

Operating Instructions

Blu-ray Disc Home Theater Sound System

Model No. **SC-BT100**



Dear customer

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

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

Note

“EB” on the packaging indicates the United Kingdom.



BD-Video



Region management information

BD-Video

This unit plays BD-Video marked with labels containing the region code B.

Example:



DVD-Video

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

Example:



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

System	SC-BT100
This unit	SA-BT100
Front speakers	SB-HF100
Centre speaker	SB-HC100
Subwoofer	SB-HW560

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

CAUTION!
•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.

THIS UNIT IS INTENDED FOR USE IN MODERATE CLIMATES.

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.
•USE ONLY THE RECOMMENDED ACCESSORIES.
•DO NOT REMOVE THE COVER (OR BACK); THERE ARE NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

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.

The socket outlet shall be installed near the equipment and easily accessible.
The mains plug of the power supply cord shall remain readily operable.
To completely disconnect this apparatus from the AC Mains, disconnect the power supply cord plug from AC receptacle.

Caution for AC Mains Lead

(For the United Kingdom and Republic of Ireland)
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.

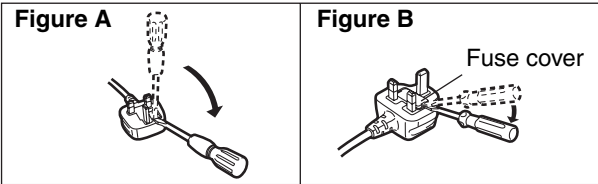
If a new plug is to be fitted please observe the wiring code as stated below.
If in any doubt please consult a qualified electrician.

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  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.



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

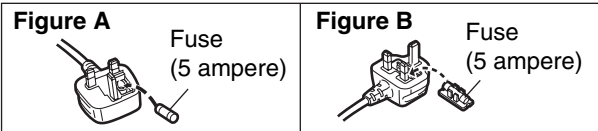


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DivX functions are available only for the Continental Europe model.

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Accessory information



Please check and identify the supplied accessories. Use numbers indicated in parentheses when asking for replacement parts.
(Product numbers correct as of April 2008. These may be subject to change.)



1 Remote control
(N2QAKB000062)



2 Remote control
batteries



1 FM indoor antenna
(RSA0007-M)



1 Sheet of speaker
cable stickers

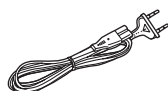


3 Speaker cables
[REEX0858-L (Green)]
[REEX0859-L (White)]
[REEX0867A-L (Red)]



For the United Kingdom
and Republic of Ireland

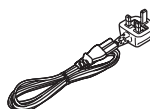
1 Antenna plug
adaptor
(K1YZ02000013)



For Continental
Europe
(K2CQ2CA00007)

1 AC mains lead

•For use with this unit only. Do not use it with other equipment.
Also, do not use cords for other equipment with this unit.



For the United Kingdom
and Republic of Ireland
(K2CT3CA00004)



1 Video cable
(K2KA2BA00001)

For the United Kingdom and Republic of Ireland

Sales and Support Information

Customer Care Centre

- For customers within the UK: 0844 844 3852
- 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

- For customers: 0844 844 3856
- 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.

STEP 1 Positioning

Caution

- This unit and supplied speakers are to be used only as indicated in this setup. Failure to do so may lead to damage to the amplifier and/or the speakers, and may result in the risk of fire. Consult a qualified service person if damage has occurred or if you experience a sudden change in performance.
- Do not attempt to attach these speakers to walls using methods other than those described in this manual.

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

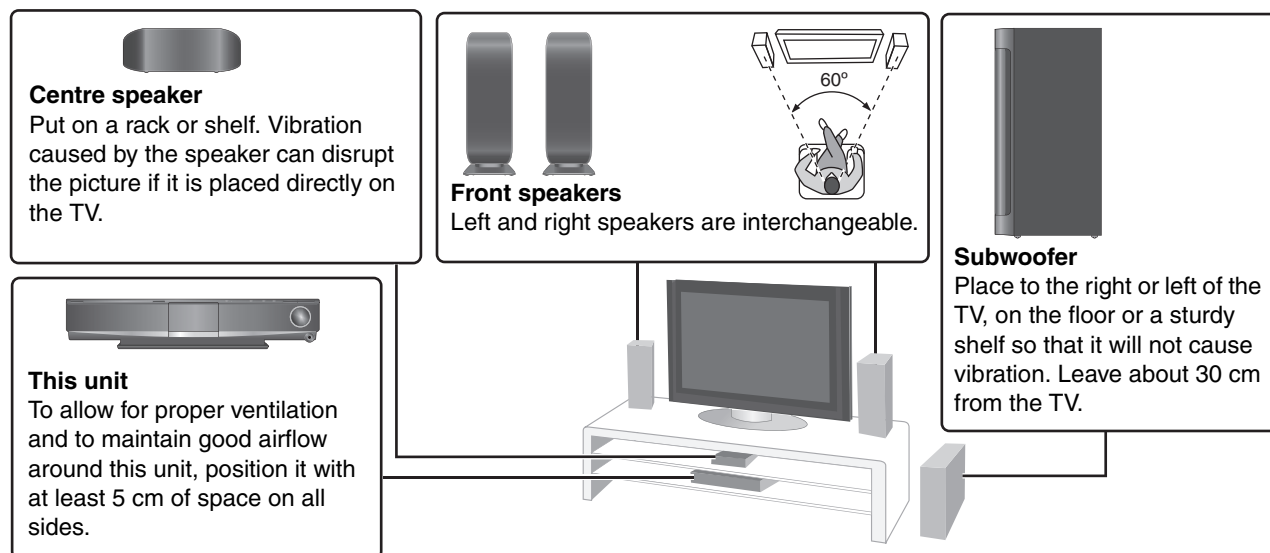
- Place speakers on flat secure bases.
- Placing speakers too close to floors, walls, and corners can result in excessive bass. Cover walls and windows with thick curtains.

Note

Keep your speakers at least 10 mm away from the system for proper ventilation.

Setup example

This unit comes equipped with a Dolby Virtual Speaker circuit installed. Using just the supplied speakers and the subwoofer, and by reproducing acoustic effects very similar to 5.1ch surround, you can enjoy a true “home theater” experience even within a limited space.



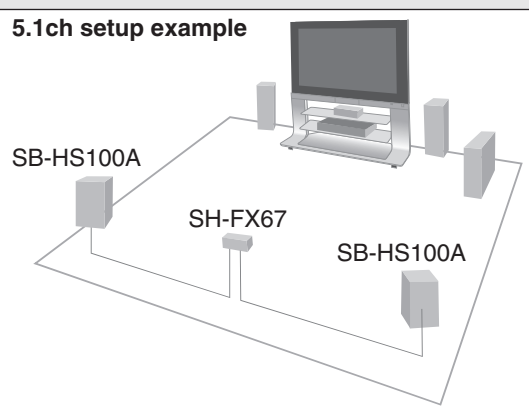
Enjoying 5.1ch/7.1ch surround sound Optional Panasonic wireless accessory SH-FX67/ Optional Panasonic speaker system SB-HS100A

You can enjoy 5.1ch or 7.1ch surround sound when you use the optional Panasonic wireless system SH-FX67 and speaker system SB-HS100A.

Refer to the relevant operating instructions for details.

- You can also enjoy 5.1ch or 7.1ch surround sound by connecting an amplifier using audio cable via the SURROUND and SURROUND BACK terminals on the back of this unit (⇒ 8).
- System speaker settings will need to be changed in order to enjoy 5.1ch or 7.1ch surround sound (⇒ 37).

5.1ch setup example



■ Notes on speaker use

● Use only supplied speakers

Using other speakers can damage the unit, and sound quality will be negatively affected.

- 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 colouring occurs on your TV

The front and centre speakers are designed to be used close to a TV, but the picture may be affected with some TVs and setup combinations.

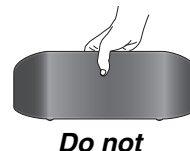
If this occurs, turn the TV off for about 30 minutes.

The demagnetizing function of the TV should correct the problem. If it persists, move the speakers further away from the TV.

■ Caution

Do not touch the front netted area of the speakers. Hold by the sides.

e.g., Centre speaker



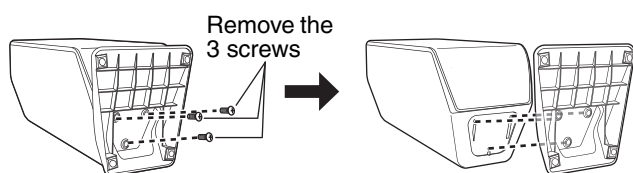
Speaker installation options

Attaching to a wall

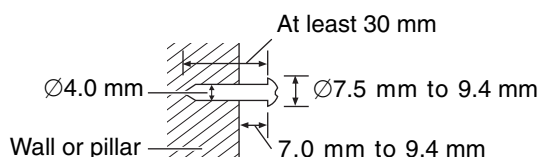
You can attach all of the speakers (except subwoofer) to a wall.

- 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 Detach stand (Front speakers).



2 Drive a screw (not included) into the wall.



● Centre/Front speaker

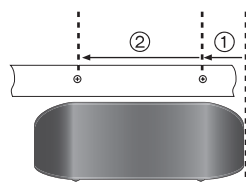
Ensure that the screw is positioned at least 70 mm away from the ceiling.

● Centre speaker

Ensure that the screw is positioned at least 100 mm away from the wall.

Fixing the position for the centre speaker screws.

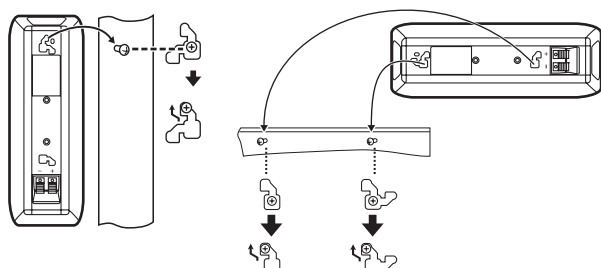
- 1 Drive in a screw 50.5 mm left of the right side of the centre speaker as seen directly from the front.
- 2 Drive another screw 160 mm left of the first screw.



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

Front speaker

Centre speaker



Fitting speaker stands (not included)

(Except subwoofer)

Ensure the stands meet these conditions before purchasing them.

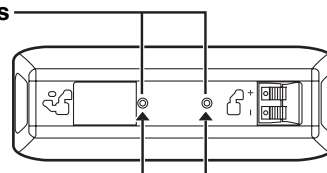
Note the diameter and length of the screws and the distance between screws as shown in the diagram.

- The stands must be able to support over 10 kg.
- The stands must be stable even if the speakers are in a high position.

e.g., Centre speaker

Metal screw holes

For attaching to speaker stands



5.0 mm, pitch 0.8 mm

Plate thickness plus 7 mm to 10 mm

60 mm

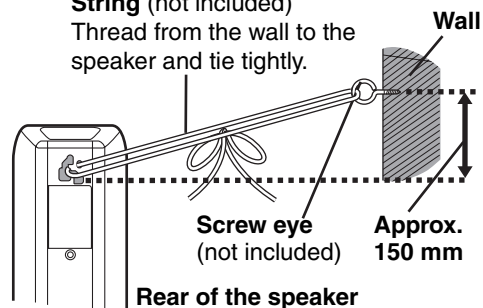
Speaker stand (not included)

Prevent the speakers from falling

e.g., Front speaker

String (not included)

Thread from the wall to the speaker and tie tightly.



Screw eye (not included)

Rear of the speaker

- You will need to obtain the appropriate screw eyes to match the walls and pillars to which they are going to be fastened.
- Consult a qualified housing contractor concerning the appropriate procedure when attaching to a concrete wall or a surface that may not have strong enough support. Improper attachment may result in damage to the wall or speakers.

STEP 2 Basic connections

- Do not place the unit on amplifiers or equipment that may become hot. The heat can damage the unit.
- Turn off all equipment before connection and read the appropriate operating instructions.

Speaker cables connection

Sheet of speaker cable stickers



1 Speaker cable for front speaker (L) (White)



2 Speaker cable for front speaker (R) (Red)



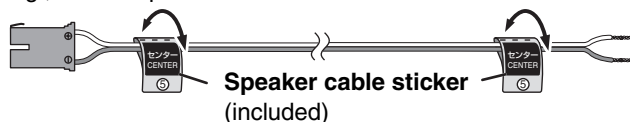
5 Speaker cable for centre speaker (Green)



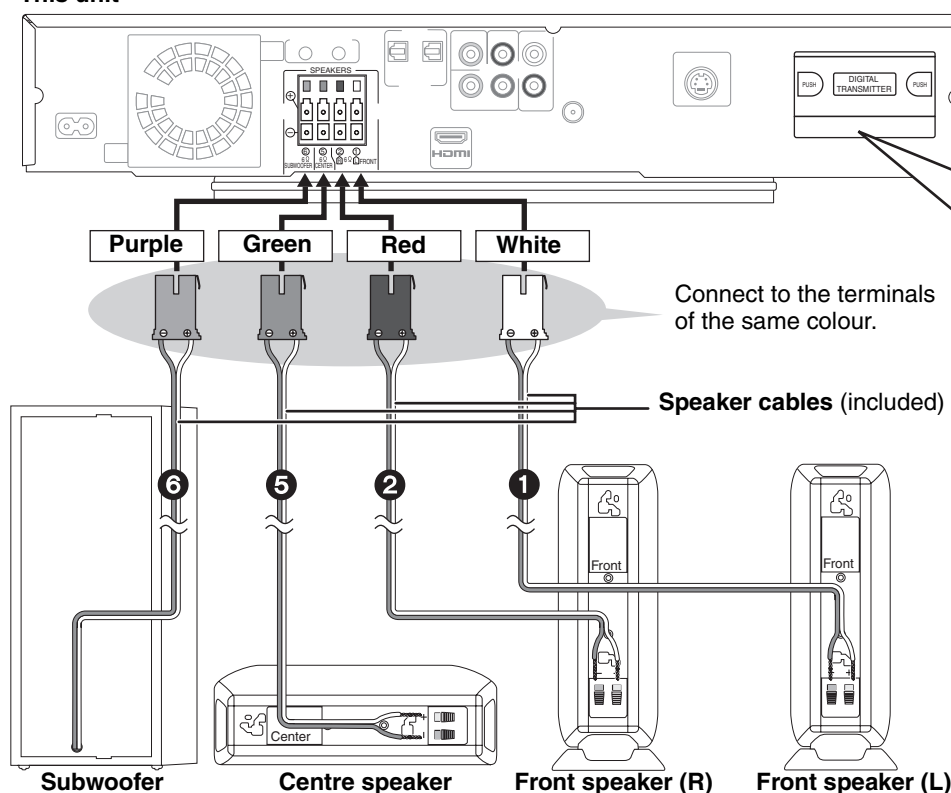
Preparation

■ Attach the speaker cable stickers to make connection easier.

e.g., Centre speaker

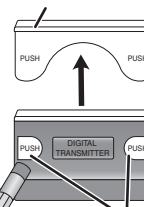


This unit



[When using the optional wireless accessory: SH-FX67 (⇒ 4)]

Digital transmitter cover



You can use the blunt end of a writing instrument to push here until the cover pops out.

- Remove the digital transmitter cover before installing any optional Panasonic wireless accessory.
- Replace the cover when the digital transmitter is not in use.



• Insert the wires fully.



+: White
-: Blue

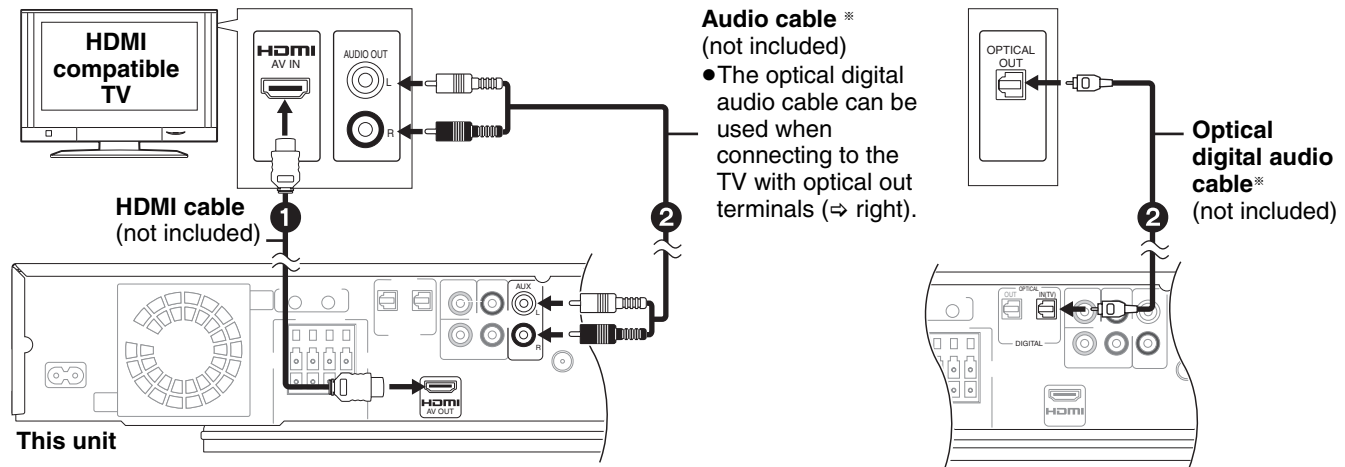
• Be careful not to cross (short-circuit) or reverse the polarity of the speaker wires as doing so may damage the speakers.



