of channels) Example: 3 / 2 .1ch</p> <ul style="list-style-type: none"> 1: Low frequency effect (not displayed if there is no 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 <p>• DivX It may take some time for play to start if you change the audio on a DivX video disc.</p> <p>WMA MP3 To display the current bitrate or sampling frequency</p> <p>Thumbnail JPEG To show thumbnail images</p>
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Functions Menu (continued)

Subtitle	<p>[DVD-V] [DivX] (with multiple subtitles) [VCD] (SVCD only)</p> <p>To select the subtitle language</p> <ul style="list-style-type: none"> On +R/+RW, a subtitle number may be shown for subtitles that are not displayed. <p>[DVD-VR] "On" or "Off" appears only with discs that contain subtitle on/off information (Subtitle on/off information cannot be recorded using Panasonic DVD Recorders).</p>	Marker (VR)	<p>[DVD-VR] To recall a marker recorded on DVD-Video recorders Press [▲, ▼] → Press [ENTER]</p>
		Angle	<p>(with multiple angles) To select a video angle</p>
		Rotate Picture	To rotate pictures
		Slideshow	<p>[JPEG]</p> <p>To turn the slideshow on or off To change the slideshow speed – from "1 Fast" to "5 Slow" (in 1-unit steps)</p>
		Other Settings	(⇒ see below)

Other Settings

Play Speed	<p>[DVD-V] [DVD-VR]</p> <p>To change play speed – from "x0.6" to "x1.4" (in 0.1-unit steps)</p> <ul style="list-style-type: none"> Press [▶, PLAY] to resume normal playback. After you change the speed. <ul style="list-style-type: none"> –Dolby Pro Logic II and Sound Enhancement have no effect. –Audio output switches to 2-channel stereo. –Sampling frequency of 96 kHz is converted to 48 kHz. This function may not work depending on the disc's recording.
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■ Play Menu

Repeat	<p>(Only when the elapsed play time can be displayed.)</p> <p>[DVD-V] : Off → Chapter → Title*</p> <p>[DVD-VR] : Off → Program → All</p> <p>During playlist play: Off → Scene → Playlist</p> <p>[VCD] [CD] : Off → Track → All</p> <p>[WMA] [MP3] [MPEG4] [DivX] : Off → Content → Group*</p> <p>[JPEG] : Off → Group*</p> <p>*"All" is displayed during program or random play.</p>
A-B Repeat	<p>Except [DVD-VR] (Still picture part)</p> <p>[JPEG] [MPEG4] [DivX]</p> <p>To repeat a specified section Press [ENTER] at the starting and ending points. Press [ENTER] again to cancel.</p>

■ Play Menu (continued)

Marker	<p>Except [DVD-VR]</p> <p>To mark up to 5 positions to play again Press [ENTER]. (The unit is now ready to accept markers.)</p> <p>To mark a position: Press [ENTER] at the desired point.</p> <p>To mark another position: Press [◀, ▶] to select "*" → Press [ENTER]</p> <p>To recall a marker: Press [◀, ▶] → Press [ENTER]</p> <p>To erase a marker: Press [◀, ▶] → Press [CANCEL]</p> <ul style="list-style-type: none"> This feature does not work during program and random play. Markers you add are cleared when you open the disc tray or switch the main unit to standby.
Advanced Disc Review	<p>[DVD-V] (Except +R/+RW) [DVD-VR] (Except still picture part and when playing a play list)</p> <p>Allows you to browse the disc contents and start playing from the selected position. You can select either "Intro Mode" or "Interval Mode" in "Advanced Disc Review" in the "Disc" tab (⇒ page 23).</p> <p>Example: [DVD-VR]</p> <div data-bbox="918 1517 1250 1587" data-label="Image"> </div> <p>Press [▶, PLAY] when you find a title or program of your choice.</p> <ul style="list-style-type: none"> This may not work depending on the disc and the play position.

Other Settings (continued)

Picture Menu

Picture Mode	DVD-V DVD-VR VCD JPEG MPEG4 DivX
	Normal
	Cinema1 : Mellows images and enhances detail in dark scenes.
	Cinema2 : Sharpens images and enhances detail in dark scenes.
	Animation : Suitable for animation.
	Dynamic : Enhances the contrast for powerful images.
	User : Press [ENTER] to select "Picture Adjustment" (⇒ see below)
Picture Adjustment	
	Contrast : Increases the contrast between light and dark parts of the picture.
	Brightness : Brightens the picture.
	Sharpness : Adjusts the sharpness of the edges of horizontal lines.
	Colour : Adjusts the shade of the picture's color.
	Gamma : Adjusts the brightness of dark parts.
	Depth Enhancer : Reduces the rough noise in the background to give a greater feeling of depth.

Picture Menu (continued)

Source Select	DivX When you select "Auto" the constructing method of the DivX contents is automatically distinguished and output. If the picture is distorted, select "I (Interlace)" or "P (Progressive)" depending on which constructing method was used when the contents were recorded to disc. Auto I (Interlace) P (Progressive)
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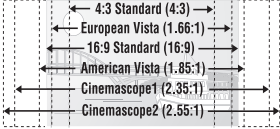
Audio Menu

Dolby Pro Logic II	(⇒ page 29, Dolby Pro Logic II)
Dialogue Enhancer	To make the dialogue in movies easier to hear DVD-V (Dolby Digital, DTS, MPEG, 3-channel or higher, with the dialogue recorded in the center channel) DivX (Dolby Digital, 3-channel or higher, with the dialogue recorded in the center channel) On ↔ Off
Sound Enhancement	To enjoy comfortable, analog-like sound DVD-VR DVD-V (Discs recorded with 48 kHz only) WMA MP3 (Disc recording is other than 8 kHz, 16 kHz or 32 kHz) VCD CD On ↔ Off • This may have no effect depending on the disc's recording. • This does not work with MP3 on DVD-RAM or DVD-R/RW.



Other Settings (continued)

■ Display Menu

Information	[JPEG] : On ↔ Off
Subtitle Position	0 to -60 (in 2-unit steps)
Subtitle Brightness	Auto, 0 to -7
Just Fit Zoom	[DVD-V] [DVD-VR] [VCD] To select the appropriate screen size to fit your television screen Auto 4:3 Standard European Vista 16:9 Standard American Vista Cinemascope 1 Cinemascope 2 Example:  [MPEG4] [DivX] Standard (x0.25 full-screen) Original (actual recorded size) Full (full-screen) • This function may not work depending on the disc's recording.