Connection to a TV

Do not connect through the video cassette recorder. Due to copy guard protection, the picture may not display properly.

With an HDMI cable



Please use High Speed HDMI Cables that have the HDMI logo (as shown on the cover). It is recommended that you use Panasonic's HDMI cable.

Recommended part number:

RP-CDHG10 (1.0 m), RP-CDHG15 (1.5 m), RP-CDHG20 (2.0 m), RP-CDHG30 (3.0 m), RP-CDHG50 (5.0 m), etc.

•When setting video output to "1080p" (⇒ 36, "HDMI Video Format"), please use HDMI cables 5.0 meters or less.

NECESSARY SETTINGS

"HDMI Video Mode" : "On"/"HDMI Audio Output" : "Off" (⇒ 36)

With this connection, you can use VIERA Link "HDAVI Control" (⇒ 30).

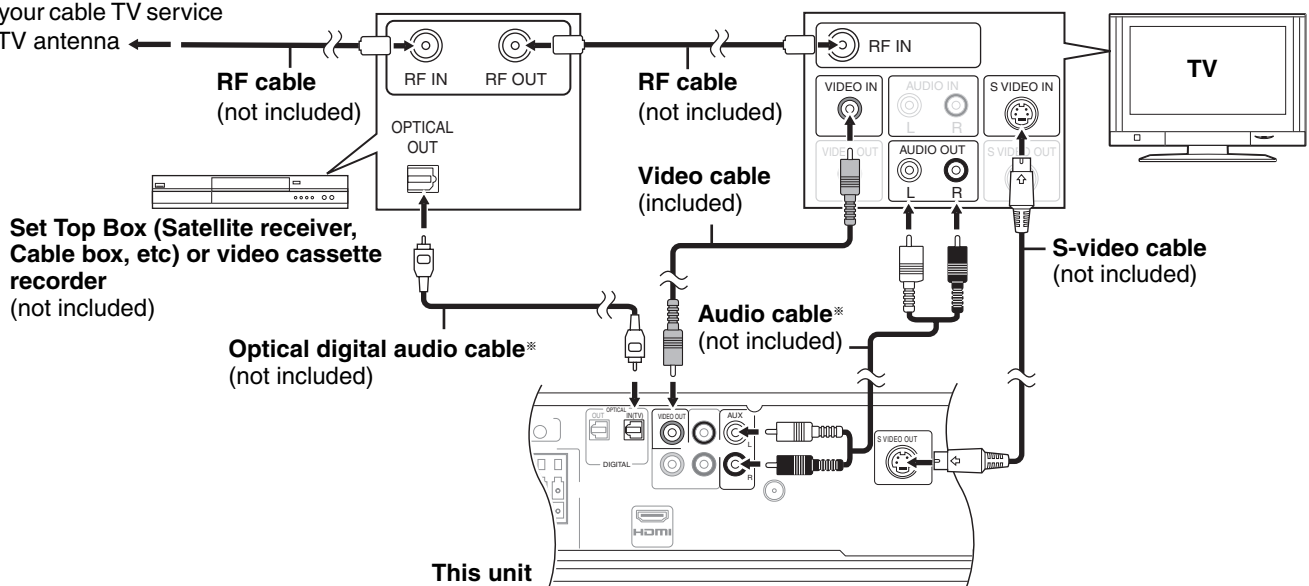
*These audio connections will enable you to play audio from your TV through your home theater system (⇒ 19).

Connection to Set Top Box (Satellite receiver, Cable box, etc) or video cassette recorder

Use the following connections when you want to output audio of your cable TV or VCR through this unit's speakers.

•Turn off all equipment before connection and read the appropriate operating instructions.

To your cable TV service
or TV antenna



•This unit can decode the surround signal from the Set Top Box (Satellite receiver, Cable box, etc). Press [>, < SELECT] several times to select "D-IN" (DIGITAL IN).

*These audio connections will enable you to play audio from your TV through your home theater system (⇒ 19).

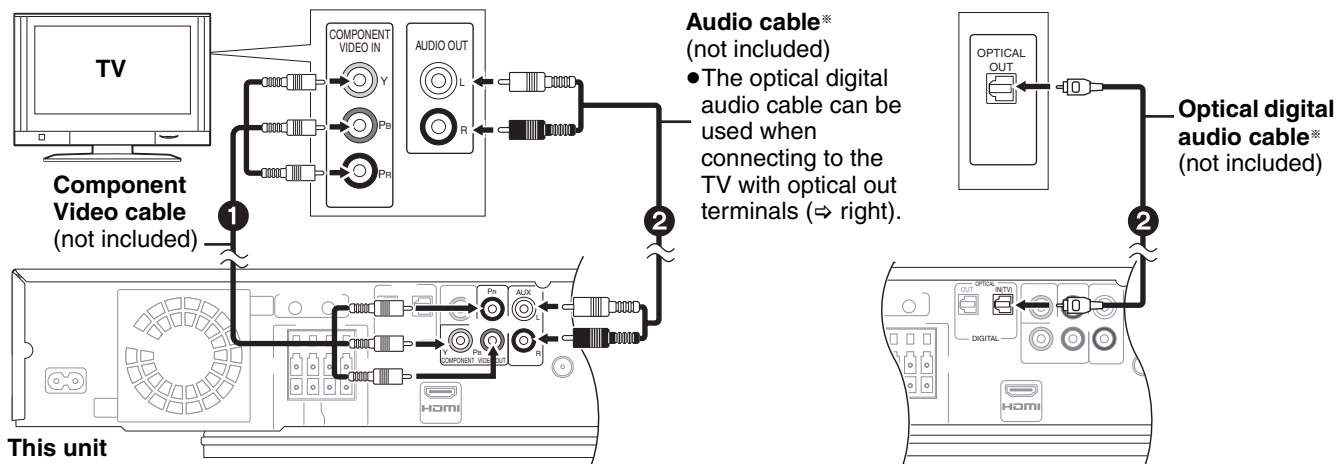


•For the video connection, use either the VIDEO OUT or S VIDEO OUT terminal.

•The S VIDEO OUT terminals achieves a more vivid picture than the VIDEO OUT terminal. (Actual results depend on the TV.)

STEP 2 Basic connections

Connection to a TV with component video cable



- Connect terminals of the same colour.
- The video output resolution is restricted to “576p/480p” when DVD-Video, DivX and BD-Video discs recorded at a rate of 50 frames per second is output from the COMPONENT VIDEO OUT terminals.
- *These audio connections will enable you to play audio from your TV through your home theater system (⇒ 19).



If you have a regular TV (CRT: cathode ray tube)

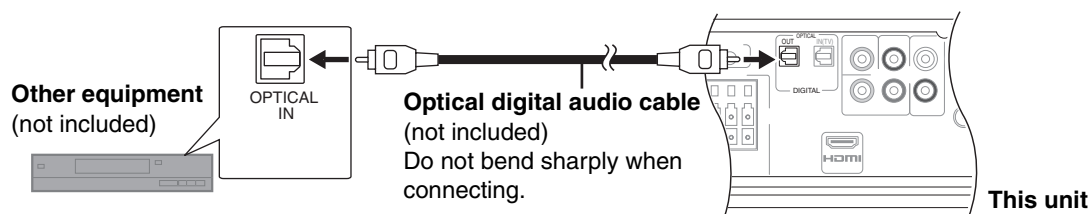
- Progressive output may cause some flickering, even if it is progressive compatible. Turn off “Progressive” if you are concerned about it. This is the same for multi system TV using PAL mode (⇒ 33, “Progressive”).

To enjoy high definition/progressive video

- Connect to a TV that supports 576p/480p or higher.
- Set “Component Resolution” to “576p/480p”, “720p” or “1080i”. (⇒ 36)
- Set “HDMI Video Mode” to “Off”. (⇒ 36) Otherwise, the video is output as 576i/480i.

DIGITAL OUT connection

PCM (2ch) signal is output from the OPTICAL OUT terminal.

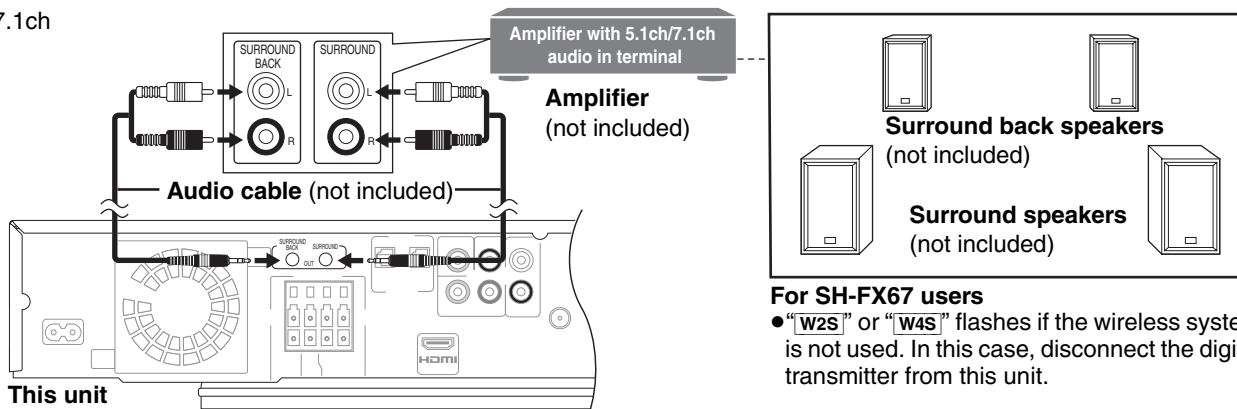


Before purchasing an optical digital audio cable, check the terminal shape of the equipment to be connected.

Connection to an amplifier via the SURROUND and SURROUND BACK terminals

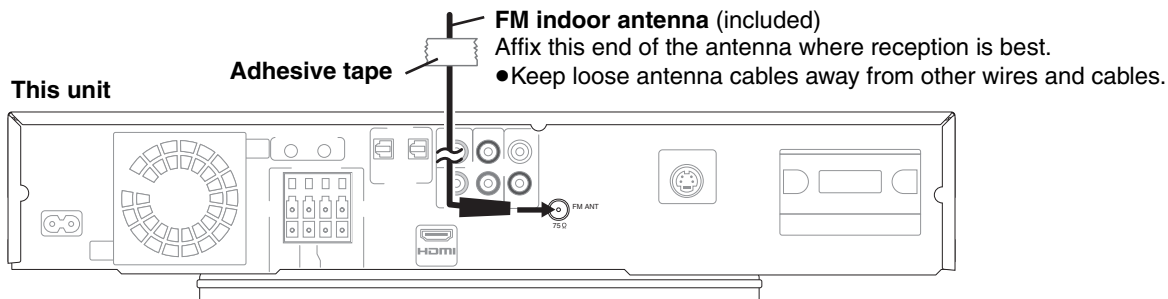
You can enjoy 5.1ch or 7.1ch surround sound by connecting an amplifier using audio cable via the SURROUND and SURROUND BACK terminals.

e.g., 7.1ch



Radio antenna connections

FM Indoor antenna



Using an FM outdoor antenna (optional)

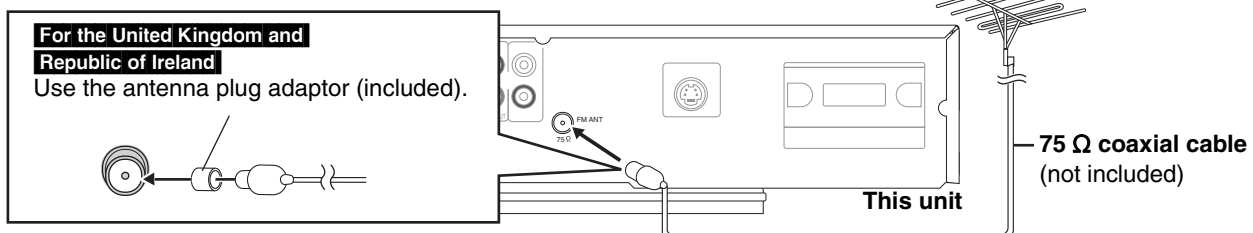
Use outdoor antenna if radio reception is poor.

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

FM outdoor antenna

[Using a TV antenna (not included)]

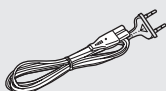
The antenna should be installed by a competent technician.



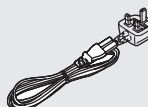
AC mains lead connection

AC mains lead

For Continental Europe

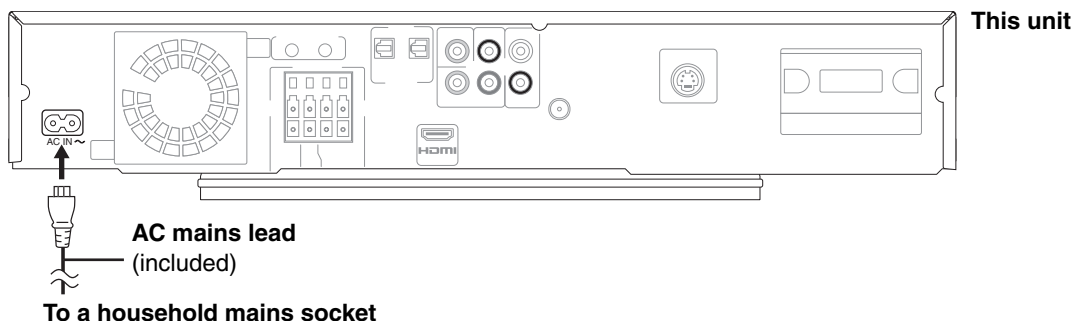


For the United Kingdom and Republic of Ireland



For the United Kingdom and Republic of Ireland

BE SURE TO READ THE CAUTION FOR THE AC MAINS LEAD ON PAGE 2 BEFORE CONNECTION.



Power consumption

This unit consumes a small amount of power when it is turned off (approx. 0.4 W). To save power when it 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 this unit.

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

- When the AC mains lead is connected for the first time, “PLEASE WAIT” is displayed on this unit’s display for about 30 seconds and the unit is turned off automatically.

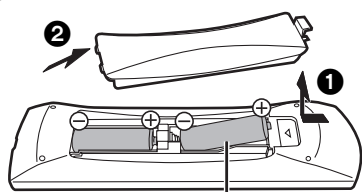
STEP 3 Setting up

Remote control

Batteries

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

When closing the lid, insert it from the – (minus) side.



R6/LR6, AA

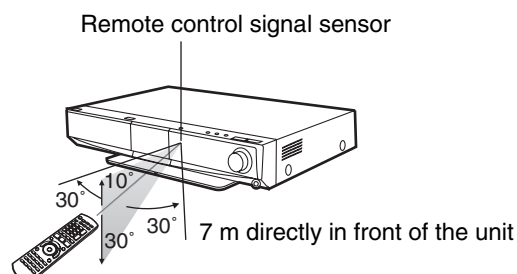
CAUTION

Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.

- Do not use rechargeable type batteries.
- Do not mix old and new batteries.
- Do not use different types at the same time.
- Do not heat or expose to flame.
- Do not leave the battery(ies) in an automobile exposed to direct sunlight for a long period of time with doors and windows closed.
- Do not take apart or short circuit.
- Do not attempt to recharge alkaline or manganese batteries.
- Do not use batteries if the covering has been peeled off.

Mishandling of batteries can cause electrolyte leakage which can damage items the fluid contacts and may cause a fire. Remove batteries if the remote control is not going to be used for a long period of time. Store in a cool, dark place.

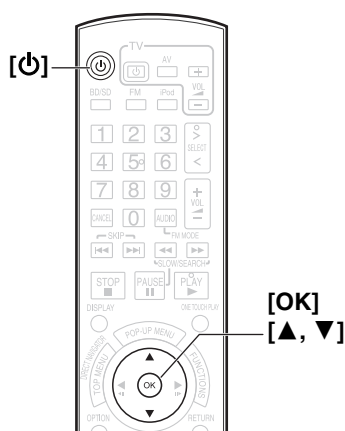
Use



If you cannot operate the unit using the remote control after changing the batteries, please re-enter the codes (⇒ 42).

Easy Setting

When the system is switched on for the first time, a screen for the basic settings is displayed automatically. Follow the on-screen prompts to make basic settings for the system.



1 Press [P].

Setup screen appears.

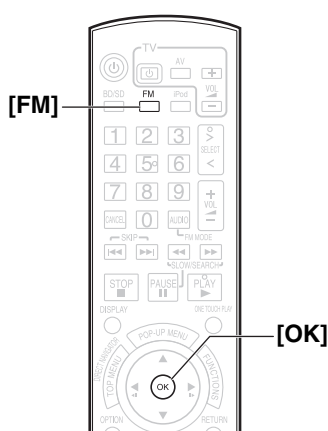
- If this unit is connected to a Panasonic TV (VIERA) supporting HDAVI Control 2 or HDAVI Control 3 via an HDMI cable, then the “On-screen Language” and “TV Aspect” setting information on the TV are captured from the TV.

2 Follow the on-screen instructions and make the settings with [▲, ▼] and [OK].

“On-screen Language” (⇒ 35) and “TV Aspect” (⇒ 36) are set.

- You can perform this setup anytime by selecting “Easy Setting” in the Setup menu. (⇒ 34)
- You can also change these settings individually. (⇒ 35, 36)

Set up the radio



Presetting the radio stations automatically

Up to 30 stations can be set.

1 Press [FM] to select “FM”.

2 Press and hold [OK].

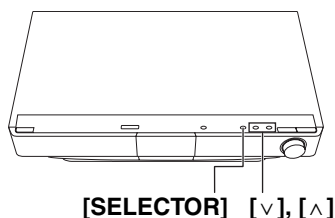
Release the button when “M” begins to flash.

e.g., Display

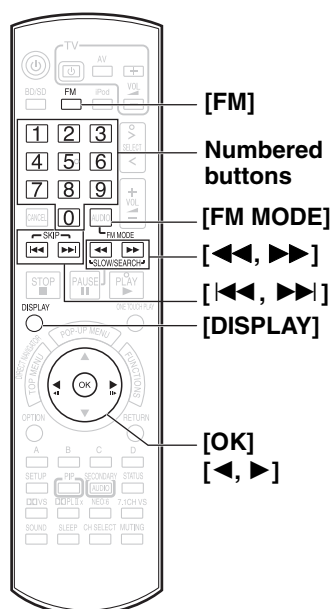


The tuner tunes to the lowest frequency and starts to preset all the stations it can receive into the channels in ascending order.

- “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 (⇒ 11).



[SELECTOR] [v], [^]



[FM]

Numbered buttons

[FM MODE]

[◀, ▶]

[◀, ▶]

[DISPLAY]

[OK]

[◀, ▶]

Manual tuning

1 Press [FM] to select "FM".

This unit: Press [SELECTOR].

2 Press [◀, ▶] to select the frequency.

This unit: Press [v] or [^].

- When a radio broadcast is being received, "TUNED" lights in the display.
- When a stereo broadcast is being received, "ST" lights in the display.

e.g., Display



To start automatic tuning, press and hold [◀, ▶] until the frequency starts scrolling. Tuning stops when a station is found.

Presetting stations manually

Up to 30 stations can be set.

1 Press [FM] to select "FM".

2 Press [◀, ▶] to select the frequency.

3 Press [OK].

"P" and "M" begin to flash.

e.g., Display



e.g., "12"

4 Press the numbered buttons to enter preset channel number.

- To select a 1-digit number
e.g., "1": [1] ⇒ [OK].
- To select a 2-digit number
e.g., "12": [1] ⇒ [2].

- A station previously stored is overwritten when another station is stored in the same channel preset.

Repeat steps 2 to 4 to set other stations.

Selecting the preset channels

1 Press [FM] to select "FM".

2 Press the numbered buttons to select the channel.

- To select a 1-digit number
e.g., "1": [1] ⇒ [OK].
- To select a 2-digit number
e.g., "12": [1] ⇒ [2].

e.g., "12"



Alternatively, press [◀, ▶] or [◀, ▶] to select the channel.

RDS broadcasting

The unit can display the text data transmitted by the radio data system (RDS) available in some areas. If the station you are listening to is transmitting RDS signals, "RDS" will light up on the display.

- RDS displays may not be available if reception is poor.

When "FM" is selected

Press [DISPLAY] to display the text data.

Each time you press the button:

- PS:** Program service
PTY: Program type (⇒ left)
OFF: Frequency display

* "M-O-R- M" = Middle of the road music

PTY displays		
NEWS	VARIED	FINANCE
COUNTRY	AFFAIRS	POP M
CHILDREN	NATIONAL	INFO
ROCK M	SOCIAL A	OLDIES
SPORT	M-O-R- M*	RELIGION
FOLK M	EDUCATE	LIGHT M
PHONE IN	DOCUMENT	DRAMA
CLASSICS	TRAVEL	TEST
CULTURE	OTHER M	LEISURE
ALARM	SCIENCE	WEATHER
JAZZ		



NOTE

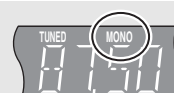
If noise is excessive

When "FM" is selected

Press [FM MODE] to display "MONO".

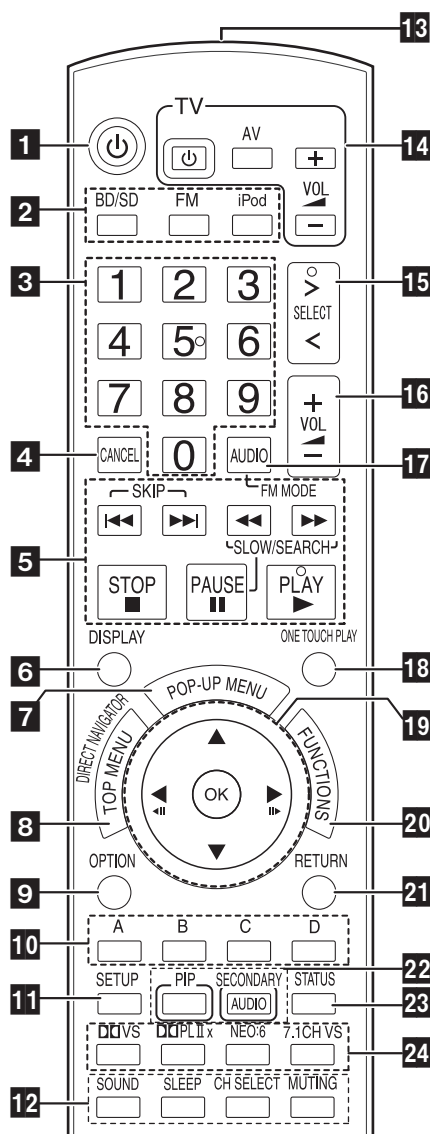
- Press the button again to cancel the mode.
- The mode is also canceled when you change the frequency.
- This setting can be preset for each broadcasting station. When "MONO" appears follow procedures 3 and 4 in Presetting stations manually (⇒ above).

e.g., Display



Control reference guide

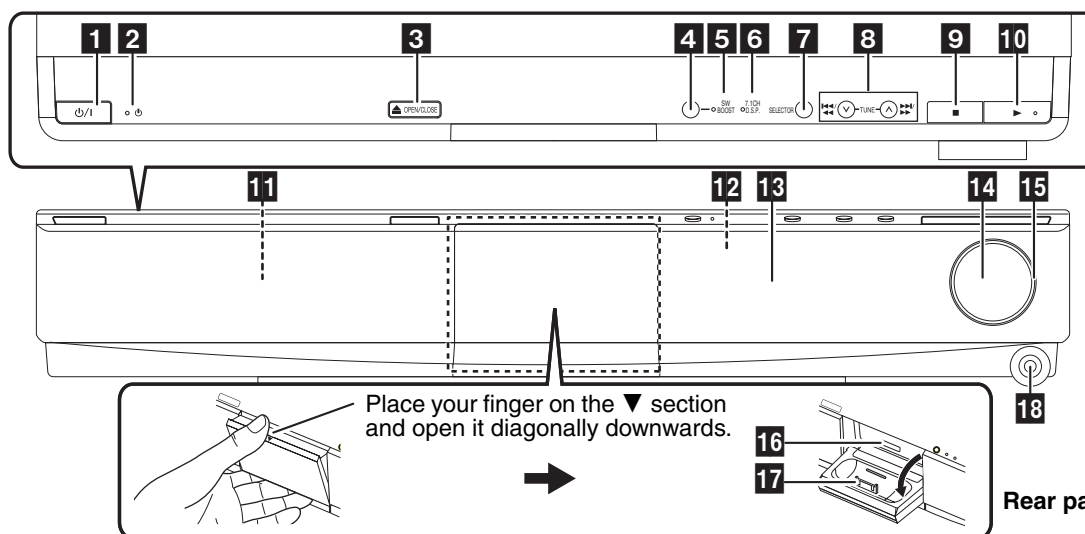
Remote control



- 1** Turn the unit on and off (⇒ 26)
- 2 Select the source**
[BD/SD]: Select disc drive or SD card drive (⇒ 16)
[FM]: Select FM tuner (⇒ 10)
[iPod]: Select iPod as the source (⇒ 23)
- 3 Numbered buttons**
Select preset radio stations and title numbers, etc./Enter numbers (⇒ 11, 17)

- 4** Cancel
- 5 Basic playback control buttons** (⇒ 17)
[◀◀, ▶▶]: Select preset radio stations (⇒ 11)
[◀, ▶]: Select radio station manually (⇒ 11)
- 6** Show on-screen menu (⇒ 32)/Show RDS text data (⇒ 11)
- 7** Show Pop-up menu (⇒ 26)
- 8** Show Top Menu/Direct Navigator (⇒ 16)
- 9** Show option menu (⇒ 18, 25)
- 10** These buttons are used when operating a BD-Video disc that includes Java™ applications (BD-J). For more information about operating this kind of disc, please read the instructions that came with the disc.
The [A] and [B] buttons are also used with the “Title View”, “Picture View” and “Album View” screens (⇒ 24).
- 11** Show Setup menu (⇒ 34)
- 12** [SOUND]: Set the sound effect (⇒ 28)
[SLEEP]: Set the sleep timer (⇒ 18)
[CH SELECT]: Select speaker channel (⇒ 28)
[MUTING]: Mute the sound (⇒ 18)
- 13** Transmit the remote control signal
- 14 TV operation buttons**
Aim the remote control at the Panasonic TV and press the button.
[TV]: Turn the TV on and off
[AV]: Switch the input channel
[+ - VOL]: Adjust the TV volume
• This may not work properly with some models.
- 15 Select the source**
BD/DVD/CD ↔ SD ↔ FM ↔ IPOD ↔ D-IN(TV)* ↔ AUX(TV)*
↑
*“(TV)” is displayed next to items set for TV SOUND input.
(⇒ 30, Setting the TV audio for VIERA Link “HDAVI Control”)
“SD” on the unit’s display is not displayed when the SD card is not in the SD card slot.
- 16** Adjust the volume of this unit (⇒ 17)
- 17** Select audio (⇒ 18)/Remove interference during radio reception (⇒ 11)
- 18** Start up and play a disc automatically (⇒ 30)
- 19** [▲, ▼, ◀, ▶]: Menu selection
[OK]: Selection
[◀, ▶]: Select preset radio station (⇒ 11)
[◀◀ (◀◀), ▶▶ (▶▶)]: Frame-by-frame (⇒ 18)
- 20** Show FUNCTIONS menu (⇒ 27)
- 21** Return to previous screen
- 22** [PIP]: Switch on/off Secondary Video (Picture-in-picture) (⇒ 26)
[SECONDARY AUDIO]: Switch on/off Secondary Audio (⇒ 26)
- 23** Show status messages (⇒ 18)
- 24** Enjoy surround sound (⇒ 29)
[7.1CH VS]: Available when using a 5.1ch speaker system

This unit



Rear panel terminals (⇒ 6–9)

1 Standby/on switch (⏻/⏻) (⇒ 16)

Press to switch the unit from on to standby mode or vice versa. In standby mode, the unit is still consuming a small amount of power.

2 Standby/on indicator (⏻)

When the unit is connected to the AC mains supply, this indicator lights up in standby mode and goes out when the unit is turned on.

3 Open or close the disc tray (⇒ 16)**4 SW BOOST (Subwoofer boost) button**

Turn Subwoofer boost on/off (⇒ 28)

5 SW BOOST (Subwoofer boost) indicator

Lights when Subwoofer boost is on (⇒ 28)

6 7.1CH D.S.P. indicator

Illuminated during 7.1ch source playback.

7 Select the source

BD/DVD/CD → SD → FM → IPOD → D-IN(TV)* → AUX(TV)*

*“(TV)” is displayed next to items set for TV SOUND input. (⇒ 30, Setting the TV audio for VIERA Link “HDAVI Control”)

“SD” on the unit’s display is not displayed when the SD card is not in the SD card slot.

8 Select the radio station manually (⇒ 11)

Search/Slow-motion/Skip (⇒ 17)

Search: Press and hold (During play)

Slow-motion: Press and hold (During pause)

Skip: Press

9 Stop (⇒ 17)**10 Start play (⇒ 16)****11 Disc tray (⇒ 16)****CAUTION**

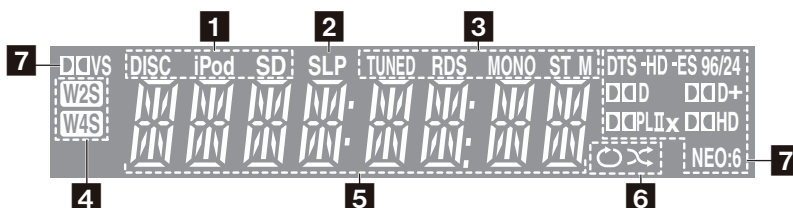
Do not place objects in front of the unit. The disc tray may collide with objects when it is opened, and this may cause injury.

12 Remote control signal sensor**13 Display****14 Adjust the volume of this unit (⇒ 17)****15 Volume indicator**

• It is possible to set the indicator to turn on/off. (⇒ 35, FL Display)

16 SD card slot (⇒ 16)**17 Connect iPod (⇒ 22)****18 Headphone terminal (⇒ 16)**

The unit's display

**1 Drive indicator**

DISC Lights when disc is ready to play.

iPod Lights when iPod is ready to play.

SD Lights when SD card is ready to play.

• The indicator blinks when reading data.

2 SLEEP indicator (⇒ 18)**3 Radio broadcast display**

TUNED Lights when receiving a radio broadcast (⇒ 11)

RDS Lights when RDS is available (⇒ 11)

MONO Lights when set to monaural reception (⇒ 11)

ST Lights when set to stereo broadcast reception (⇒ 11)

M Flashes during preset channel registration (⇒ 11)

4 Wireless link indicator

(when using the optional wireless accessory: SH-FX67)

W2S Lights when speaker setting (⇒ 35, Speaker) is set to 5.1ch and link with wireless system is activated

W4S Lights when speaker setting (⇒ 35, Speaker) is set to 7.1ch and link with wireless system is activated

• The indicator blinks when the wireless link is inactive for a long time.

5 Main display section**6 iPod indicator**

Repeat Illuminated during iPod repeat playback (EXTENDED mode only, ⇒ 23)

Shuffle Illuminated during iPod shuffle playback (EXTENDED mode only, ⇒ 23)

7 Audio signal indicator

Dolby Virtual Speaker Lights when Dolby Virtual Speaker function is being used.

DTS Lights when DTS decoder is being used.

DTS-HD Lights when DTS-HD decoder is being used.

DTS-ES Lights when DTS-ES decoder is being used.

DTS 96/24 Lights when DTS 96/24 decoder is being used.

Dolby Digital Lights when Dolby Digital decoder is being used.

Dolby Digital Plus Lights when Dolby Digital Plus decoder is being used.

Dolby Pro Logic II Lights when Dolby Pro Logic II decoder is being used.

Dolby Pro Logic IIX Lights when Dolby Pro Logic IIX decoder is being used.

Dolby TrueHD Lights when Dolby TrueHD decoder is being used.

NEO:6 Lights when DTS NEO:6 matrix decoder is being used.

Disc and card information



DivX information is only for the Continental Europe model.

Packaged discs

This chart shows the different type of retail/commercial discs you can use, and also includes the industry-standard logos that should appear on the discs and/or packaging.

Type of media/ Logo	Features	Indicated as	Type of media/ Logo	Features	Indicated as
BD-Video BD-Video	High Definition (HD) movie and music discs • Discs supporting BONUS VIEW™ (BD-ROM version 2 Profile 1 version 1.1/ Final Standard Profile) that allows Virtual packages or Picture-in-Picture functions to be used. BONUS VIEW™	BD-V	DVD-Video 	High quality movie and music discs	DVD-V
			CD 	Compact Discs (CD's) that contain audio and music • Operation and sound quality of CDs that do not conform to CD-DA specifications (copy control CDs, etc.) cannot be guaranteed.	CD

Recorded discs

This chart shows the different type of discs recorded with DVD recorders, DVD video cameras, personal computers, etc. that you can use.

Finalized

This mark means you must finalize the disc with the DVD recorder, etc. before playback. For details about finalizing, refer to the operating instructions for your equipment.

Type of media/ Logo	Formats	Indicated as	Type of media/ Logo	Formats	Indicated as
BD-RE 	• Version 3 of the BD-RE Recording Format • JPEG format	BD-V JPEG	DVD-R DL Finalized R DL	• DVD-Video Format • Version 1.2 of the DVD Video Recording Format • AVCHD format • DivX format	DVD-V DVD-VR AVCHD DivX
BD-R 	• Version 2 of the BD-R Recording Format	BD-V	+R/+RW/+R DL Finalized	• +VR (+R/+RW Video Recording) Format • AVCHD format	DVD-V AVCHD
DVD-RAM R A M R A M 4.7	• Version 1.1 of the DVD Video Recording Format • JPEG format • AVCHD format	DVD-VR JPEG AVCHD	CD-R/RW Finalized	• CD-DA format • MP3 format • JPEG format • DivX format	CD MP3 JPEG DivX
DVD-R/RW Finalized R R 4.7 R W	• DVD-Video Format • Version 1.1 of the DVD Video Recording Format • AVCHD format • DivX format (DVD-RW is not supported)	DVD-V DVD-VR AVCHD DivX	• It may not be possible to play the above discs in some cases due to the type of discs, the condition of the recording, the recording method and how the files were created. • When a disc recorded in the AVCHD format is being played, the video may be paused for a few seconds at portions spliced, due to deletion or editing.		