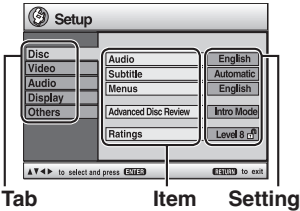
■ Display Menu (continued)

Manual Zoom	To zoom in and out manually –in 0.01-unit steps from “x1.00” to “x1.60” –in 0.02-unit steps from “x1.60” to “x2.00” –in 0.05-unit steps from “x2.00” to “x4.00” ([MPEG4] [DivX] only) • To change the steps quickly, press and hold [▲, ▼]. • [MPEG4] [DivX] It may not be possible to zoom up to “x4.00” depending upon the connected television and its settings.
Bit Rate Display	[DVD-V] [DVD-VR] [VCD] [MPEG4] [DivX] On ↔ Off
GUI See-through	To make the on-screen menu transparent Off, On, Auto
GUI Brightness	To adjust the on-screen menu brightness -3 to +3

■ Other Menu

Setup	(⇒ page 23)
Play as DVD-VR, Play as HighMAT or Play as Data Disc	To use functions for data discs (⇒ page 17) (To play MP3, JPEG, MPEG4 or DivX video contents on DVD-RAM, or to play a HighMAT disc without using HighMAT function) Select “Play as Data Disc”.

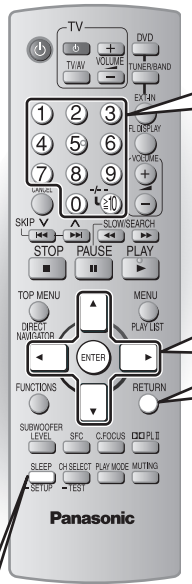
Changing the player settings



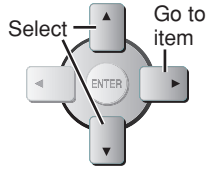
Tab Item Setting

- If you have not performed QUICK SETUP (→ page 13), the QUICK SETUP screen appears.

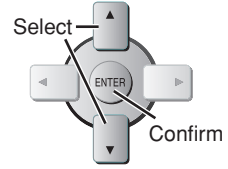
1 Display the Setup menu.



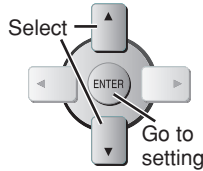
2 Select the tab.



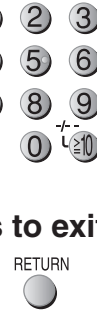
4 Make the settings.



3 Select the item.



5 Press to exit.



- The settings remain intact even if you switch the unit to standby.
- Underlined items in the following table are the factory preset.

The QUICK SETUP enables successive settings of the items in the **boxes with bold outline**.

Player settings

■ “Disc” tab

Audio Choose the audio language.	<ul style="list-style-type: none"> • <u>English</u> • <u>Original</u>^{×2} 	<ul style="list-style-type: none"> • (Language options)^{×1} • Other * * * *^{×3}
Subtitle Choose the subtitle language.	<ul style="list-style-type: none"> • <u>Automatic</u>^{×4} • (Language options)^{×1} 	<ul style="list-style-type: none"> • English • Other * * * *^{×3}
Menus Choose the language for disc menus. Changing the menu language in QUICK SETUP also changes this setting.	<ul style="list-style-type: none"> • <u>English</u> 	<ul style="list-style-type: none"> • (Language options)^{×1} • Other * * * *^{×3}
Advanced Disc Review (→ page 20)	<ul style="list-style-type: none"> • Intro Mode: Reviews each title or program. • Interval Mode: Reviews not only each title or program but also each 10-minute interval within a title or program. 	
Ratings Set a ratings level to limit DVD-Video play.	<p>Setting ratings (When level 8 is selected)</p> <ul style="list-style-type: none"> • 8 No Limit • 1 to 7 • 0 Lock All: To prevent play of discs without rating levels. <p>Changing ratings (When level 0 to 7 is selected)</p> <ul style="list-style-type: none"> • Unlock Player • Change Password • Change Level • Temporary Unlock <p>When you select your ratings level, a password screen is shown. Follow the on-screen instructions. Do not forget your password. A message screen will be shown if a DVD-Video disc exceeding the ratings level is inserted in the unit. Enter your password and then follow the on-screen instructions.</p>	

^{×1} Language options: French, German, Italian, Spanish, Polish, Swedish and Dutch

^{×2} The original language designated on the disc is selected.

^{×3} Input a code number referring to the table on page 32.



^{×4} If the language selected for “Audio” is not available, subtitle appears in that language (if available on the disc).





Player settings (continued)

■ “Video” tab

TV Aspect Choose the setting suit to your television and preference.	• 4:3 Pan&Scan : Regular aspect television (4:3) The sides of the widescreen picture are cut off so it fills the screen (unless prohibited by the disc). 
	• 4:3 Letterbox : Regular aspect television (4:3) Widescreen picture is shown in the letterbox style. 
	• 16:9 : Widescreen television (16:9)
TV Type Select to suit the type of television.	• Standard (Direct View TV) • CRT Projector • LCD TV/Projector • Projection TV • Plasma TV
Time Delay When connected with a Plasma display, adjust if you notice the audio is out of sync with the video.	• 0ms • 20ms • 40ms • 60ms • 80ms • 100ms
AV Output	• Video • S-Video • RGB
Still Mode Specify the type of picture shown when paused.	• Automatic • Field ^{※5} : The picture is not blurred, but picture quality is lower. • Frame ^{※5} : Overall quality is high, but the picture may appear blurred.
NTSC Disc Output Choose PAL 60 or NTSC output when playing NTSC discs (→ page 11, Video systems).	• PAL60 : When connected to a PAL television. • NTSC : When connected to an NTSC television.
Picture/Video Output Change the video signal format to be output for JPEG, MPEG4 and DivX video if picture output is not smooth during playback.	• Automatic • PAL • NTSC/PAL60 : Output will depend on “NTSC Disc Output” setting (→ see above).

■ “Audio” tab

Dynamic Range Compression	• Off • On : Adjust for clarity even when the volume is low by compressing the range of the lowest sound level and the highest sound level. Convenient for late night viewing. (Only works with Dolby Digital)
Speaker Settings (→ page 25) Set the delay time for your center and surround speakers	• Center: 0.0/1.0/2.0/3.0/4.0/5.0 ms • Surround (L/R): 0.0/5.0/10.0/15.0 ms

■ “Display” tab

Menu Language	• English • Français • Deutsch • Italiano • Español • Polski • Svenska • Nederlands
On-Screen Messages	• On • Off
Background during Play Select background during JPEG, MPEG4 and DivX video playback.	• Black • Grey

※5 Refer to “Frame still and filed still” (→ page 37, Glossary)



Player settings (continued)

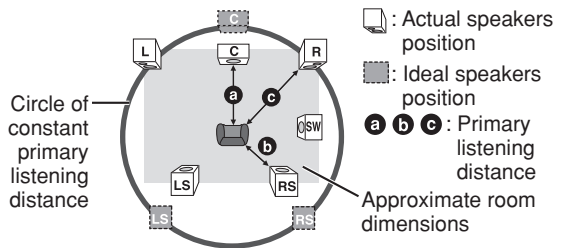
■ **“Others” tab**

FL Dimmer Change the brightness of the unit's display.	<ul style="list-style-type: none"> • <u>Bright</u> • Dim • Auto: The display is dimmed, but brightens when you perform some operations.
DivX Registration Displays the unit's registration code.	You need this registration code to purchase and play DivX Video-on-Demand (VOD) content. (⇒ page 26, “About DivX VOD content”)
QUICK SETUP	<ul style="list-style-type: none"> • <u>Yes</u> • No
Re-initialise Setting This returns all values in the Setup menus to the default settings.	<ul style="list-style-type: none"> • Yes: The password screen is shown if “Ratings” (⇒ page 23) is set. Please enter the same password. After “INIT” on the display disappears, turn the unit off and on again. • <u>No</u>

Changing the delay time (Speaker Settings)

Effective when playing multi-channel audio
(Center and surround speakers only)

For optimum listening with 5.1-channel sound, all the speakers, except for the subwoofer, should be the same distance from the seating position. If you have to place the center or surround speakers closer to the seating position, adjust the delay time to make up for the difference.