SD cards

This chart shows the different type of cards recorded with Panasonic High Definition Video Camera or personal computers, etc. that you can use.

Type of media	Formats	Indicated as
SD Memory Card* (from 8 MB to 2 GB) SDHC Memory Card (from 4 GB to 16 GB)	• JPEG format • AVCHD format	JPEG AVCHD

* Including miniSD Card and microSD Card

- When using from 4 GB to 16 GB SD cards, only SD cards that display the SDHC logo can be used.
- This unit is compatible with SD Memory Cards that meet SD Card Specifications FAT12 and FAT16 formats, as well as SDHC Memory Cards in FAT32 format.
- In these operating instructions, the cards shown in the table (⇒ above) are comprehensively called SD cards.

- A miniSD Card and a microSD Card must be used with the attached adaptor that comes with the card.
- Useable memory is slightly less than the card capacity.
- If the SD card is formatted on a PC, you may not be able to use it on this unit. In this case, format the card on this unit (⇒ 26).
- We recommend using a Panasonic SD card.
- Keep the Memory Card out of reach of children to prevent swallowing.
- When a card recorded in the AVCHD format is being played, the video may be paused for a few seconds at portions spliced, due to deletion or edition.
- Switch the write-protect switch to the "LOCK" position to protect the content from accidental erasure.



Regarding BD-Video

- Enjoy BONUSVIEW functions (⇒ 26), such as picture-in-picture. The various functions differ depending on the disc.
- When playing a set of two or more BD-Video discs, the menu screen may continue to display even if the disc has been ejected.

- Dolby TrueHD, Dolby Digital Plus, DTS-HD Master Audio and DTS-HD High Resolution Audio are output as Dolby Digital when "BD-Video Secondary Audio" (⇒ 35) is set to "On".
- Depending on the intentions of the software producer, certain discs may not operate according to the details in this manual. Please refer to the jacket of the disc.

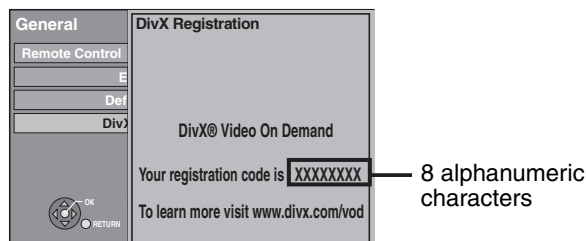
Regarding DivX VOD content Continental Europe only

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 on line 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.

(⇒ 34, "DivX Registration" in "General")



- 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. ("Authorisation 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. ("Rental Expired." is displayed.)

When playing this content

- The number of remaining plays is reduced by one if
 - you press [⏻].
 - you press [■].
 - you press [DIRECT NAVIGATOR].
 - you press [◀◀] or [◀, ▶▶] etc. and arrive at another content or the start of the content being played.
 - you press [BD/SD] to change the drive.
- Resume functions do not work.

Discs that cannot be played

- BD-RE with the cartridge
- DVD-RAM that cannot be removed from their cartridges
- 2.6 GB and 5.2 GB DVD-RAM
- 3.95 GB and 4.7 GB DVD-R for Authoring
- Version 1.0 of DVD-RW
- +R 8 cm, DVD-ROM, CD-ROM, CDV, SACD, Photo CD, MV-Disc and PD
- DVD-Audio
- Video CD and SVCD
- WMA discs
- HD DVD
- Other discs that are not specifically supported

Disc and card handling

Clean discs

Wipe with a damp cloth and then wipe dry.

DO



DO NOT



Disc and card handling precautions

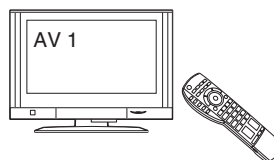
- Handle discs by the edges to avoid inadvertent scratches or fingerprints on the disc.
- Do not attach labels or stickers to discs (This may cause disc warping, rendering it unusable).
- Do not write on the label side with a ball-point pen or other writing instrument.

- Do not use record cleaning sprays, benzine, thinner, static electricity prevention liquids or any other solvent.
- Do not use scratch-proof protectors or covers.
- Clean any dust, water, or foreign matter from the terminals on the rear side of the card.
- 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.

Basic play (Playing video contents)

Preparation

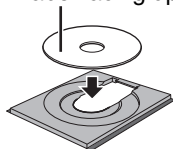
Turn on the TV and select the appropriate video input on the TV.
(e.g., AV 1, VIDEO 1, HDMI, etc.)



② Insert a disc.

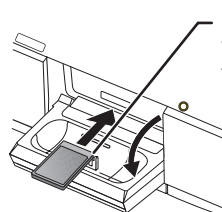
- Press [**▲** OPEN/CLOSE] to open the disc tray and load the disc.

Label facing up



- Press the button again to close the tray.
- Load double-sided discs so the label for the side you want to play is facing up.
- DVD-RAM: Remove the discs from their cartridges before use.

② Insert an SD card.



Insert the card label up with the cut-off corner on the right.

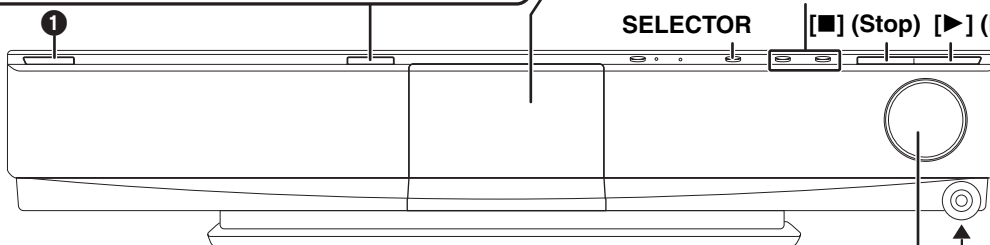
- Press on the centre of the card until it clicks into place.

- To remove the card, press on the centre of the card and pull it straight out.

[**◀◀**, **▶▶**] Skip/Search/Slow-motion

SELECTOR

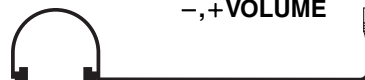
[**■**] (Stop) [**▶**] (Play)



Headphones (not included)

Headphone plug type: Ø3.5 mm stereo mini plug

- Reduce the volume before connecting.
- Audio is automatically switched to 2ch stereo.
- To prevent hearing damage, avoid listening for prolonged periods of time.
Excessive sound pressure from earphones and headphones can cause hearing loss.



① Press [**⏻**] to turn on the unit.

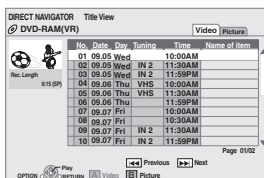
② Insert a disc or an SD card (⇒ see above).

- If play does not start, press [**▶**] (Play).
- It may take time to read BD-Video discs that contain Java applications (BD-J) or picture-in-picture function.
- If the screen prompting you to use the colour buttons appears, continue to operate with the colour buttons on the remote control.
- If the menu is displayed, press [**▲**, **▼**, **◀**, **▶**] to select the item and press [OK].

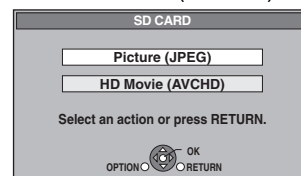
e.g., **BD-V**



e.g., **DVD-VR**



e.g., SD card containing pictures (JPEG) and HD movies (AVCHD)



NOTE

• Signal from PAL discs is output as PAL. Signal from NTSC discs is output as "NTSC" or "PAL60". You can select "NTSC" or "PAL60" in "NTSC Contents Output" for NTSC discs (⇒ 35).

• **DISCS CONTINUE TO ROTATE WHILE MENUS ARE DISPLAYED.**

Press [**■**] (Stop) when you have finished playback to protect the unit's motor, your TV screen and so on.



TIPS

To switch drives

Press [BD/SD] to select "BD/DVD/CD" or "SD".

This unit: Press [SELECTOR].

- If a disc or an SD card is inserted while the unit is stopped, the drive switches automatically depending on the inserted media.

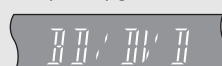
To display menus

BD-V AVCHD DVD-VR DVD-V

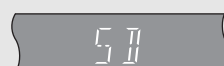
- Press [TOP MENU/DIRECT NAVIGATOR].

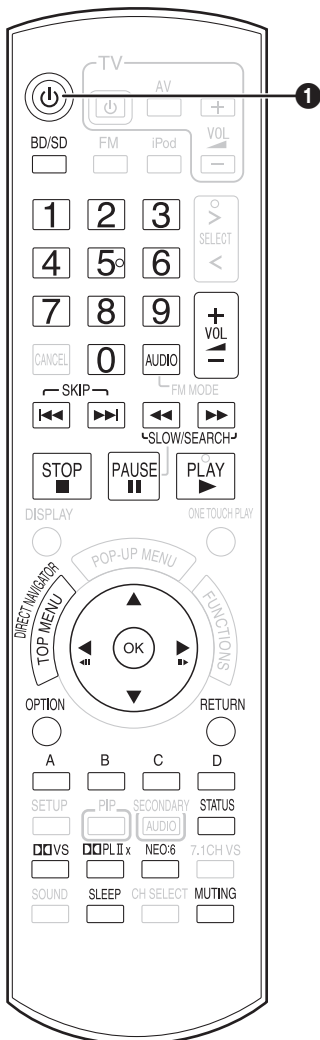
- The producers of the disc can control how discs are played. So you may not always be able to control play as described in these operating instructions. Read the disc's instructions carefully.

e.g., Display
"BD/DVD/CD"



"SD"





STOP

The stopped position is memorized.

Resume play function

Press [▶ PLAY] to restart from this position.

- The position is cleared if the tray is opened or you press [■ STOP] several times to display "STOP" on unit's display.
- **CD MP3 DivX**: The position is cleared if the unit is turned off.
- **BD-V**: On BD-Video discs including BD-J (⇒ 44), the resume play function does not work.

PAUSE

- Press [⏸ PAUSE] again or [▶ PLAY] to restart play.

Search/Slow-motion

The speed increases up to 5 steps.

- Press [▶ PLAY] to revert to normal playback speed.
- For some discs, the speed may not change.

Search

While playing, press [◀◀] or [▶▶].

- Press and hold [◀◀/▶▶] on this unit.
- **BD-V AVCHD DVD-VR DVD-V**: Audio is heard during first level of forward search.
- **DivX**: Audio is not heard during all levels of search.
- **CD MP3**: The speed is fixed to a single step.

Slow-motion

While paused, press [◀◀] or [▶▶].

- Press and hold [◀◀/▶▶] on this unit.
- **BD-V AVCHD**: Forward direction [▶▶] only.
- **DVD-VR**: If continued for approx. 5 minutes, slow-motion play pauses automatically.

SKIP

Skip to the title, chapter or track you want to play.

- Each press increases the number of skips.
- **DivX**: Backward direction [◀◀] only.

Adjust the volume

Starting from a selected item

Play starts from the selected title or chapter.

BD-V AVCHD

e.g., 5: [0] ⇒ [0] ⇒ [5]
15: [0] ⇒ [1] ⇒ [5]

DVD-V

e.g., 5: [0] ⇒ [5]
15: [1] ⇒ [5]

- While stopped (the image on the right is displayed on the screen), the title is designated. While playing, the chapter is designated.



Basic play (Playing video contents)

Other operations during play (These functions may not work depending on the disc.)



Frame-by-frame

While paused, press [**◀**] (**◀◀**) or [**▶**] (**▶▶**).

Each press shows the next frame.

- Press and hold to change in succession forward or backward.
- Press [**▶** PLAY] to revert to normal playback speed.
- Frame-by-frame is not available for some BD-Video discs that contain picture-in-picture function.
- **BD-V** **AVCHD**: Forward direction [**▶**] (**▶▶**) only.



Changing audio during play

BD-V **AVCHD** **DVD-V**

e.g., **DVD-V**



English is selected.

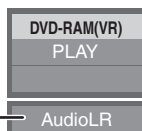
You can change the audio channel number each time you press the button. This allows you to change the soundtrack language (⇒ 32, Soundtrack), etc.

- **BD-V** When “BD-Video Secondary Audio” (⇒ 35) is set to “On”, Dolby TrueHD, Dolby Digital Plus, DTS-HD Master Audio and DTS-HD High Resolution Audio are output as Dolby Digital regardless of this setting.

DVD-VR **DivX**

AudioLR→AudioL→Audio R

e.g.,
“AudioLR” is
selected



MUTING



Muting the sound

“MUTING” flashes on the unit's display.

e.g., Display

- To cancel, press [MUTING] again or adjust the volume.
- Muting is canceled if the unit is turned off.



STATUS



Status messages

The status messages give you information about what is currently being played. Each time you press [STATUS], the information displayed will change.

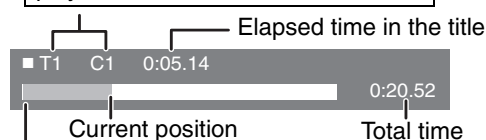
e.g., **BD-V**

Type of disc Play status



No display

T: Title PL: Playlist
C: Chapter
Items change depending on the disc played.



Depending on the kind of disc or the playback status, this display may not appear.

Screen Aspect

When black bars are shown at the top, bottom, left, and right sides of the screen, you can enlarge the image to fill the screen.

- 1 Press [OPTION].
- 2 Press [**▲**, **▼**] to select “Screen Aspect” and press [OK].
- 3 Press [**◀**, **▶**] to select “Side cut” or “Zoom”.

e.g., **BD-V**



Normal: Normal output

Side cut: The black bars on the right and left sides of the 16:9 image disappear and the image is enlarged. Please note that the right and left sides of the image are cut off when the black bar is not displayed.

Zoom: The black bars on the top and bottom sides of the 4:3 image disappear and the image is enlarged. Please note that the top and bottom sides of the image are cut off when the black bar is not displayed.

- When “TV Aspect” (⇒ 36) is set to “4:3 Pan & Scan” or “4:3 Letterbox”, the “Zoom” effect is disabled.

To exit the screen

Press [RETURN].

SLEEP



Setting the sleep timer

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

SLEEP 30→ SLEEP 60→ SLEEP 90→SLEEP 120→OFF



e.g., Display



To confirm the remaining time

Press [SLEEP] again.

Chapter playback **DVD-VR**

- 1 While “Title View” screen is displayed Press [**▲**, **▼**] to select the title and press [OPTION].
- 2 Press [**▲**, **▼**] to select “Chapter View” and press [OK].



Properties: To display the title properties (recording date, etc.)

To picture: Playing still pictures (⇒ 24)

To exit the screen

Press [OPTION].

- 3 Press [**◀**, **▶**] to select the chapter and press [OK].

DIVS



Enjoying surround sound effect

You can enjoy surround sound effect similar to 5.1ch (Dolby Digital or DTS) with any audio source, using the included front speakers and the subwoofer.

Press [**DIVS**].

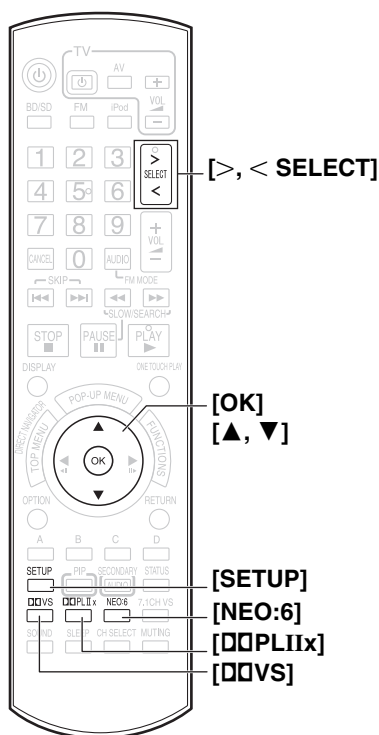
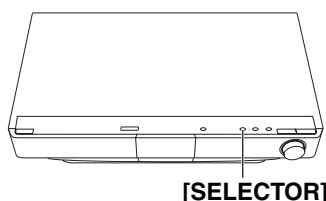
If you have a 5.1ch/7.1ch speaker system (⇒ 4):

- To enjoy stereo sources in surround sound with Dolby Pro Logic II/Dolby Pro Logic IIX Press [**DPLIIX**].
- To enjoy stereo sources in surround sound with DTS NEO:6 Press [**NEO:6**].

For more detailed information on this operation, please refer to the “Enjoying surround sound” section on page 29.

Enjoying TV with this unit's speakers

You can enjoy TV broadcasts with this unit's speakers.



Preparation

Confirm the audio connection to the OPTICAL IN or AUX terminal on this unit (⇒ 7).

- 1 Press [**>, < SELECT**] several times to select “**D-IN***” (DIGITAL IN) or “**AUX***”.

This unit: Press [SELECTOR].

- **D-IN (DIGITAL IN):** When connecting using OPTICAL IN terminal.
- **AUX:** When connecting using AUX terminal.

*“(TV)” is displayed next to items set for TV SOUND input. (⇒ 30, Setting the TV audio for VIERA Link “HDAVI Control”)

- When the system is connected to an HDAVI Control 2 or HDAVI Control 3-compatible TV via an HDMI cable, TV broadcast audio is output through the system speakers if the TV input is switched to TV tuner mode. See “Setting the TV audio for VIERA Link “HDAVI Control” on page 30 for setting method.
- Reduce the volume on the TV to its minimum, and then adjust the volume of this unit.

Enjoying TV sound in surround sound

You can enhance stereo sources with surround sound effect.

Press [**DQVS**] to turn on Dolby Virtual Speaker.

If you have a 5.1ch/7.1ch speaker system (⇒ 4):

To enjoy in surround sound with Dolby Pro Logic II/Dolby Pro Logic IIx Press [**DOLBIIx**].

To enjoy in surround sound with DTS NEO:6

Press [**NEO:6**].

For more detailed information on this operation, please refer to the “Enjoying surround sound” section on page 29.

Making settings for digital audio input

Select to suit the type of audio from the OPTICAL IN terminal on this unit.

- 1 Press [**>, < SELECT**] several times to select “**D-IN**” (DIGITAL IN).
This unit: Press [SELECTOR].
- 2 Press [SETUP].
- 3 Press [**▲, ▼**] to select “**DUAL**”, “**DRC**”, “**PCM FIX**” or “**TV SOUND**” and press [OK].
- 4 While the selected mode is displayed Press [**▲, ▼**] to make the setting.

DUAL mode (Only works with Dolby Dual Mono)

M1

M2

M1+M2 (stereo audio)

- If this is set to “M1” or to “M2”, the PCM FIX modes (⇒ below) will automatically be set to “OFF”.

DRC (Dynamic Range Compression)

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)

OFF

PCM FIX modes

ON: Select when receiving only PCM signals.

OFF: Select when receiving Dolby Digital and PCM signals.

- If this is set to “ON”, the DUAL mode (⇒ above) will automatically be set to “M1+M2”.

TV SOUND modes

AUX: Select when receiving analogue sound from the AUX terminal.

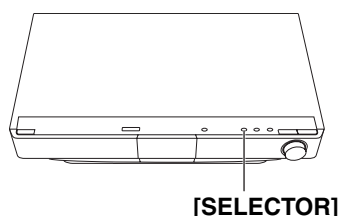
D-IN: Select when receiving digital sound from the OPTICAL IN (TV) terminal.

- Audio that is input through the OPTICAL IN terminal cannot be output through the HDMI terminal.

Playing music

CD MP3

You can play generally available music CD or MP3 files recorded onto a CD-R/RW.



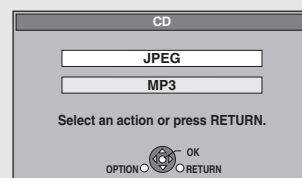
[SELECTOR]

1 Insert a disc (⇒ 16).



TIPS

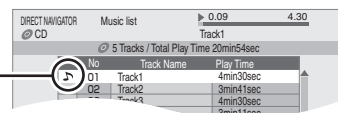
- If a disc containing data in different file formats is inserted, the file selection menu may be displayed. Press [▲, ▼] to select “MP3” and press [OK].
- If the menu is not displayed, press [BD/SD] to select “BD/DVD/CD”. This unit: Press [SELECTOR].



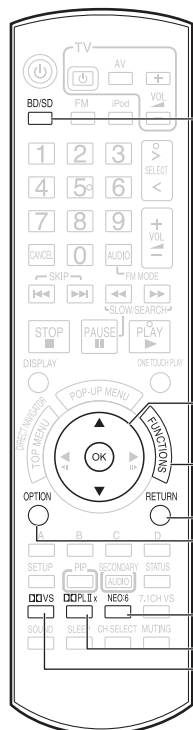
2 Press [▲, ▼] to select the track and press [OK].

Play starts on the selected track.

e.g., **CD**



“ ” indicates the track currently playing.



[BD/SD]

[OK]
[▲, ▼]

[FUNCTIONS]

[RETURN]
[OPTION]

[NEO:6]
[DOLBIIx]
[DVS]

Enjoying music in surround sound

You can enhance stereo sources with surround sound effect.

Press [DVS] to turn on Dolby Virtual Speaker.

If you have a 5.1ch/7.1ch speaker system (⇒ 4):

To enjoy music in surround sound with Dolby Pro Logic II/Dolby Pro Logic IIX Press [DOLBIIx].

To enjoy music in surround sound with DTS NEO:6

Press [NEO:6].

For more detailed information on this operation, please refer to the “Enjoying surround sound” section on page 29.

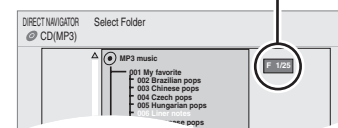
Playing a track in another folder (MP3 only)

1 While the “Music list” is displayed

Press [OPTION], press [▲, ▼] to select “Select Folder” and press [OK].

Selected folder No. /Total folders

If the folder has no track, “—” is displayed as folder number.



2 Press [▲, ▼] to select a folder and press [OK].

The “Music list” for the folder appears.

- You cannot select folders that contain no compatible tracks.

Playing music continuously even after turning off power to the TV

When the unit is connected to a Panasonic TV (VIERA) that supports HDAVI Control, the power of the unit is turned off if the power to the TV is turned off, since “Power off link” (⇒ 30) operates.

When the system is connected to an HDAVI Control 2 or HDAVI Control 3-compatible TV via an HDMI cable

The following operations make it possible to keep the power of the unit ON and to play music continuously.

1 While playing music

Press [OPTION].

2 Press [▲, ▼] to select “TV Power” and press [OK].



TIPS

• To return to the previous screen

Press [RETURN].

• Discs containing data in different file formats.

To switch from the JPEG or DivX menu to MP3 menu, perform steps below.

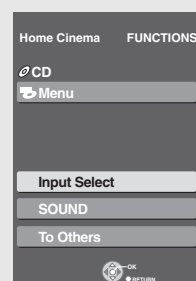
1 Press [FUNCTIONS].

2 Press [▲, ▼] to select “Menu” and press [OK].

3 Press [▲, ▼] to select “MP3” and press [OK].

• You can use search and skip functions. (⇒ 17)

• When the “Screen Saver Function” is set to “On” (⇒ 35), the screen switches to screen saver mode if there is no operation for 10 minutes after starting playback. (Playback continues.)

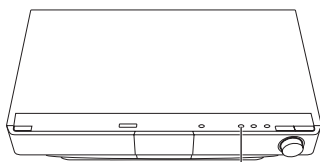


Playing DivX videos

Continental Europe only

DivX

You can play DVD-R, DVD-R DL and CD-R/CD-RW discs which contain DivX video contents that have been recorded on a computer.



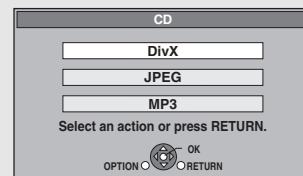
[SELECTOR]

1 Insert a disc (⇒ 16).



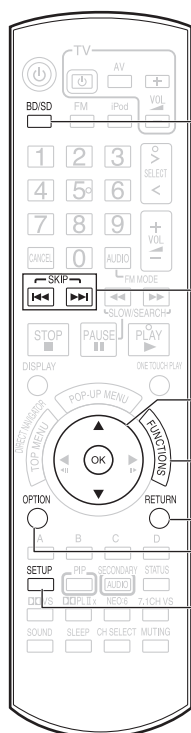
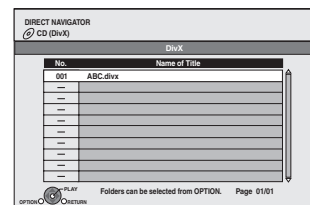
TIPS

- If a disc containing data in different file formats is inserted, the file selection menu may be displayed. Press [▲, ▼] to select “DivX” and press [OK].
- If the menu is not displayed, press [BD/SD] to select “BD/DVD/CD”. This unit: Press [SELECTOR].



2 Press [▲, ▼] to select the title and press [OK].

Play starts on the selected title.



[BD/SD]

[◀◀, ▶▶]

[OK]

[▲, ▼]

[FUNCTIONS]

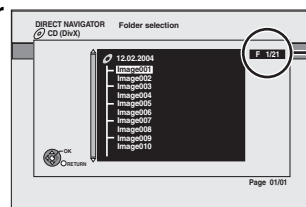
[RETURN]

[OPTION]

[SETUP]

Playing a title in another folder

- 1 While the “DIRECT NAVIGATOR” is displayed Press [OPTION], and then [▲, ▼] to select “Folder” and press [OK].



Selected folder No. /Total folders

If the folder has no title, “—” is displayed as folder number.

- 2 Press [▲, ▼] to select a folder and press [OK].

The “DIRECT NAVIGATOR” for the folder appears.

Displaying subtitle text (⇒ 32, Subtitle)

You can display subtitles text onto the DivX video disc on this unit. This function has no relation to the subtitles specified in DivX standard specifications and has no clear standard. Depending on the methods used to create the file, the following functions may not work.

DivX video files that do not display “Text” do not contain subtitles text. Subtitles text cannot be displayed.

Subtitles text language settings

If the subtitles text are not displayed correctly, try changing the language settings.

After playing back a DivX video file containing subtitles text

While stopped

- 1 Press [SETUP].
- 2 Press [▲, ▼] to select “Disc” and press [OK].
- 3 Press [▲, ▼] to select “DivX Subtitle Text” and press [OK].
- 4 Press [▲, ▼] to select “Latin 1”, “Latin 2”, or “Cyrillic” then press [OK].

To exit the screen

Press [SETUP].



NOTE

•To return to the previous screen

Press [RETURN].

- The picture sizes set for recording may prevent the unit from showing pictures in the proper aspect. You may be able to adjust the aspect through the TV.
- Successive play is not possible.



TIPS

CD-R/RW (Discs containing data in different file formats)

To switch from the JPEG or MP3 menu to DivX menu, perform steps below.

- 1 Press [FUNCTIONS].
 - 2 Press [▲, ▼] to select “Menu” and press [OK].
 - 3 Press [▲, ▼] to select “DivX” and press [OK].
- You can use search and skip functions. (⇒ 17)
 - Press [◀◀, ▶▶] to show other pages.

About MP3/JPEG/DivX files (⇒ 43)

Playing an iPod on this unit

iPod videos/photos can be displayed on TV, and iPod music can be enjoyed through the system speakers, by connecting your iPod to the Dock for iPod on this unit.

Connection

Preparation

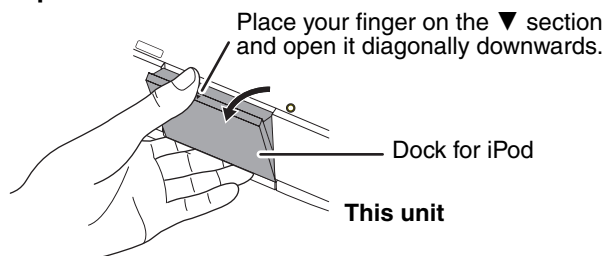
●To view videos/photos from the iPod.

- Ensure the video connection to the VIDEO OUT terminal on this unit (⇒ 7).
- Operate the iPod menu to make the appropriate video/photo output settings for your TV. (Refer to the operating instructions of your iPod.)

●To display the picture, turn on the TV and select the appropriate video input mode.

●Before connecting/disconnecting the iPod, turn this unit off or reduce the volume of this unit to its minimum.

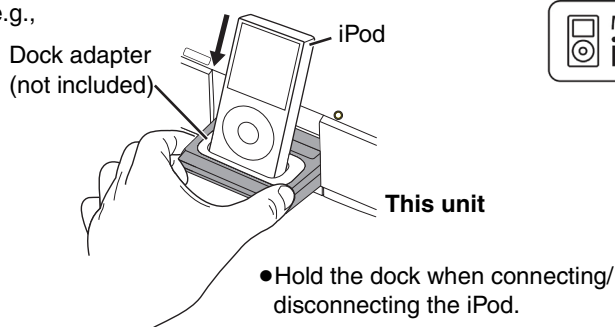
1 Open the Dock for iPod.



2 Connect the iPod (not included) firmly.

Recharging starts when the iPod is inserted.

e.g.,



About dock adapter

- Attach the dock adapter which should be supplied with your iPod to the dock for the stable use of the iPod. If you need an adapter, consult your iPod dealer.

About recharging the battery

- iPod will start recharging regardless of whether this unit is on or off.
- “IPOD *” will be shown on this unit's display during iPod charging in this unit standby mode.
- Check iPod to see if the battery is fully recharged.
- If you are not using iPod for an extended period of time after recharging has completed, disconnect it from this unit, as the battery will be depleted naturally. (Once fully recharged, additional recharging will not occur.)

Compatible iPod

Name	Memory size
iPod touch	8 GB, 16 GB
iPod nano 3rd generation (video)	4 GB, 8 GB
iPod classic	80 GB, 160 GB
iPod nano 2nd generation (aluminum)	2 GB, 4 GB, 8 GB
iPod 5th generation (video)	60 GB, 80 GB
iPod 5th generation (video)	30 GB
iPod nano 1st generation	1 GB, 2 GB, 4 GB
iPod 4th generation (color display)	40 GB, 60 GB
iPod 4th generation (color display)	20 GB, 30 GB
iPod 4th generation	40 GB
iPod 4th generation	20 GB
iPod mini	4 GB, 6 GB



- Compatibility depends on the software version of your iPod.
- Audio/video cannot be recorded or transmitted to iPods via this system.
- Panasonic makes no warranty over iPod data management.
- For more information, refer to the operating instructions for iPod.
- The contents of the operating instructions and those displayed on iPod may differ partially, but this will not fundamentally affect use of music playback.

Playback

This system features two different iPod playback modes.

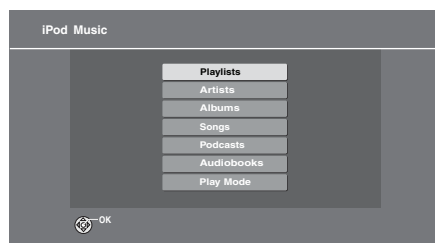
The first of these is EXTENDED mode, for playback of music contents. With this mode, the menu screen on the system can be used to search for playlists and artist names, and to play music. The second mode is SIMPLE mode, which can be used for playback of three types of contents – music, photos, and videos. With this mode, simple operations such as play, stop, and search can be performed on the display of your iPod.

Enjoy music (EXTENDED mode)

1 Press [iPod] to select “IPOD”.

The iPod automatically switches to this unit's display mode. iPod Music menu appears on the TV.

- If the menu screen is not displayed, press [SETUP].

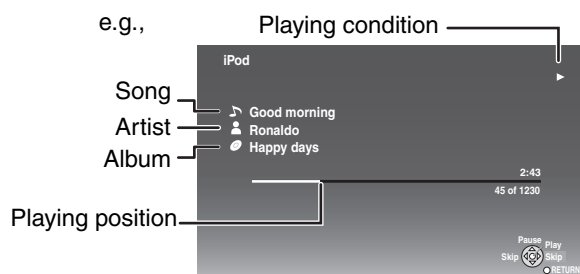


Items	Selection/playback method
Playlists	Search from all playlists.
Artists	Search by artist name.
Albums	Search by album title.
Songs	Search from all songs registered on iPod.
Podcasts	Search by episode for radio programs downloaded from iTunes store.
Audiobooks	Search by title from audiobooks purchased from iTunes store or audible.com.
Play Mode*	Shuffle • Off: Cancel • Songs: Play all songs on iPod in random order. • Albums: Play all songs on album in random order. “” is displayed on the unit's display when “Songs” or “Albums” is selected. Repeat • Off: Cancel • One: Play single song repeatedly. • All: Play all songs from selected item (e.g., Playlists, Albums, etc.) repeatedly. “” is displayed on the unit's display when “One” or “All” is selected.

* **Playback modes during connection/when disconnected**
System may be operated in same playback mode as set with iPod when connected. Playback may also be continued on iPod with same settings as made on system after disconnection.

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

- Play will start from the selected song if this operation is repeated several times.
- Press [RETURN] to return to the previous screen.



Clear/display iPod Music menu during playback.
Press [TOP MENU].

Enjoy videos/photos (SIMPLE mode)

- You can also play music using SIMPLE mode

1 Press [iPod] to select “IPOD”.

2 Press [SETUP] to switch the iPod to its own display mode.

Proceed operations through display of iPod.

- If the iPod Music menu (⇒ left) is displayed, press [SETUP]. “SIMPLE” will be shown on this unit's display.

3 Switch the TV input to video in.

4 Play a slideshow or video on your iPod.

The picture will be displayed on your TV.

You can also use the remote control to operate iPod menu.

- [▲, ▼]: To navigate menu items
- [OK]: To go to the next menu
- [RETURN]: To return to the previous menu

Basic controls (For music and videos only)

Buttons	Functions
[▶ PLAY]	Play
[■ STOP]	Pause
[PAUSE]	• Press [▶ PLAY] to restart play. • Playback start position may not be stored in memory in certain cases.
[◀◀, ▶▶]	Skip
(Press and hold) [◀◀, ▶▶]	Search

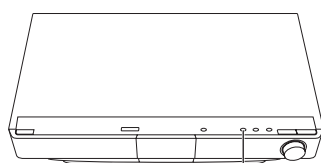
- Use the controls on the iPod unit during photo playback.

Surround sound effect is available (⇒ 29).