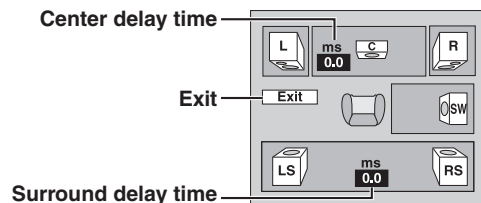
If either distance **a** or **b** is less than **c**, find the difference in the table and change to the recommended setting.

a Center speaker	
Difference (Approx.)	Setting
30 cm	1.0 ms
60 cm	2.0 ms
90 cm	3.0 ms
120 cm	4.0 ms
150 cm	5.0 ms

b Surround speaker	
Difference (Approx.)	Setting
150 cm	5.0 ms
300 cm	10.0 ms
450 cm	15.0 ms

■ **To enter the speaker setting**

- 1 Press [▲, ▼] to select the delay time box and press [ENTER].
- 2 Press [▲, ▼] to adjust the delay time and press [ENTER].



■ **To finish the speaker setting**

Press [◀] to select “Exit” and press [ENTER].

Note

When you change the surround speaker setting for Dolby Digital, the setting also changes for Dolby Pro Logic II.

Example: the settings for MUSIC are the same as those for Dolby Digital.

Dolby Digital	Dolby Pro Logic II	
	MUSIC	MOVIE
0 ms	0 ms	10 ms
5 ms	5 ms	15 ms
10 ms	10 ms	20 ms
15 ms	15 ms	25 ms



About DivX VOD content

DivX Video-on-Demand (VOD) content is encrypted for copyright protection. In order to play DivX VOD content on this unit, you first need to register the unit.

Follow the online instructions for purchasing DivX VOD content to enter the unit's registration code and register the unit. For more information about DivX VOD, visit www.divx.com/vod.

■ Display the unit's registration code

(→ page 25, "DivX Registration" in "Others" tab)



8 alphanumeric characters

- We recommend that you make a note of this code for future reference.
- After playing DivX VOD content for the first time, another registration code is then displayed in "DivX Registration". Do not use this registration code to purchase DivX VOD content. If you use this code to purchase DivX VOD content, and then play the content on this unit, you will no longer be able to play any content that you purchased using the previous code.
- If you purchase DivX VOD content using a registration code different from this unit's code, you will not be able to play this content. ("Authorization Error" is displayed.)

■ Regarding DivX content that can only be played a set number of times

Some DivX VOD content can only be played a set number of times. When you play this content, the remaining number of plays is displayed. You cannot play this content when the number of remaining plays is zero. ("Rented Movie Expired" is displayed.)

When playing this content

- The number of remaining plays is reduced by one if
 - you press [⏪] or press and hold [–SETUP].
 - you press [■, STOP]. (Press [⏸, PAUSE] to pause play.)
 - you press [⏮, ⏭] (skip) or [⏮, ⏭] (slow/search) etc. and arrive at another content or the start of the content being played.
- Resume (→ page 15, Stop) and Marker (→ page 20, Play Menu) functions do not work.



Tips for making data discs

- When there are more than eight groups, the eighth group onwards will be displayed on one vertical line in the menu screen.
- There may be differences in the display order on the menu screen and computer screen.
- This unit cannot play files recorded using packet write.

DVD-RAM

- Discs must conform to UDF 2.0.

DVD-R/RW

- Discs must conform to UDF bridge (UDF 1.02/ISO9660).
- This unit does not support multi-session. Only the default session is played.

CD-R/RW

- Discs must conform to ISO9660 level 1 or 2 (except for extended formats).
- This unit supports multi-session but if there are many sessions it takes more time for play to start. Keep the number of sessions to a minimum to avoid this.

Naming folders and files

Files are treated as contents and folders are treated as groups on this unit.

At the time of recording, prefix folder and file names. This should be with numbers that have an equal number of digits, and should be done in the order you want to play them (this may not work at times).

Files must have the extension (➔ see below).

WMA (Extension: ".WMA" or ".wma")

- Compatible compression rate: between 48 kbps and 320 kbps.
- You cannot play WMA files that are copy protected.
- This unit does not support Multiple Bit Rate (MBR).

MP3 (Extension: ".MP3" or ".mp3")

- Compatible compression rate: between 32 kbps and 320 kbps.
- This unit does not support ID3 tags.
- Compatible sampling rates:
 - DVD-RAM, DVD-R/RW: 11.02, 12, 22.05, 24, 44.1 and 48 kHz
 - CD-R/RW: 8, 11.02, 12, 16, 22.05, 24, 32, 44.1 and 48 kHz

JPEG (Extension: ".JPG", ".jpg", ".JPEG" or ".jpeg")

- JPEG files taken on a digital camera that conform to DCF Standard (Design rule for Camera File system) Version 1.0 are displayed. Files that have been altered, edited or saved with computer picture editing software may not be displayed.
- This unit cannot display moving pictures, MOTION JPEG and other such formats, and still pictures other than JPEG (Example: TIFF), or play pictures with attached audio.

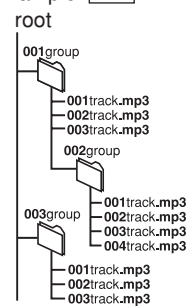
MPEG4 (Extension: ".ASF" or ".asf")

- You can play MPEG4 data [conforming to SD VIDEO specifications (ASF standard)/MPEG4 (Simple Profile) video system/G.726 audio system] recorded with Panasonic SD multi cameras or DVD video recorders with this unit.
- The recording date may differ from that of the actual date.

DivX (Extension: ".DIVX", ".divx", ".AVI" or ".avi")

- You can play all versions of DivX® video (including DivX®6) [DivX video system/MP3, Dolby Digital or MPEG audio system] with standard playback of DivX® media files. Functions added with DivX Ultra are not supported.
- GMC (Global Motion Compensation) is not supported.
- DivX files greater than 2 GB or have no index may not be played properly on this unit.
- This unit supports all resolutions up to maximum of 720 x 480 (NTSC)/720 x 576 (PAL).
- You can select up to eight types of audio and subtitles on this unit.

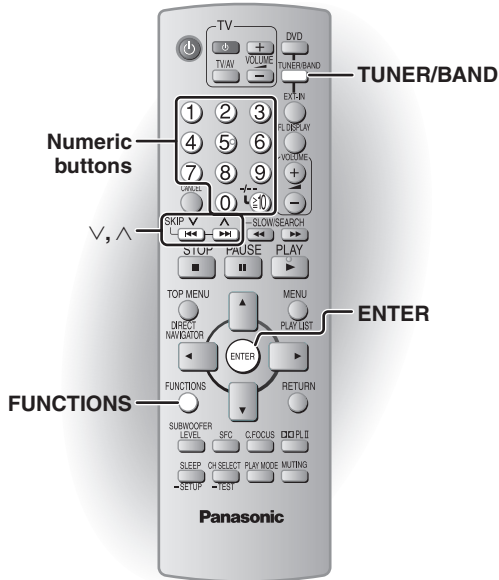
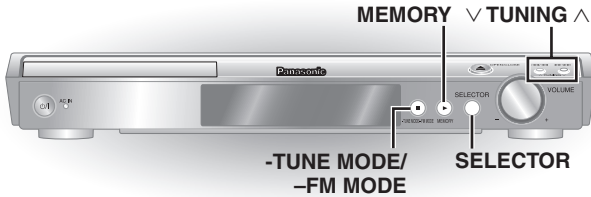
Example: **MP3**



Using the radio

ENGLISH

OTHER OPERATIONS



SELECTOR

Automatic presetting

Main unit only

- 1 Press [SELECTOR] to select "FM" or "AM".
- 2 Press [-TUNE MODE] to select "MANUAL".
- 3 Press [∇ TUNING ▲] to tune to the lowest frequency (FM: 87.50, AM: 522).
- 4 Press and hold [MEMORY].
Release the button when "FM AUTO" or "AM AUTO" is displayed.

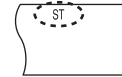
The tuner presets all the stations it can receive into the channels in ascending order.

- "SET OK" is displayed when the stations are set, and the radio tunes to the last preset station.
- "ERROR" is displayed when automatic presetting is unsuccessful. Preset the channels manually (→ see left).

TUNER/BAND

Selecting the preset channels

- 1 Press [TUNER/BAND] to select "FM" or "AM".
- 2 Press the numeric buttons to select the channel.
Alternatively, press [∇, ▲].
When a stereo FM broadcast is being received, "ST" lights in the display.



If noise is excessive in FM

Main unit only

Press and hold [-FM MODE] to display "MONO". Press and hold [-FM MODE] again to cancel the mode.
The mode is also canceled when you change the frequency.

When "AM" is selected

Press [FUNCTIONS] on the remote control.

- Every time you press the button: BP 2 ↔ BP 1
- The setting is recalled whenever "AM" is selected.

SELECTOR

Manual tuning

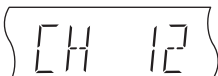
Main unit only

- 1 Press [SELECTOR] to select "FM" or "AM".
- 2 Press [-TUNE MODE] to select "MANUAL".
Every time you press the button:
MANUAL ↔ PRESET
- 3 Press [∇ TUNING ▲] to select the frequency.
Press and hold [∇ TUNING ▲] until the frequency starts scrolling to start automatic tuning. Tuning stops when a station is found.

Presetting the channel

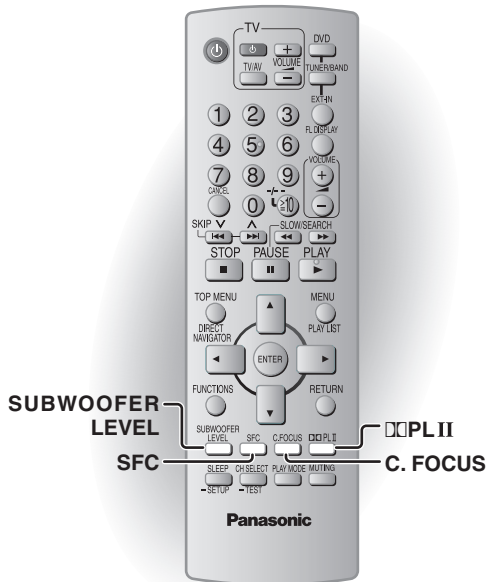
Up to 15 stations can be set in each band, FM and AM.

- 1 While listening to the radio broadcast
Press [ENTER].
- 2 While the frequency and "PGM" are flashing on the display
Press the numeric buttons to select a channel.
Example: To select 12, [≥10] → [1] → [2]
Alternatively, press [∇, ▲], then press [ENTER].



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

Using sound effects



Note

- The following sound effects may not be available or have no effect depending on the type of source.
- You may experience a reduction in sound quality when these sound effects are used with some sources. If this occurs, turn the sound effects off.



Changing the sound quality: Sound Field Control (SFC)

Changes the sound quality.

Press [SFC].

Every time you press the button:

FLAT : Cancel (no effect is added) (factory preset).

MOVIE : Use this mode when playing movie software.

SPORT: Simulates sound to make you feel like you are at a sports event.

MUSIC : Adds surround effects to stereo sources.

HEAVY: Adds punch to rock.

CLEAR: Clarifies higher sounds.

SOFT : For background music.

To check the current setting

Press [SFC].

Note

- MOVIE, SPORT and MUSIC are not available when Dolby Pro Logic II is on, or when playing a disc recorded with a multi-channel source.
- You can adjust the volume of the surround speaker to get the best surround effect (⇒ page 30, Speaker level adjustments).
- When MOVIE, SPORT or MUSIC is turned on, you can enjoy audio from your television in 5.1-channel surround sound (⇒ page 31).



Enhancing the stereo sound: Dolby Pro Logic II

Except [DivX]

Dolby Pro Logic II is an advanced decoder that derives 5-channel surround (Left and Right Front, Center, Left and Right Surround) from any stereo sound sources, whether or not it has been specifically Dolby Surround encoded.

Press [DOLBY PL II].

Every time you press the button:

MOVIE : Movie software, recorded in Dolby Surround.

MUSIC : Stereo sources.

OFF : Cancel.

- This works only in DVD/CD mode.
- "[DOLBY PL II]" lights when there is an effect.



Enhancing the sound from the center speaker: Center Focus

(Discs where the dialogue is recorded in the center channel)

You can make the sound of the center speaker seem like it is coming from within the television.

Press [C.FOCUS].

Every time you press the button:

C FOCUS ON ↔ C FOCUS OFF

- This does not work when Sound Field Control (MOVIE, SPORT or MUSIC) is turned on.
- This also works when Dolby Pro Logic II is turned on.



Adjusting the amount of bass: Subwoofer level

You can adjust the amount of bass. The unit automatically selects the most suitable setting according to the type of playing source.

Press [SUBWOOFER LEVEL].