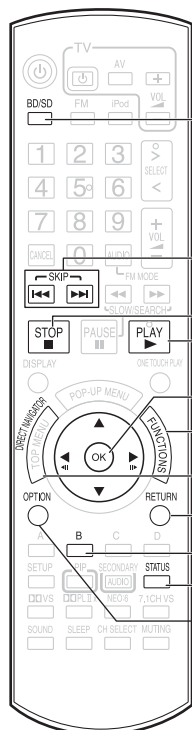
Playing still pictures

JPEG

You can play still pictures recorded onto a BD-RE, DVD-RAM, CD-R/RW and SD card.



[SELECTOR]



[BD/SD]

[◀◀, ▶▶]

[■ STOP]

[▶ PLAY]

[OK]

[▲, ▼, ◀, ▶]

[FUNCTIONS]

[DIRECT NAVIGATOR]

[RETURN]

[B]

[STATUS]

[OPTION]

1 Insert a disc or an SD card (⇒ 16).



TIPS

- If a disc or an SD card containing data in different file formats is inserted, the file selection menu may be displayed.

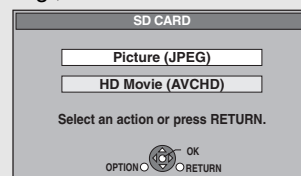
SD card:

Press [▲, ▼] to select "Picture (JPEG)" and press [OK].

CD-R/RW:

Press [▲, ▼] to select "JPEG" and press [OK].

e.g., SD card

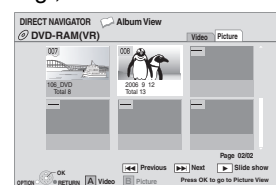


BD-RE, DVD-RAM

"Album View" screen is displayed.

- When the "Title View" screen is displayed, press the [B] button to switch to the "Album View" screen.

e.g., DVD-RAM

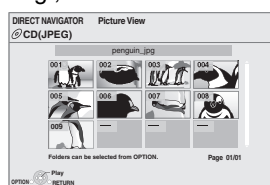


CD-R/RW, SD Card

"Picture View" screen is displayed.

⇒ Go to step 3

e.g., CD



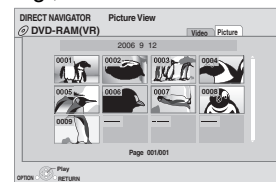
- If the menu is not displayed, press [BD/SD] to select "BD/DVD/CD" or "SD". This unit: Press [SELECTOR].
- To show other pages Press [◀◀, ▶▶].

2 Press [▲, ▼, ◀, ▶] to select the album and press [OK].

3 Press [▲, ▼, ◀, ▶] to select the still picture and press [OK].

- Small-sized still pictures are displayed with a frame.
- To display the previous or next still picture Press [◀, ▶].

e.g.,



TIPS

CD-R/RW

Discs containing data in different file formats. To switch from the MP3 or Divx menu to JPEG menu, perform steps below.

- 1 Press [FUNCTIONS].
- 2 Press [▲, ▼] to select "Menu" and press [OK].
- 3 Press [▲, ▼] to select "JPEG" and press [OK].



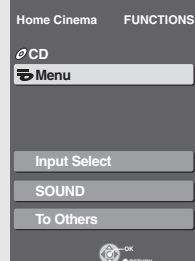
NOTE

To return to the previous screen

Press [RETURN].

To exit the screen

Press [DIRECT NAVIGATOR].



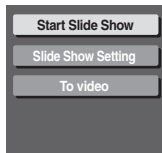
Start Slide Show

You can display still pictures one by one at a constant interval.

BD-RE, DVD-RAM

- While the "Album View" screen is displayed
Press [▲, ▼, ◀, ▶] to select the album and press [OPTION].
- Press [▲, ▼] to select "Start Slide Show" and press [OK].

e.g., DVD-RAM



- You can also start slide show by pressing [▶ PLAY] after selecting the album.

CD-R/RW, SD card

- While the "Picture View" screen is displayed
Press [OPTION].
- Press [▲, ▼] to select "Start Slide Show" and press [OK].

To stop slide show

Press [■ STOP].

Slide show with music

SD card only

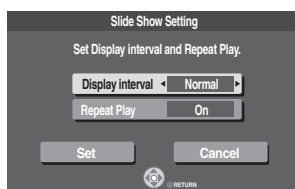
If a music CD is inserted in the disc tray while playing slide shows, the music CD starts playing automatically as background music.

- You cannot search or skip on a music CD.
- When the slide show stops, playback of the music CD also stops.

Slide Show Setting

In step ② in "Start Slide Show" above,

- Press [▲, ▼] to select "Slide Show Setting" and press [OK].



② To change the display interval

- Press [▲, ▼] to select "Display interval" and press [◀, ▶] to select the interval ("Long", "Short" or "Normal").
- When a still picture with large number of pixels is played, the display interval may become longer. Even if the setting is changed, the display interval may not become shorter.

To repeat slide show

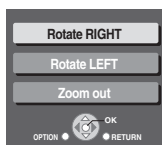
Press [▲, ▼] to select "Repeat Play" and press [◀, ▶] to select "On" or "Off".

- Press [▲, ▼, ◀, ▶] to select "Set" and press [OK].

Rotate

- While playing (except for slideshow)
Press [OPTION].
- Press [▲, ▼] to select "Rotate RIGHT" or "Rotate LEFT" and press [OK].

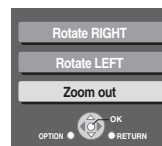
- The rotation information will be stored until the unit is turned off or the media is removed.



Zoom out

This function is only available for small-sized still pictures.

- While playing (except for slide shows)
Press [OPTION].
 - Press [▲, ▼] to select "Zoom out" and press [OK].
- To cancel "Zoom out", press [▲, ▼] to select "Zoom in" in step ② and press [OK].
 - The zoom-out information will not be stored.



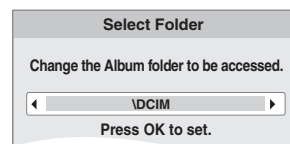
To select the still pictures in another folder

BD-RE, DVD-RAM

To switch to another higher folder

(Only if there is a multiple number of higher folders recognizable)

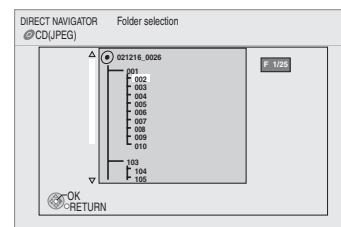
- While the "Album View" screen is displayed
Press [OPTION].
- Press [▲, ▼] to select "Select Folder" and press [OK].



- Press [◀, ▶] to select the higher folder and press [OK].

CD-R/RW

- While the "Picture View" screen is displayed
Press [OPTION].
- Press [▲, ▼] to select "Folder" and press [OK].
- Press [▲, ▼] to select a folder and press [OK].
The "Picture View" screen for the folder appears.



To show the picture properties

While playing
Press [STATUS] twice.

e.g., JPEG on DVD-RAM
Shooting date

Folder - picture No.	102 - 0001
Date	11.12.2007
Total	3/9

To exit, press [STATUS].

Different kinds of playback for BD-Video

BD-V

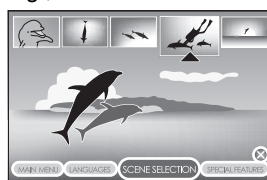
Some discs permit a variety of interactive functions in addition to the ordinary playback operation.

Showing Pop-up menu

The Pop-up menu is a special feature available with some BD-Video discs. This menu may vary with discs. For the operating method, refer to the instructions for the disc.

- 1 Press [POP-UP MENU].
- 2 Press [▲, ▼, ◀, ▶] to select the item and press [OK].

e.g.,



TIPS

- Pop-up menu also appears by pressing [OPTION] and selecting “Pop-up Menu”.

To exit the screen

- Press [POP-UP MENU].

- The BONUSVIEW [“Picture-in-picture”, “Virtual package” (⇒ below), etc.] is a new playback function of BD-Video. Contents of playback and the operating method may vary with the disc. For details, refer to the instructions for the disc.

Playing secondary video (picture-in-picture) and secondary audio

Secondary video can be played from a disc compatible with the picture-in-picture function.
For the playback method, refer to the instructions for the disc.

To turn on/off secondary video Press [PIP].

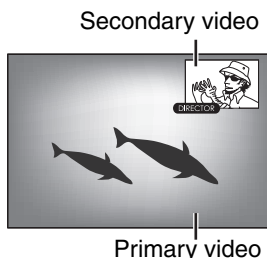
Secondary video is played.

- “PIP ON” is displayed.
- Press the button to turn it ON and OFF.

To turn on/off audio with the secondary video Press [SECONDARY AUDIO].

The secondary audio is played.

- “Secondary Audio ON” is displayed.
- Press the button to turn it ON and OFF.



NOTE

- Only the primary video is played during search/slow-motion or frame-by-frame.
- Frame-by-frame is not available for some BD-Video discs that contain picture-in-picture function.
- When “BD-Video Secondary Audio” in “Sound” menu is set to “Off”, secondary audio will not be played even if [SECONDARY AUDIO] is pressed. Please check that “BD-Video Secondary Audio” is set to “On” (⇒ 35).

Virtual package

For a disc compatible with the virtual package (⇒ 44), data is copied to other media (⇒ 44, Local storage) from the disc to use the different functions while playing the data.

For this unit, data is copied to an SD card.

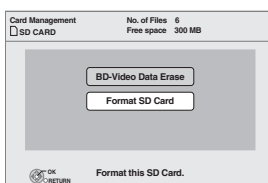
The methods for copy and playback and the required available capacity on the card may vary with the disc. For details, refer to the instructions for the disc.

To use the above functions, it is recommended that you format the card on this unit.

Format the card using the following procedures. BD-Video data, such as secondary video recorded on the card, can also be erased with the following procedures.

■ Formatting SD cards/Deleting data

- 1 Insert an SD card (⇒ 16).
- 2 Press [FUNCTIONS].
- 3 Press [▲, ▼] to select “To Others” and press [OK].
- 4 Press [▲, ▼] to select “Card Management” and press [OK].
- 5 Press [▲, ▼] to select “BD-Video Data Erase” or “Format SD Card” and press [OK].
- 6 Press [◀, ▶] to select “Yes” and press [OK].
- 7 Press [◀, ▶] to select “Start” and press [OK].



NOTE

- If the SD card is removed from this unit when using data that was copied with the virtual package function, disc playback stops.
- Images and audio may freeze momentarily during playback.
- Data cannot be copied in the following cases.
 - The card is protected.
 - Available capacity on the card is too small. Delete unnecessary data or use a new card.
- When the function fails to work properly, even if the data is copied, format the card again with this unit. (In this case, all data will be erased.)



TIPS

- If an SD card with files in different formats is used, images and audio may not play back properly. It is recommended that you use an SD card with no data or an SD card formatted on this unit.



NOTE

- It is impossible to restore data after formatting the card or erasing the data. Once a card is formatted, all data including those recorded on the PC is erased as well, even if the data were protected with other equipment. Confirm whether the card can be formatted.

Showing FUNCTIONS menu

Some functions of this unit can be operated from the FUNCTIONS menu.

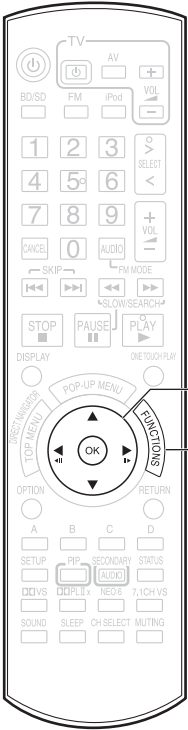
- 1

Press [FUNCTIONS].

•Items displayed vary according to the chosen selector and media.
- 2

Press [**▲**, **▼**] to select the item and press [OK].

e.g., **DVD-V**



Items	Functions
Playback Disc Playback	Starts playing disc/SD Card.
Top Menu	Shows a disc top menu.
Menu	Shows a disc menu. To play AVCHD (⇒ 16) To play MP3 (⇒ 20) To play JPEG (⇒ 24) To play DivX (⇒ 21)
Music	Select to play Music on iPod ⇒ 23, Step 2 in “Enjoy music (EXTENDED mode)”
Videos/ Photos	Select to play Videos/Photos on iPod ⇒ 23, Step 3 in “Enjoy videos/photos (SIMPLE mode)”
Input Select	Select the source. e.g., DVD-V Home CinemaFUNCTIONS Input Select DVD-Video BD/DVD/CD SD CARD FM iPod Digital in AUX (TV) BD/DVD/CD: To play BD-Video, DVD-Video, AVCHD (⇒ 16) To play CD, MP3 (⇒ 20) SD CARD: To play AVCHD (⇒ 16) To play JPEG (⇒ 24) FM: To enjoy the FM radio (⇒ 11) iPod: To play iPod Press [▲, ▼] to select “Music” or “Videos/Photos” and press [OK]. •Music: ⇒ 23, Step 2 in “Enjoy music (EXTENDED mode)” •Videos/Photos: ⇒ 23, Step 3 in “Enjoy videos/photos (SIMPLE mode)” Digital in*: To enjoy TV broadcasts with this unit’s speakers (⇒ 19) AUX (TV)*: To enjoy TV broadcasts with this unit’s speakers (⇒ 19) *“(TV)” is displayed next to items set for TV SOUND input. (⇒ 30, Setting the TV audio for VIERA Link “HDAVI Control”)
Sound	Select the equalizer function (⇒ 28)
To Others	Setup: You can change the unit’s settings using Setup menu (⇒ 34). Card Management: Formatting SD cards/Deleting data (⇒ 26) Playlists: You can play playlists created on DVD-VR. Press [▲ , ▼ , ◀ , ▶] to select the playlist and press [OK].

Changing audio quality/sound field

- The following sound effects may not be available or have no effect with some sources, or when headphones are used (⇒ 16).
- 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.

Using Subwoofer boost

This unit only

You can enhance the subwoofer effect with strong bass.

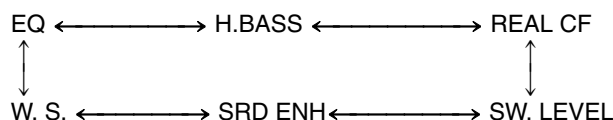
Press [SW BOOST] on this unit.

- The SW BOOST indicator lights when Subwoofer Boost is turned on.

Setting the sound effects

① Press [SOUND].

② Press [▲, ▼] and select item for setting.



③ Press [OK].

Equalizer (EQ)

You can select sound quality settings.

④ Press [▲, ▼] to select the item.

Each time you press the button:

HEAVY: Adds punch to rock.

CLEAR: Clarifies higher sounds.

SOFT: For background music.

FLAT: Cancel (no effect is added).

Enhancing the bass sound (H.BASS)

You can enhance low-frequency sound so that heavy bass sound can be heard clearly.

④ Press [▲, ▼] to select “ON” or “OFF”.

Real Centre Focus (REAL CF)

You can make the sound of the centre speaker seem like it is coming from within the TV.

④ Press [▲, ▼] to select “ON” or “OFF”.

- This function is effective when playing audio containing centre channel sound or when Dolby Pro Logic IIX/Dolby Pro Logic II or DTS NEO:6 is on.

Adjusting the subwoofer level (SW. LEVEL)

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

④ Press [▲, ▼] to select the item.

SUB W 1: Weakest effect

SUB W 2: Middle effect

SUB W 3: Strongest effect

Surround Enhancer (SRD ENH)

This function automatically makes speaker adjustment to enhance the surround sound effect.

④ Press [▲, ▼] to select “ON” or “OFF”.

- This function is effective when playing audio containing surround channel sound or when Dolby Pro Logic IIX/Dolby Pro Logic II or DTS NEO:6 is on.

This function is effective only when 5.1ch or 7.1ch speaker system is used.

Using Whisper-mode Surround (W. S.)

You can enhance the surround effect for low volume 5.1ch or 7.1ch sound. (Convenient for late night viewing.)

④ Press [▲, ▼] to select “ON” or “OFF”.

- This function is effective when playing audio containing surround channel sound or when Dolby Pro Logic IIX/Dolby Pro Logic II or DTS NEO:6 is on.

This function is effective only when 5.1ch or 7.1ch speaker system is used.

Adjusting speaker level during play

This function is effective only when 5.1ch or 7.1ch speaker system is used.

① Press [CH SELECT] to select the speaker.

Each time you press the button:

L R → C → RS → RB → LB → LS → SW

L R: Front speaker (left and right)

C: Centre speaker

RS: Surround speaker (right)

RB: Surround back speaker (right)

LB: Surround back speaker (left)

LS: Surround speaker (left)

SW: Subwoofer

- Speakers with settings (⇒ 35, Speaker) set to “□” will not be displayed.

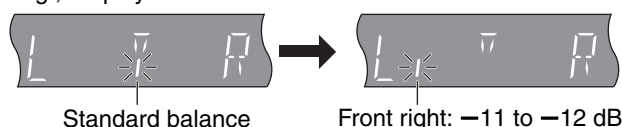
- The channels not included in the playing audio will not be displayed (subwoofer is displayed even if not included).

Adjusting the balance of the front speakers

(When “L R” selected)

② Press [◀, ▶] to adjust the balance of the front speakers.

e.g., Display



Adjusting the speaker level

(When other option selected)

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

C, SW: +6 dB to -6 dB

RS, RB, LB, LS: +10 dB to -10 dB

e.g., Subwoofer



Enjoying surround sound

- The following sound effects may not be available or have no effect with some sources, or when headphones are used (⇒ 16).
- 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.