• [DVD-VR] [DVD-V]

SUB W 4 (factory preset)* → SUB W 1

↑ SUB W 3 ← SUB W 2 ← ↓

• When another source is selected

SUB W 2 (factory preset)* → SUB W 3

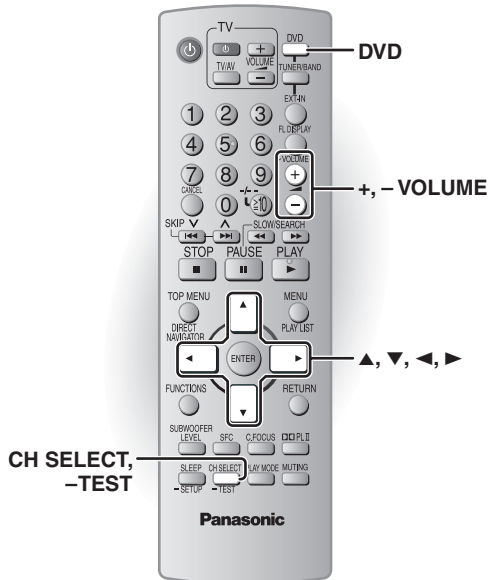
↑ SUB W 1 ← SUB W 4 ← ↓

- To check the current setting, press [SUBWOOFER LEVEL].
- The setting you make is retained, and recalled every time you play the same type of source, except when Sound Field Control (MOVIE, SPORT or MUSIC) is turned on.

*When Sound Field Control (MOVIE, SPORT or MUSIC) is on, the factory presets are as follows:

- MOVIE: SUB W 4
- SPORT: SUB W 2
- MUSIC: SUB W 1





CH SELECT
-TEST

To adjust speaker level during play

[Effective when playing multi-channel audio or when Dolby Pro Logic II or Sound Field Control (MOVIE, SPORT or MUSIC) is on.]

1 Press [CH SELECT] to select the speaker.

L → C → R → RS → LS → SW

↑

SW: Subwoofer

- You can adjust SW only if the disc includes a subwoofer channel.
- “SW” does not appear on the display and is not adjustable when “DOLBY II” is lit.
- “S” appears on the display when MOVIE, SPORT or MUSIC is selected with Sound Field Control (⇒ page 29).

In this case, you can adjust both surround speaker levels at the same time using [▲, ▼].

S: -6 dB to +6 dB

2 Press [▲] (increase) or [▼] (decrease) to adjust the speaker level for each speaker.

C, RS, LS, SW: -6 dB to +6dB

(L, R: Only the balance is adjustable.)

- To adjust the balance of the front speakers While “L” or “R” is selected, press [◀, ▶].

CH SELECT
-TEST

Adjusting the volume of each speaker: Speaker level adjustments

This is one of the ways to get appropriate surround effects.

Preparation

Press [DVD].

1 While stopped and no on-screen display is shown Press and hold [-TEST] to output a test signal.

L: Front left C: Center
R: Front right RS: Right surround
LS: Left surround

- There is no output from SW (subwoofer) channel.

2 Press [+ , - VOLUME] to set the volume level normally used for listening.

3 Press [▲] (increase) or [▼] (decrease) to adjust the speaker level for each speaker.

- Adjust the speaker level to the same level as the front speakers.

C, RS, LS: -6 dB to +6 dB

To stop the test signal

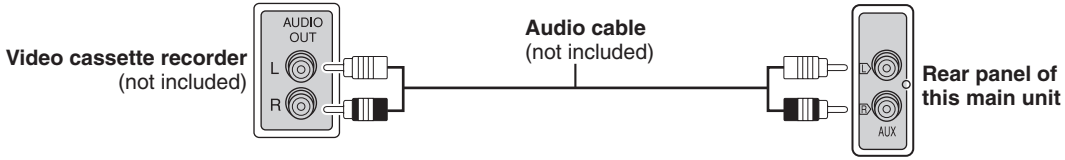
Press and hold [-TEST] again.

Operating other equipment

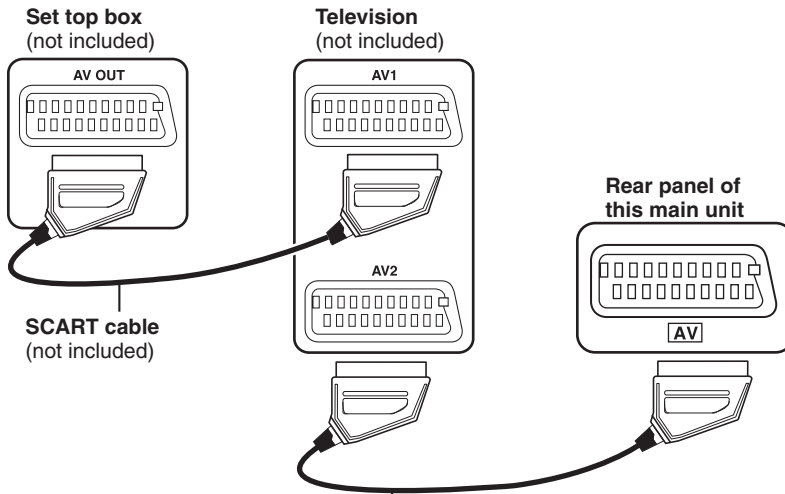
Optional audio connection for video cassette recorder

This audio connection will enable you to play audio from your video cassette recorder through your home theater system.

- Press [EXT-IN] (➡ page 12) to select “AUX” as the source to operate the audio input from the remote control.



Optional connection for set top box



SCART cable (not included)

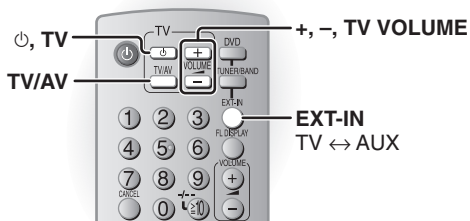
- To listen to the sound from the television, select the appropriate audio out (example: Monitor) on the television.

Sound from the television

- Press [EXT-IN] (➡ see below) to select the “TV” audio input on the remote control.

Operating the television

You can use the remote control to operate a Panasonic television.



Aim the remote control at the television.

To switch the television on or off
Press [TV].

To switch the television's video input mode
Press [TV/AV].

Adjust the volume
Press [+ , - , TV VOLUME].

To play audio from your television through your home theater system

Preparation

Connect your equipment referring to “Connect to the television's SCART terminal” (➡ page 9).

Press [EXT-IN] to select “TV” as the source. Then reduce the volume on the television to its minimum, and control the volume on this main unit.

Note

- The remote control may not work properly with some models.
- You can enjoy 5.1-channel surround sound when you turn on Sound Field Control (MOVIE, SPORT or MUSIC) (➡ page 29).



Language code list



Abkhazian:	6566	Hausa:	7265	Rhaeto-Romance:	8277
Afar:	6565	Hebrew:	7387	Romanian:	8279
Afrikaans:	6570	Hindi:	7273	Russian:	8285
Albanian:	8381	Hungarian:	7285	Samoan:	8377
Ameharic:	6577	Icelandic:	7383	Sanskrit:	8365
Arabic:	6582	Indonesian:	7378	Scots Gaelic:	7168
Armenian:	7289	Interlingua:	7365	Serbian:	8382
Assamese:	6583	Irish:	7165	Serbo-Croatian:	8372
Aymara:	6589	Italian:	7384	Shona:	8378
Azerbaijani:	6590	Japanese:	7465	Sindhi:	8368
Bashkir:	6665	Javanese:	7487	Singhalese:	8373
Basque:	6985	Kannada:	7578	Slovak:	8375
Bengali; Bangla:	6678	Kashmiri:	7583	Slovenian:	8376
Bhutani:	6890	Kazakh:	7575	Somali:	8379
Bihari:	6672	Kirghiz:	7589	Spanish:	6983
Breton:	6682	Korean:	7579	Sundanese:	8385
Bulgarian:	6671	Kurdish:	7585	Swahili:	8387
Burmese:	7789	Laotian:	7679	Swedish:	8386
Byelorussian:	6669	Latin:	7665	Tagalog:	8476
Cambodian:	7577	Latvian, Lettish:	7686	Tajik:	8471
Catalan:	6765	Lingala:	7678	Tamil:	8465
Chinese:	9072	Lithuanian:	7684	Tatar:	8484
Corsican:	6779	Macedonian:	7775	Telugu:	8469
Croatian:	7282	Malagasy:	7771	Thai:	8472
Czech:	6783	Malay:	7783	Tibetan:	6679
Danish:	6865	Malayalam:	7776	Tigrinya:	8473
Dutch:	7876	Maltese:	7784	Tonga:	8479
English:	6978	Maori:	7773	Turkish:	8482
Esperanto:	6979	Marathi:	7782	Turkmen:	8475
Estonian:	6984	Moldavian:	7779	Twi:	8487
Faroese:	7079	Mongolian:	7778	Ukrainian:	8575
Fiji:	7074	Nauru:	7865	Urdu:	8582
Finnish:	7073	Nepali:	7869	Uzbek:	8590
French:	7082	Norwegian:	7879	Vietnamese:	8673
Frisian:	7089	Oriya:	7982	Volapük:	8679
Galician:	7176	Pashto, Pushto:	8083	Welsh:	6789
Georgian:	7565	Persian:	7065	Wolof:	8779
German:	6869	Polish:	8076	Xhosa:	8872
Greek:	6976	Portuguese:	8084	Yiddish:	7473
Greenlandic:	7576	Punjabi:	8065	Yoruba:	8979
Guarani:	7178	Quechua:	8185	Zulu:	9085
Gujarati:	7185				

Troubleshooting guide

Before requesting service, make the following checks. If you are in doubt about some of the check points, or if the solutions indicated in the chart do not solve the problem, consult your dealer for instructions.

Troubleshoot

■ Power

		Page
No power.	• Insert the AC mains lead securely.	8
The unit is automatically switched to the standby mode.	• The Sleep timer was working and had reached the set time limit.	12

■ Unresponsive or inoperable function

No response when any buttons are pressed.	• This unit cannot play discs other than the ones listed in these operating instructions.	11
	• The unit may not be operating properly due to lightning, static electricity or some other external factor. Turn the unit off and then back to on. Alternatively, turn the unit off, disconnect the AC mains lead, and then reconnect it.	—
	• Condensation has formed: Wait 1 to 2 hours for it to evaporate.	—
No response when remote control buttons are pressed.	• Check that the batteries are installed correctly.	6
	• The batteries are depleted. Replace them with new ones.	6
	• Aim the remote control at the display and operate.	12
No picture or sound.	• Check the video or speaker connection.	8, 9
	• Check the power or input setting of the connected equipment and the main unit.	—
	• Check that the disc has something recorded on it.	—
You have forgotten your ratings password. Reset all the settings to Factory Preset.	• While stopped and "DVD/CD" is the source, press and hold [■] on the main unit and [≥10] on the remote control until "Initialised" disappears from the television. Turn the unit off and on again. All settings will return to the default values.	—

■ Specific operation undesirable or unexpected

It takes time before play starts.	• Play may take time to begin when an MP3 track has still picture data. Even after the track starts, the correct play time will not be displayed. This is normal. [MP3]	—
	• This is normal on DivX video. [DivX]	—
Folders on a data CD are not displayed correctly. [WMA] [MP3] [JPEG] [MPEG4] [DivX]	• Folders deeper than the eighth layer are displayed as the eighth layer.	—
A menu screen appears during skip or search. [VCD]	• This is normal for Video CDs.	—
Playback control menu does not appear. [VCD] with playback control	• Press [■, STOP] twice and then press [▶, PLAY].	—
The program and random play functions do not work. [DVD-V]	• These functions do not work with some DVD-Videos.	—
Programmed items are not played. [DVD-V]	• Some items cannot be played even if you have programmed them.	—
Play does not start.	• This unit may not play WMA and MPEG4 that contains still picture data.	—
	• If playing DivX VOD content, refer to the homepage where you purchased the DivX VOD content. (Example: www.divx.com/vod) [DivX]	—
	• If a disc contains CD-DA and other formats, proper playback may not be possible.	—
Scenes are skipped intermittently. [DVD-V] [DVD-VR]	• If you change the volume or sound effects during Advanced Disc Review, the function continues without the on-screen display. Cancel the function.	20





Troubleshoot (continued)

■ Subtitle		Page
Subtitle position is wrong.	• Adjust the position. ("Subtitle Position" in Display Menu)	22
No subtitles.	• Display the subtitles.	20
	• Subtitles may not be displayed depending on the disc. DivX	20
Subtitles overlap the closed captions.	• Clear the subtitles.	20
■ A-B repeat		
Point B is automatically set.	• The end of an item becomes point B when it is reached.	—
■ Menus		
The Setup menu cannot be accessed.	• Select "DVD/CD" as the source. • Cancel program and random play.	— 16
■ Marker		
Cannot add markers.	• You cannot add markers to DVD-RAM or DVD-R/RW (DVD-VR) discs.	—
	• If the disc's elapsed play time doesn't appear on the unit's display, you cannot add markers.	—
■ Picture abnormal or unviewable		
The picture on the television is not displayed correctly or disappears.	• The unit and television are using different video systems. Use a multi-system or PAL television.	—
	• The system used on the disc does not match your television. – PAL discs cannot be correctly viewed on an NTSC television. – This unit can convert NTSC signals to PAL 60 for viewing on a PAL television ("NTSC Disc Output" in "Video" tab).	— 24
	• Ensure that the unit is connected directly to the television, and is not connected through a video cassette recorder.	9
	• Change "Source Select" in Picture Menu. DivX	21
	• Mobile telephone chargers can cause some disturbance.	—
	• If you are using an indoor television antenna, change to an outdoor antenna.	10
	• The television antenna wire is too close to the unit. Move it away from the unit.	—
Picture stops DivX	• Picture may stop if the DivX files are greater than 2 GB.	—
Picture size does not fit the screen.	• Change "TV Aspect" in the "Video" tab.	24
	• Use the television to change the aspect.	—
	• Change the zoom setting. ("Just Fit Zoom" or "Manual Zoom" in Display Menu)	22
Menu is not displayed correctly.	• Restore the zoom ratio to "x 1.00". ("Manual Zoom" in Display Menu)	22
	• Set "Subtitle Position" in Display Menu to "0".	22
Auto zoom function does not work well.	• Turn off television zoom function.	—
	• Use the other preset aspect ratios or manual adjustment.	22
	• Zoom function may not work well, especially in dark scenes and may not work depending on the type of disc.	—