Dolby Virtual Speaker

You can enjoy surround sound effect similar to 5.1ch (Dolby Digital or DTS) with any audio source, using the included front speakers and the subwoofer.

Press [DOLBVS].

Each time you press the button:

REFERENCE: Standard mode

WIDE: Wide mode (Widens the acoustic field of the front speakers. This has a good effect when there is little space between the speakers.)

OFF: Cancel (no effect is added)

- Dolby Virtual Speaker is not available and "ERROR" is displayed when the selector is set to "BD/DVD/CD" and the audio source currently playing is in the 3.1 ch, 3 ch, 1.1 ch or 1 ch.
- "[DOLPLI]" lights when Dolby Virtual Speaker is turned on and the play source is 2 ch.

Dolby Pro Logic IIX/Dolby Pro Logic II

[Extra speakers are necessary (⇒ 4, Enjoying 5.1ch/7.1ch surround sound)]

When 5.1ch speakers connected

Dolby Pro Logic II will be used. The technology enables you to play 2ch stereo sources on 5.1ch.

When 7.1ch speakers connected

Dolby Pro Logic IIX will be used. The technology enables you to play 2ch stereo or 5.1ch sources on 7.1-channels (sounds assigned to surround back channels become stereo in playback).

The technology also makes surround back channels available for the playback of Dolby Digital Surround EX sources (sounds assigned to surround back channels become monaural in playback).

Press [DOLPLIIX].

Each time you press the button:

MOVIE: This mode produces good effects when you play commercial film titles in the Dolby Surround format.

MUSIC: This mode produces good effects when you play music.

EX: This mode produces good effects when you play commercial film titles recorded in the Dolby Digital Surround EX format.

OFF: Cancel (no effect is added)

- "EX" may only be selected when speaker setting (⇒ 35, Speaker) is set to 7.1ch.
- You cannot select "EX" when playing 2ch stereo sources.
- You cannot use this function when playing titles recorded in the DTS-ES format.

DTS NEO:6

[Extra speakers are necessary (⇒ 4, Enjoying 5.1ch/7.1ch surround sound)]

When 5.1ch speakers connected

The technology enables you to play 2ch stereo sources on 5.1ch.

When 7.1ch speakers connected

The technology enables you to play 2ch stereo or 5.1ch sources on 6.1 channels.

Press [NEO:6].

Each time you press the button:

CINEMA: This mode produces good effects when playing movies.

MUSIC: This mode produces good effects when playing music.

OFF: Cancel (no effect is added)

- The "CINEMA" mode is available for 2ch stereo Dolby Digital and DTS sources containing surround data. The "MUSIC" mode is available for the same sources containing no surround data.
- You cannot use this function when playing titles recorded in the DTS-ES format.

7.1ch Virtual Surround

[Extra speakers are necessary (⇒ 4, Enjoying 5.1ch/7.1ch surround sound)]

You can enjoy 7.1ch surround-like effect using 5.1ch speakers. This function is effective only when playing 6ch sources or above and speaker setting (⇒ 35, Speaker) is set to 5.1ch.

Press [7.1CH VS].

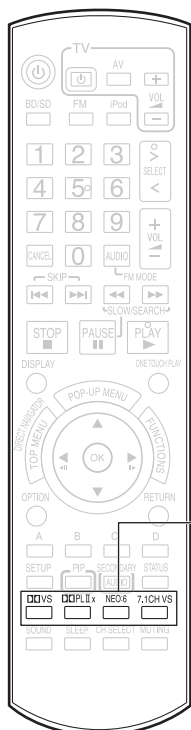
Each time you press the button:

7.1CH VS SIDE-SP: Effective when surround speakers are placed either side of the seat position.

7.1CH VS REAR-SP: Effective when surround speakers are placed behind the seat position.

7.1CH VS OFF: Cancel (no effect is added)

- You cannot use this function when playing titles recorded in the Dolby Digital Surround EX format.
- These functions only work during playback through system speakers.



[DOLBVS]
[DOLPLIIX]
[NEO:6]
[7.1CH VS]

Linked operations with the TV

(VIERA Link “HDAVI Control™”)

What is VIERA Link “HDAVI Control”?

VIERA Link “HDAVI Control” is a convenient function that offers linked operations of this unit, and a Panasonic TV (VIERA) under “HDAVI Control”. You can use this function by connecting the equipment with an HDMI cable. See the operating instructions for connected equipment for operational details.

Preparation

- 1 Confirm that the HDMI connection has been made (⇒ 7).
- 2 Set “VIERA Link” to “On” (⇒ 36).
- 3 To complete and activate the connection correctly, turn on all VIERA Link “HDAVI Control” compatible equipment and set the TV to the corresponding HDMI input mode for this unit.

Setting the TV audio for VIERA Link “HDAVI Control”

Select between “AUX” and “D-IN” to work with the linked operations. Confirm the audio connection to the AUX terminal (for “AUX”) or OPTICAL IN terminal (for “D-IN”) (⇒ 7).

- 1 Press [>, < SELECT] to select “AUX” or “D-IN”.
- 2 Press [SETUP].
- 3 (when “D-IN” is selected) Press [▲, ▼] to select “TV SOUND”.
- 4 Press [OK].
- 5 Press [▲, ▼] to switch “AUX” or “D-IN” and press [OK].

Whenever the connection or settings are changed, reconfirm the points above.



NOTE

●VIERA Link “HDAVI Control”, based on the control functions provided by HDMI which is an industry standard known as HDMI CEC (Consumer Electronics Control), is a unique function that we have developed and added. As such, its operation with other manufacturers’ equipment that supports HDMI CEC cannot be guaranteed.

●This unit supports “HDAVI Control 3” function.

“HDAVI Control 3” is the newest standard (current as of December, 2007) for Panasonic’s HDAVI Control compatible equipment. This standard is compatible with Panasonic’s conventional HDAVI equipment.

●Please refer to individual manuals for other manufacturers’ equipment supporting VIERA Link function.

●It is recommended that you use Panasonic’s HDMI cable.

Recommended part number:

RP-CDHG10 (1.0 m), RP-CDHG15 (1.5 m), RP-CDHG20 (2.0 m), RP-CDHG30 (3.0 m), RP-CDHG50 (5.0 m), etc.

●Non-HDMI-compliant cables cannot be utilized.

What you can do with “HDAVI Control”

One touch play

You can turn on this unit and TV, and start playing with a single press of a button.

Press [ONE TOUCH PLAY].

This unit’s speakers will be automatically activated (⇒ right, Speaker control).

- This function also works if you press [▶ PLAY] on this unit’s remote control when this unit is in standby mode.
- Playback may not be immediately displayed on the TV. If you miss the beginning portion of playback, press [◀◀] or [◀] to go back to where playback started.

Automatic input switching

- When you switch the TV input to TV tuner mode, this unit will automatically switch to “AUX”* or “D-IN”*.
[This function does not work when the iPod selector (SIMPLE mode) is chosen. (⇒ 23)]
- When you start disc play, the TV will automatically switch its input mode for this unit.
- BD-V DVD-V** When playback stops, the TV will automatically return to TV tuner mode.

Automatic lip-sync function (for HDAVI Control 3)

Delay between audio and video is automatically adjusted, enabling you to enjoy smooth audio for the picture (⇒ 36, Time Delay).

- This function works only when “BD/DVD/CD”, “SD”, “AUX”* or “D-IN”* is selected as the source on this unit.

Speaker control

You can select whether audio is output from the unit’s speakers or the TV speakers by using the TV menu settings. For details, refer to the operating instructions of your TV.

Home Cinema

This unit’s speakers are active.

- When this unit is in standby mode, changing the TV speakers to this unit’s speakers in the TV menu will automatically turn the unit on and select “AUX”* or “D-IN”* as the source.
- The TV speakers are automatically muted.
- You can control the volume setting using the volume or mute button on the TV’s remote control. (The volume level is displayed on this unit’s FL display.)
- To cancel muting, you can also use the home theater remote control (⇒ 18, Muting the sound).
- If you turn off this unit, TV speakers will be automatically activated.

TV

TV speakers are active.

- The volume of this unit is set to “0”.
– This function works only when “BD/DVD/CD”, “SD”, “AUX”* or “D-IN”* is selected as the source on the home theater system.
- Audio output is 2ch audio.

Power off link

When the TV is turned off, this unit goes into standby mode automatically.

- This function works only when “BD/DVD/CD”, “SD”, “IPOD”, “AUX”* or “D-IN”* is selected as the source on this unit.

Easy control only with VIERA remote control

If you connect this unit to a TV that has “HDAVI Control 2” or “HDAVI Control 3” function with an HDMI cable, you can operate this unit using the following buttons on the TV remote control.

[▲, ▼, ◀, ▶], [OK], [RETURN], [OPTION] and coloured buttons

Use the remote control for this unit to operate any other buttons (numbered buttons, etc.) that are not listed above.

● Refer to the TV operating instructions for operating TV.

Using the FUNCTIONS menu to operate this unit

By using the TV remote control, you can play media using the FUNCTIONS menu.

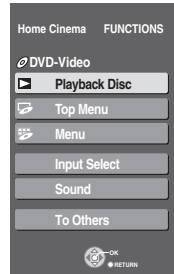
❶ Press the button for VIERA Link on the TV remote control.

❷ Select the home cinema.

- The FUNCTIONS menu is displayed.

❸ Select the desired items on the FUNCTIONS menu (⇒ 27).

e.g.,



Using the option menu to operate this unit

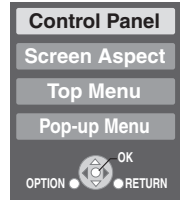
By using the TV remote control, you can play discs using the “Control Panel” and display the Top Menu (for BD-Video and DVD-Video) or Pop-up Menu (for BD-Video).

- This works only during “BD/DVD” or “SD” playback and resume modes.

❶ Press [OPTION].

- You cannot use the option menu while the Top Menu for BD-Video or DVD-Video is displayed.

e.g.,



❷ Select an item, then press [OK].

Control Panel	Control Panel is displayed. Follow the indications on the screen (⇒ below).
Screen Aspect	(⇒ 18)
Top Menu BD-V AVCHD DVD-V	Top menu is displayed.
Menu DVD-V	Menu is displayed.
Pop-up Menu BD-V AVCHD	Pop-up menu is displayed.
Rotate RIGHT JPEG	Rotate the still picture.
Rotate LEFT JPEG	
Zoom in JPEG	Enlarge or shrink the still picture.
Zoom out JPEG	

■ Using the Control Panel

You can operate the playback with the indicated controls.

e.g.,



NOTE

- Depending on the menu, some button operations cannot be performed from the TV remote control.
- You cannot input numbers with the numbered buttons on the TV remote control ([0] to [9]). Use this unit's remote control to select the playlist etc.

■ When you want to leave the TV on and set only this unit to standby mode

Press [b] on this unit's remote control and set to standby mode.

■ When not using “HDAVI Control”

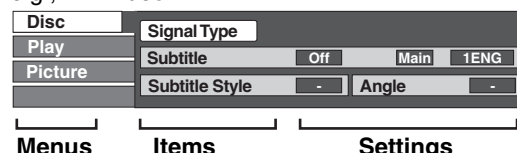
Set “VIERA Link” in the Setup menu to “Off”. (⇒ 36)

Changing settings with the on-screen menu

On-screen menu operations

- 1 Press [BD/SD] to select “BD/DVD/CD” or “SD”.
- 2 Press [DISPLAY].
- 3 Press [▲, ▼] to select the menu and press [▶].
- 4 Press [▲, ▼] to select the item and press [▶].
- 5 Press [▲, ▼] to select the setting.

e.g., BD-Video



NOTE

• Depending on the condition of the unit (playing, stopped, etc.) and disc contents, there may be some items that you cannot select or change.



TIPS

• Some items can be changed by pressing [OK].

To exit the on-screen menu
Press [DISPLAY].

What you can change with the on-screen menu

Menus	Items	Settings and details
Disc	Signal Type	BD-V •Primary Video Video: The video recording method appears. (⇒ below, Video recording method) Soundtrack: Select the type of audio or language. (⇒ below, Language, Audio attribute) •Secondary Video Video: Select on/off of images. The video recording method appears. (⇒ below, Video recording method) Soundtrack: Select on/off of audio and the language. (⇒ below, Language, Audio attribute)
	Video	AVCHD The video recording method appears. (⇒ below, Video recording method)
	Soundtrack	AVCHD DVD-V Select the type of audio or language. (⇒ below, Language, Audio attribute) DVD-VR The disc's audio attributes appear. (⇒ below, Audio attribute) DivX Select the soundtrack number. •Soundtrack numbers are displayed even when there is only one audio type.
	Subtitle	BD-V AVCHD DVD-V Turn the subtitle on/off and select the language. (⇒ below, Language) DVD-VR (Only discs that contain subtitle on/off information) Turn the subtitle on/off. DivX Turn the subtitle on/off and select the subtitle number. •Subtitle numbers are displayed even if there are not multiple subtitles.
	Subtitle Style	BD-V Select the subtitle style.
	Audio channel	DVD-VR DivX (⇒ 18, Changing audio during play)
	Angle	BD-V DVD-V Select the number of the angle.

Some items may be changed only on the disc specific menu. (⇒ 16, 26)

Language		
ENG: English	DAN: Danish	THA: Thai
FRA: French	POR: Portuguese	POL: Polish
DEU: German	RUS: Russian	CES: Czech
ITA: Italian	JPN: Japanese	SLK: Slovak
ESP: Spanish	CHI: Chinese	HUN: Hungarian
NLD: Dutch	KOR: Korean	FIN: Finnish
SVE: Swedish	MAL: Malay	*: Others
NOR: Norwegian	VIE: Vietnamese	

Audio attribute	
LPCM/□□ Digital/□□ Digital+/ □□ TrueHD/DTS/DTS-HD/MPEG	Signal type
ch (channel)	Number of channels
k (kHz)	Sampling frequency
b (bit)	Number of bits

Video recording method	
MPEG-2	This is a standard for compressing and decompressing colour motion pictures efficiently. This compression method is used for DVDs, etc.
MPEG-4 AVC VC-1	These are standards for compressing and decompressing colour motion pictures more efficiently than MPEG-2 and used for Blu-ray Discs, etc.

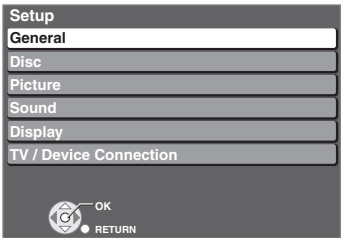
Menus	Items	Settings and details
Play	Repeat Play	(Only when the elapsed time is being displayed on the unit's display.) Selects the item which you want to repeat. The items displayed differ depending on the type of disc. •All tracks: All tracks •Chapter: Chapter •Playlists: Playlist •Title: Title •One track: Track •Off Select "Off" to cancel.
	Random	CD MP3 While playing, press [▲, ▼] to select "On". Random playback starts from the next track. •On •Off
Picture	Mode	BD-V AVCHD DVD-VR DVD-V DivX Select the picture quality mode during play. •Normal: Default setting •Soft: Soft picture with fewer video artifacts •Fine: Details are sharper •Cinema: Mellows movies, enhances detail in dark scenes. •User: You can make further adjustments. (⇒ below) ① Press [▶] to select "Picture Adjustment" and press [OK]. ② Select the item using [▲, ▼] and adjust it with [◀, ▶]. Contrast: Increases the contrast between light and dark parts of the picture (−7 to +7). Brightness: Brightens the picture (0 to +15). Sharpness: Adjusts the sharpness of the edges of the horizontal lines (−6 to +6). Colour: Adjusts the shade of the picture's colour (−7 to +7). Gamma: Adjusts the brightness of dark portions of the screen (0 to +5). 3D NR: Reduces the rough noise in the background to give a greater feeling of depth (0 to +4). When "BD-Video 24p Output" is set to "On", this function may not operate. (⇒ 36) Integrated NR: Smooths block noise and reduces the smudging that appears around contrasting sections of the picture (0 to +3).
	Progressive	If images are stretched from right to left, set to "Off". [Only when you have selected "576p/480p" in "Component Resolution" (⇒ 36)] •Depending on the type of TV used, the video may be stretched horizontally when video is output in progressive mode. When this occurs, select "Off" and the video will then be output as "576i/480i". •This setting will be fixed to "On" if you connect with an HDMI cable and set "HDMI Video Mode" to "On" (⇒ 36). •When connected to a regular TV (CRT: Cathode ray tube) or a multi-system TV using PAL mode, even if it is progressive compatible, progressive output can cause some flickering. Turn off "Progressive" if you are concerned about it.
	Transfer	[When "Progressive" (⇒ above) is set to "On".] Select the method of conversion for progressive output to suit the type of material being played (⇒ 44, Film and video). •Auto (normal): Automatically detects the film and video content, and appropriately converts it. •Video: Select when using "Auto", and the content is distorted.

Changing settings with the Setup menu

Change the unit's settings, if necessary. The settings remain intact even if you switch the unit to standby.

Setup menu operations

- 1 Press [BD/SD] to select “BD/DVD/CD” or “SD”.
- 2 While stopped
Press [SETUP].
- 3 Press [▲, ▼] to select the menu and press [OK].
- 4 Press [▲, ▼] to select the item and press [OK].
- 5 Press [▲, ▼, ◀, ▶] to select the option and press [OK].