Troubleshoot (continued)

■ Unit displays

		Page
The display is dark.	• Select “Bright” in “FL Dimmer” in the “Others” tab.	25
“NO PLAY”	• You inserted a disc the unit cannot play; insert one it can. • You inserted a blank disc. • You inserted a disc that has not been finalized.	11 — —
“NO DISC”	• You have not inserted a disc; insert one. • You have not inserted the disc correctly; insert it correctly.	— 14
“F61”	• Check and correct the speaker cable connections. If this does not fix the problem, consult the dealer.	8
“DVD U11”	• Disc may be dirty. Wipe it clean.	—
“ERROR”	• Incorrect operation performed. Read the instructions and try again.	—
“DVD H □ □” “DVD F □ □ □” □ □ stands for a number.	• Trouble may have occurred. The numbers following “H” and “F” depend on the status of the unit. Turn the unit off and then back on. Alternatively, turn the unit off, disconnect the AC mains lead, and then reconnect it. • If the service numbers fail to clear, note the service number and contact a qualified service person.	— —

■ Television displays

“⊘”	• The operation is prohibited by the unit or disc.	—
“Cannot play group xx, content xx” “Cannot display group xx, content xx”	• You are trying to display an incompatible group or content.	—
“Group xx, content xx is protected”	• You are trying to play a protected group or content. You cannot play it.	—
“Check the disc”	• This disc may be dirty.	—
“This disc may not be played in your region”	• Only DVD-Video discs that include or have the same region number as the one on the rear panel of this unit can be played.	Cover page
No on-screen display.	• Select “On” in “On-Screen Messages” in the “Display” tab.	24
“Authorization Error” DivX	• You are trying to play the DivX VOD content that was purchased with a different registration code. You cannot play the content on this unit.	26
“Rented Movie Expired” DivX	• The DivX VOD content has zero remaining plays. You cannot play it.	26



Troubleshoot (continued)

■ Sound abnormal or improper

		Page
Sound is distorted.	• Noise may occur when playing WMA.	—
Effects do not work.	• Some audio effects do not work or have less effect with some discs.	—
Humming is heard during play.	• An AC mains lead or fluorescent light is near the main unit. Keep other appliances and cables away from the main unit.	—
No sound	• There may be a slight pause in sound when you change the play speed. • Audio may not be output due to how files were created. DivX	— 27

■ Listening to the radio

Distorted sound or noise is heard. “ST” flickers or does not light.	• Adjust the position of the FM or AM antenna. • Use an outdoor antenna.	— 10
A beat sound is heard.	• Turn the television off or move it away from the unit.	—
A low hum is heard during AM broadcasts.	• Separate the antenna from other cables.	—

Maintenance

■ Clean this unit with a soft, dry cloth.

- Never use alcohol, paint thinner or benzine to clean this unit.
- Before using chemically treated cloth, carefully read the instructions that came with the cloth.
- Do not use commercially available lens cleaners as they may cause malfunction. (Cleaning the lens is generally not necessary although this depends on the operating environment.)

Before moving the unit, ensure the disc tray is empty.

Failure to do so will risk severely damaging the disc and the unit.



Decoder

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

DivX

DivX is a popular media technology created by DivX, Inc. DivX media files contain highly compressed video with high visual quality that maintains a relatively small file size.

Dolby Digital

This is a method of coding digital signals developed by Dolby Laboratories. Apart from stereo (2-channel) audio, these signals can also be multi-channel audio. A large amount of audio information can be recorded on one disc using this method.

DTS (Digital Theater Systems)

This surround system is used in many movie theaters around the world. There is good separation between the channels, so realistic sound effects are possible.

Dynamic range

Dynamic range is the difference between the lowest level of sound that can be heard above the noise of the equipment and the highest level of sound before distortion occurs.

Film and video

DVD-Videos are recorded using either film or video. This unit can determine which type has been used, then uses the most suitable method of progressive output.

Film: Recorded at 25 frames per second (PAL discs) or 24 frames per second (NTSC discs). (NTSC discs recorded at 30 frames per second as well). Generally appropriate for motion picture films.

Video: Recorded at 25 frames/50 fields per second (PAL discs) or 30 frames/60 fields per second (NTSC discs). Generally appropriate for TV drama programs or animation.

Frame still and field still

Frames are the still pictures that go together to make a moving picture.

There are about 30 frames shown each second. One frame is made up of two fields. A regular television shows these fields one after the other to create frames.

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 adopted for use with DVD-Video, codes frames using these 3 picture types.

I: Intra coded picture

This picture has the best quality and is the best to use when adjusting the picture.

P: Predictive coded picture

This picture is calculated based on past I or P-pictures.

B: Bidirectionally-predictive coded picture

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

JPEG (Joint Photographic Experts Group)

This is a system used for compressing/decoding color still pictures. If you select JPEG as the storage system on digital cameras, etc., the data will be compressed to 1/10–1/100 of its original size. The benefit of JPEG is less deterioration in picture quality considering the degree of compression.

Linear PCM (Pulse Code Modulation)

These are uncompressed digital signals, similar to those found on CDs.

MP3 (MPEG Audio Layer 3)

An audio compression method that compresses audio to approximately one tenth of its size without any considerable loss of audio quality.

MPEG4

A compression system for use on mobile devices or a network, that allows highly efficient recording at a low bit rate.

Playback control (PBC)

If a Video CD has playback control, you can select scenes and information with menus.

Sampling frequency

Sampling is the process of converting the heights of sound wave (analog signal) samples taken at set periods into digits (digital encoding).

Sampling frequency is the number of samples taken per second, so larger numbers mean more faithful reproduction of the original sound.

WMA (Windows Media™ Audio)

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



AMPLIFIER SECTION

RMS Output Power: Dolby Digital Mode

Front Ch	55 W per channel (5 Ω), 1 kHz, 10 % THD
Surround Ch	55 W per channel (5 Ω), 1 kHz, 10 % THD
Center Ch	55 W per channel (5 Ω), 1 kHz, 10 % THD
Subwoofer Ch	55 W per channel (5 Ω), 100 Hz, 10 % THD
Total RMS Dolby Digital mode power	330 W

DIN Output Power: Dolby Digital Mode

Front Ch	25 W per channel (5 Ω), 1 kHz, 1 % THD
Surround Ch	25 W per channel (5 Ω), 1 kHz, 1 % THD
Center Ch	25 W per channel (5 Ω), 1 kHz, 1 % THD
Subwoofer Ch	25 W per channel (5 Ω), 100 Hz, 1 % THD
Total DIN Dolby Digital mode power	150 W

FM/AM TUNER, TERMINALS SECTION

Preset Memory	FM 15 stations AM/MW 15 stations
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Frequency Modulation (FM)

Frequency range	87.50 to 108.00 MHz (50-kHz step)
Sensitivity	1.8 μV (IHF)
S/N 26 dB	1.4 μV
Antenna terminals	75 Ω (unbalance)

Amplitude Modulation (AM/MW)

Frequency range	522 to 1629 kHz (9-kHz step)
AM Sensitivity S/N 20 dB at 999 kHz	560 μV/m

VIDEO SECTION

Video system

Signal system	PAL625/50, PAL525/60, NTSC
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Composite video output

Output level	1 Vp-p (75 Ω)
Terminal	Scart jack (1 system)

S-video output

Y output level	1 Vp-p (75 Ω)
C output level	PAL; 0.3 Vp-p (75 Ω) NTSC; 0.286 Vp-p (75 Ω)
Terminal	Scart jack (1 system)

RGB video output

R output level	0.7 Vp-p (75 Ω)
G output level	0.7 Vp-p (75 Ω)
B output level	0.7 Vp-p (75 Ω)
Terminal	Scart jack (1 system)

DISC SECTION

Discs played (8 cm or 12 cm)

- DVD (DVD-Video, DivX[®]^{※6, ※7})
- DVD-RAM (DVD-VR, JPEG^{※4, ※7}, MP3^{※2, ※7}, MPEG4^{※5, ※7}, DivX^{※6, ※7})
- DVD-R (DVD-Video, DVD-VR, JPEG^{※4, ※7}, MP3^{※2, ※7}, MPEG4^{※5, ※7}, DivX^{※6, ※7})
- DVD-R DL (DVD-Video, DVD-VR)
- DVD-RW (DVD-Video, DVD-VR, JPEG^{※4, ※7}, MP3^{※2, ※7}, MPEG4^{※5, ※7}, DivX^{※6, ※7})
- +R/RW (Video)
- +R DL (Video)
- CD, CD-R/RW [CD-DA, Video CD, SVCD^{※1}, MP3^{※2, ※7}, WMA^{※3, ※7}, JPEG^{※4, ※7}, MPEG4^{※5, ※7}, DivX^{※6, ※7}, HighMAT Level 2 (Audio and Image)]

※1 Conforming to IEC62107

※2 MPEG-1 Layer 3, MPEG-2 Layer 3

※3 Windows Media Audio Ver.9.0 L3
Not compatible with Multiple Bit Rate (MBR)

※4 Exif Ver 2.1 JPEG Baseline files
Picture resolution: between 160 x 120 and 6144 x 4096 pixels (Sub sampling is 4:0:0, 4:2:0, 4:2:2 or 4:4:4).
Extremely long and narrow pictures may not be displayed.

- ※5 MPEG4 data recorded with the Panasonic SD multi cameras or DVD video recorders Conforming to SD VIDEO specifications (ASF standard)/MPEG4 (Simple Profile) video system/ G.726 audio system
- ※6 Plays all versions of DivX[®] video (including DivX[®]6) with standard playback of DivX[®] media files. Certified to the DivX Home Theater Profile. GMC (Global Motion Compensation) is not supported.
- ※7 The total combined maximum number of recognizable audio, picture and video contents and groups: 4000 audio, picture and video contents and 400 groups.

Pick up

Wavelength (DVD/CD)	662/785 nm
Laser power (DVD/CD)	CLASS 1/CLASS 1M

Audio output (Disc)

Number of channels	5.1ch (FL, FR, C, SL, SR, SW)
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SPEAKER SECTION

Front speakers SB-FS340

Type	1 way, 1 speaker system (Bass reflex)
Speaker unit(s)	Impedance 5 Ω
Full range	6.5 cm Cone type
Input power (IEC)	55 W* (Max)
Output sound pressure	80 dB/W (1.0 m)
Frequency range	96 Hz to 25 kHz (−16 dB)
	120 Hz to 22 kHz (−10 dB)
Dimensions (WxHxD)	92 mm x 135 mm x 95.4 mm
Mass	0.6 kg

Surround speakers SB-FS341

Type	1 way, 1 speaker system (Bass reflex)
Speaker unit(s)	Impedance 5 Ω
Full range	6.5 cm Cone type
Input power (IEC)	55 W* (Max)
Output sound pressure	80 dB/W (1.0 m)
Frequency range	96 Hz to 25 kHz (−16 dB)
	120 Hz to 22 kHz (−10 dB)
Dimensions (WxHxD)	92 mm x 135 mm x 95.4 mm
Mass	0.6 kg

Center speaker SB-PC340

Type	1 way, 1 speaker system (Bass reflex)
Speaker unit(s)	Impedance 5 Ω
Full range	6.5 cm Cone type
Input power (IEC)	55 W* (Max)
Output sound pressure	80 dB/W (1.0 m)
Frequency range	91 Hz to 25 kHz (−16 dB)
	120 Hz to 22 kHz (−10 dB)
Dimensions (WxHxD)	135 mm x 92 mm x 95.4 mm
Mass	0.6 kg

Subwoofer SB-W340

Type	1 way, 1 speaker system (Bass reflex)
Speaker unit(s)	Impedance 5 Ω
Woofer	12 cm Cone type
Input power (IEC)	55 W (Max)
Output sound pressure	80 dB/W (1.0 m)
Frequency range	31 Hz to 173 Hz (−16 dB)
	40 Hz to 148 Hz (−10 dB)
Dimensions (WxHxD)	152 mm x 339 mm x 258 mm
Mass	3 kg

GENERAL

Power supply	AC 230 to 240 V, 50 Hz
Power consumption	
Main unit	90 W
Dimensions (WxHxD)	430 mm x 60 mm x 342 mm
Mass	
Main unit	3 kg
Operating temperature range	+5 °C to +35 °C
Operating humidity range	5 % to 90 % RH (no condensation)

Power consumption in standby mode

approx. 1 W

* Rating with low-cut filter equipped amplifier.

Note

1. Specifications are subject to change without notice. Mass and dimensions are approximate.
2. Total harmonic distortion is measured by the digital spectrum analyzer.
3. Connect the supplied speaker and subwoofer to this unit only. Do not attempt to connect the supplied speaker and subwoofer to the external amplifier and so on.

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MPEG Layer-3 audio decoding technology licensed from Fraunhofer IIS and Thomson multimedia.

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



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Official DivX® Certified product.

Plays all versions of DivX® video (including DivX®6) with standard playback of DivX® media files.



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■ Sales and Support Information (For the United Kingdom and Republic of Ireland)

Customer Care Centre

- For customers within the UK: 08705 357357
- For customers within the Republic of Ireland: 01 289 8333
- Visit our website for product information
- E-mail: customer.care@panasonic.co.uk

Direct Sales at Panasonic UK

- Order accessory and consumable items for your product with ease and confidence by phoning our Customer Care Centre Monday-Thursday 9:00am-5:30pm, Friday 9:30am-5:30pm (Excluding public holidays).
- Or go on line through our Internet Accessory ordering application at www.panasonic.co.uk.
- Most major credit and debit cards accepted.
- All enquiries transactions and distribution facilities are provided directly by Panasonic UK Ltd.
- It couldn't be simpler!
- Also available through our Internet is direct shopping for a wide range of finished products, take a browse on our website for further details.

*Interested in purchasing an extended guarantee?
Please call 0870 240 6284 or visit our website
www.panasonic.co.uk/guarantee.*