•There may be differences in operation methods. If this happens, follow the on-screen instructions for the operation.



To return to the previous screen
Press [RETURN].
To exit the screen
Press [SETUP].

Summary of settings

Boxed items are the factory presets.

“General” menu

Remote Control (⇒ 42)	● Set Code 1 ● Set Code 2
Easy Setting You can execute basic settings (On-screen Language, TV Aspect). ●When you select “Yes”, follow the on-screen instructions.	●Yes ● No
Default Settings This returns all values in the Setup menu and the on-screen menu, except for “Remote Control”, “On-screen Language”, “DVD-Video Ratings”, “BD-Video Ratings” and “Speaker” to the default settings.	●Yes ● No
Continental Europe only	
DivX Registration You need this registration code to purchase and play DivX Video-on-Demand (VOD) content.	

“Disc” menu

DVD-Video Ratings Set a ratings level to limit DVD-Video play.	Follow the on-screen instructions. Enter a 4-digit password with the numbered buttons when the password screen is shown. It will be the common password for both “DVD-Video Ratings” and “BD-Video Ratings”. ●Do not forget your password.	● 8 No Limit : All DVD-Video can be played. ● 1 to 7: Prohibits play of DVD-Video with corresponding ratings recorded on them. ● 0 Lock All: Prohibits play of all DVD-Video.
BD-Video Ratings Set an age limit of BD-Video play.		● No Limit : All BD-Video can be played. ● 0 to 254 year(s): Prohibits play of BD-Video with corresponding ratings recorded on them.
Soundtrack Preference	Choose the language for audio, subtitle and disc menus. BD-V DVD-V	● English ● German ● French ● Italian ● Spanish ● Dutch ● Original: The original language of each disc will be selected. ● Other ****
Subtitle Preference	●Some discs start in a certain language despite any changes you make here. ●When the selected language is not available on the disc, the default language is played. There are discs where you can only switch the language from the menu screen. (⇒ 16, 26) ●Enter a code (⇒ 38) with the numbered buttons when you select “Other ****”.	● Automatic : If the language selected for “Soundtrack Preference” is not available, subtitles of that language will automatically appear if available on that disc. ● English ● German ● French ● Italian ● Spanish ● Dutch ● Other ****
Menu Preference		● English ● German ● French ● Italian ● Spanish ● Dutch ● Other ****

“Picture” menu

Still Mode BD-V AVCHD DVD-V Select the type of picture shown when you pause playback (⇒ 44, Frames and fields).	● Automatic ● Field: Select if jittering occurs when “Automatic” is selected. (The picture is coarser.) ● Frame: Select if small text or fine patterns cannot be seen clearly when “Automatic” is selected. (The picture is clearer and finer.)
Seamless Play DVD-VR Select the play mode between playlist chapter segments and partially deleted titles.	● On: The chapters in playlists are played seamlessly. This does not work while searching or when there are several audio types included on the playlist. Additionally, the positioning of chapter segments may change slightly. ● Off: The points where chapters in playlists change are played accurately, but the picture may freeze for a moment.
NTSC Contents Output Select PAL60 or NTSC output when playing NTSC discs.	● NTSC: NTSC discs are played as NTSC. ● PAL60: Select if picture is not displayed correctly when “NTSC” is selected.

“Sound” menu

Dynamic Range Compression BD-V AVCHD DVD-V DivX (Dolby Digital, Dolby Digital Plus and Dolby TrueHD only) Change the dynamic range (⇒ 44) for late night viewing.	● On ● Off
Speaker (⇒ 37) Make settings for your speakers if you have made the 5.1ch or 7.1ch speaker system. ● The settings are effective only when you have a 5.1ch or 7.1ch speaker system with the unit.	
BD-Video Secondary Audio BD-V Turn on/off the clicking sound on the menu and audio with secondary video in picture-in-picture mode. ● When this is set to “On”, Dolby TrueHD, Dolby Digital Plus, DTS-HD Master Audio and DTS-HD High Resolution Audio are output as Dolby Digital.	● On: The primary audio and secondary audio are mixed and output. The sampling frequency is converted to 48 kHz. ● Off: The clicking sound on the menu and secondary audio are not output.

“Display” menu

On-Screen Messages Choose whether to show status messages automatically.	● Automatic ● Off
On-screen Language Choose the language for these menus and on-screen messages.	● English ● Français ● Español ● Deutsch ● Italiano ● Nederlands
Screen Saver Function This is to prevent burn-in on the screen. ● When this is set to “On”, the masked-off area on the screen becomes gray. [Only when connecting with an HDMI cable or a component video cable and “HDMI Video Format” (⇒ 36) is set to any other mode than “576p/480p”, or “Component Resolution” (⇒ 36) is set to “720p” or “1080i”.]	● On: If there is no operation for 10 minutes or more, the displayed screen switches to the other states automatically. – When the Direct Navigator or FUNCTIONS menu is displayed, the display returns to the screen saver mode. – When CD or MP3 is played, the display returns to the screen saver mode. (Playback continues.) – When still pictures are shown (except for slide shows), the display returns to the Direct Navigator screen. – During FM radio broadcast reception, the display returns to the screen saver mode. (Reception continues.) ● Off
FL Display Changes the brightness of the unit’s display. ● The brightness of the volume indicator (⇒ 13) is also changed.	● Bright ● Dim: The display is dimmed. ● Automatic: The display is dimmed, but brightens when you perform some operations.
Software Licence	Information about the software used by this unit is displayed.

Changing settings with the Setup menu

Summary of settings

Boxed items are the factory presets.

“TV/Device Connection” menu

TV Aspect Set to match the type of TV connected.	When connected to a 4:3 aspect TV: ●4:3 Pan & Scan: Video recorded for a widescreen is played as Pan & Scan (unless prohibited by the producer of the disc). When playing BD-Video, video is output as “4:3 Letterbox”. ●4:3 Letterbox: Video recorded for a widescreen is played in the letterbox style. When connected to a 16:9 widescreen TV: ●16:9: Video recorded for 4:3 aspect screen is displayed as a 4:3 ratio image in the centre of the screen. ●16:9 Full: Video recorded for 4:3 aspect screen is displayed as a horizontally stretched 16:9 image.
Time Delay When connected with a Plasma display, adjust if you notice the audio is out of sync with the video.	●Auto ●0ms ●20ms ●40ms ●60ms ●80ms ●100ms ●120ms●140ms When using VIERA Link “HDAVI Control” with “HDAVI Control 3” compatible TV (⇒ 30), select “Auto”. Audio and video will automatically be set in sync. (This works only when “BD/DVD/CD”, “SD”, “AUX” or “D-IN” is selected as the source.)
HDMI Connection ●Press [OK] to show the following settings.	
HDMI Video Mode Select “On” when video is output from HDMI AV OUT terminal.	●On: Images are output from the HDMI terminal in the resolution set in “HDMI Video Format”. Video from COMPONENT VIDEO OUT terminal is output as “576i/480i”. ●Off: Images are output in the resolution set in “Component Resolution”.
HDMI Video Format The items supported by the connected devices are indicated on the screen as “*”. When any item without “*” is selected, the images may be distorted.	●Automatic: Automatically selects the output resolution best suited to the connected TV (1080p, 1080i, 720p or 576p/480p). ●576p/480p ●720p ●1080i ●1080p When the unit is connected to an amplifier/receiver that does not support the resolution set on the unit, the video cannot be output properly. In this case, use the HDMI cable to connect the unit to the TV and then connect the unit to the amplifier/receiver using a cable other than HDMI.
BD-Video 24p Output When playing BD-Video recorded in 24 frames, this unit displays each frame at 1/24 second intervals—the same interval originally shot with the film movie. ●This item can be set only when the unit is connected to a TV with an HDMI terminal that supports 1080/24p input.	●On: Images in 24p are output in 24p as they are. (This is effective only when “HDMI Video Format” is set to “Automatic” or “1080p” and “TV Aspect” is set to “16:9” or “16:9 Full”.) However, –when video is being output at 24 frames, images from any other terminal than the HDMI terminal may not be output properly. –when images other than 24p are played, images are output at 60p. ●Off
HDMI Output Range Effective when connected to a device that only supports RGB output.	●Standard ●Enhanced: When the black and white images are not distinct.
HDMI Audio Output This setting selects whether or not to output audio from HDMI. ●When this is set to “On”, Dolby TrueHD, Dolby Digital Plus, DTS-HD Master Audio, DTS-HD High Resolution Audio are output as Dolby Digital from system speakers.	●On: To output audio through TV speakers (output as 2ch PCM, regardless of source audio format channel number). ●Off: To output audio through system speakers. (The audio is output using the settings of this unit.)
VIERA Link Set to use “HDAVI Control” function when connected with an HDMI cable to a device that supports “HDAVI Control”.	●On: Select when you want to use “HDAVI Control”. ●Off: Select when you do not want to use “HDAVI Control”.
Component Resolution This sets the video output resolution when using COMPONENT VIDEO OUT terminals.	●576i/480i ●576p/480p ●720p ●1080i 480i, 480p: When playing NTSC discs 576i, 576p: When playing PAL discs Even if you select “720p” or “1080i”, the video output resolution is restricted to “576p/480p” when DVD-Video, DivX and BD-Video discs recorded at a rate of 50 frames per second is output from the COMPONENT VIDEO OUT terminals.
TV System Change the setting to match the equipment you are connecting with. ●If picture output is not smooth, change the setting. ●When NTSC contents are played, they are outputted in the signal format specified in the “NTSC Contents Output”, irrespective of the settings here.	●NTSC: Select when connecting to a NTSC TV. ●PAL: Select when connecting to a PAL or multi-system TV.

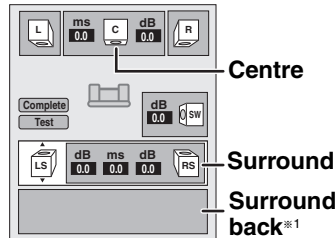
Speaker settings

Speaker presence settings

(Centre, surround and surround back speakers only)

- Press [▲, ▼, ◀, ▶] to select the speaker icon and press [OK].

- Press [▲, ▼] to select the setting and press [OK].



Icon examples:

Centre		Select when the centre speaker is connected and in use.
	*2	Select when the centre speaker is not connected or not in use.
Surround		Select when the surround speakers are connected and in use.
		Select when the surround speakers are not connected or not in use.
Surround back*1		Select when —using the optional Panasonic wireless system SH-FX67 and speaker system SB-HS100A to enjoy 7.1ch surround sound. —connecting an amplifier to the SURROUND BACK terminal at the back of this unit to enjoy 7.1ch surround sound.
		Select when the surround back speakers are not connected or not in use.

*1 Surround back speakers are set to “” by default.

*2 You can select “” only when surround speakers are set to “”.

Changing the delay time

(Effective when playing multi-channel audio)

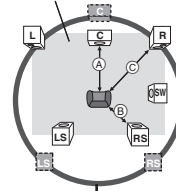
(Centre, surround and surround back speakers only)

For optimum listening with 7.1/5.1ch sound, all the speakers, except for the subwoofer, should be the same distance from the seating position. If you have to place the centre, surround and surround back speakers closer to the seating position, adjust the delay time to make up for the difference.

If either distance ① or ② is less than ③, find the difference in the relevant table and change to the recommended setting.

5.1ch speaker connection

Approximate room dimensions



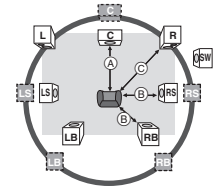
Circle of constant primary listening distance

: Actual speaker position

: Ideal speaker position

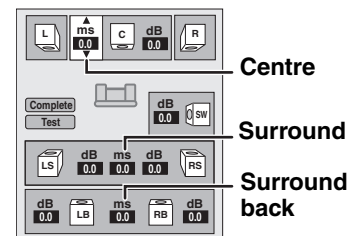
①②③: Primary listening distance

7.1ch speaker connection



- Press [▲, ▼, ◀, ▶] to select the delay time box and press [OK].

- Press [▲, ▼] to select the setting and press [OK].



① Centre speaker

Difference	Setting
Approx. 34 cm	1.0 ms
Approx. 68 cm	2.0 ms
Approx. 102 cm	3.0 ms
Approx. 136 cm	4.0 ms
Approx. 170 cm	5.0 ms

② Surround/Surround back speakers

Difference	Setting
Approx. 170 cm	5.0 ms
Approx. 340 cm	10.0 ms
Approx. 510 cm	15.0 ms

Adjusting speaker level

(Effective when playing multi-channel audio)

- Select “Test” and press [OK].

A test signal is output.

Front (L) → Centre → Front (R) → Surround (RS)

↑
Surround (LS) ← Surround back (LB) ← Surround back (RB)

- While listening to the test signal, press [▲, ▼] to adjust the volume of each speaker.

Centre speaker: (+6 dB to −6 dB)

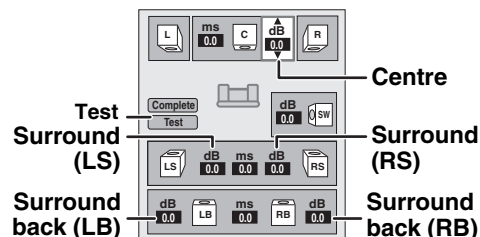
Surround and Surround back speakers: (+10 dB to −10 dB)

• Set each speaker level according to the volume of the Front (L) and Front (R) speaker volume respectively.

- Press [OK].

The test signal stops.

- No signal is output for the subwoofer. To adjust its volume, see page 28, Adjusting speaker level during play.



To finish the speaker setting

Press [▲, ▼, ◀, ▶] to select “Complete” and press [OK].

Frequently asked questions

Setup

Page

Can I connect other speakers?	Speakers other than those supplied cannot be used, however, you can expand your system up to 5.1ch or 7.1ch when you use the optional Panasonic wireless accessory SH-FX67 and speaker system SB-HS100A. Refer to the relevant operating instructions for details.	—
My TV has a VIDEO IN terminal, an S VIDEO IN terminal, COMPONENT VIDEO IN terminals and HDMI IN terminal. Which should I connect with?	The different levels of picture quality input are listed below in order from highest to lowest. HDMI IN→COMPONENT VIDEO IN→S VIDEO IN→VIDEO IN. However, it will take longer for the picture output to start up when this unit is connected with the HDMI IN terminal.	—

Disc

Can I play BD-Video and DVD-Video bought in another country?	- You cannot play: - BD-Video discs that do not include your region code. - DVD-Video discs that do not include your region number or "ALL". Refer to the cover of these operating instructions for more information about your region code and number. Refer to the disc's jacket for more information.	Cover
Can BD-Video/DVD-Video that does not have a region code/number be played?	The region management information for BD-Video/DVD-Video indicates that the disc conforms to industry standards. You cannot play discs that do not conform to industry standards or do not have a region code or number.	—
Please tell me about disc compatibility with this unit.	DivX: Continental Europe only - This unit plays BD-Video, DVD-Video, CD, BD-RE (BD-RE Recording Format/JPEG), BD-R (BD-R Recording Format), DVD-RAM (DVD Video Recording format/AVCHD format/JPEG), DVD-R/RW (DVD-Video format/DVD Video Recording format/AVCHD format/DivX format [DVD-RW is not supported]), DVD-R DL (DVD-Video format/DVD Video Recording format/DivX format/AVCHD format), +R, +RW and +R DL. - This unit also plays CD-R/CD-RW discs which have been recorded in one of the following standards: CD-DA, DivX, MP3 and JPEG. Close the session after recording. - You cannot write to a disc with this unit.	— 14 14, 43 —

SD card

What kinds of operations are available on the SD card slot on this unit?	- The following operations are available. - Playback JPEG data recorded with a digital camera, etc. - Playback AVCHD motion pictures recorded with Panasonic High Definition Video Camera - If a BD-Video disc supporting this function is used, it is possible to copy secondary video recorded on the disc to the card and play it back together with the images on the disc. (Virtual package)	24 16 26
What kinds of cards can be used?	- SD Memory Cards (from 8 MB to 2 GB), SDHC Memory Cards (from 4 GB to 16 GB), miniSD Cards*, and microSD Cards* can be used. * A miniSD Card and a microSD Card must be used in the attached adaptor. Please confirm the latest information on the following website. http://panasonic.co.jp/pavc/global/cs (This site is in English only.) BD-V To play the virtual package, it is recommended that you use a card that supports SD Speed Class Rating Class 2 and has 256 MB or more free space.	15 —

Language code list Enter the code with the numbered buttons.

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

Messages

The following messages or service numbers appear on the TV or unit's display when something unusual is detected during startup and use.

On the TV

		Page
Authorisation Error	●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.	15
Cannot play.	●You inserted an incompatible disc.	14, 15
Cannot play on this unit.	●You tried to play a non-compatible image. ●Confirm "SD" on the unit's display is not blinking and re-insert the card.	43 —
No disc	●The disc may be upside down.	—
This disc is incompatible.	●You inserted an incompatible disc.	14, 15
Rental Expired.	●The DivX VOD content has zero remaining plays. You cannot play it.	15
⊘ This operation is currently disabled.	●The operation is prohibited by the unit or disc.	—

On the unit's display

ERROR	●Incorrect operation performed. Read the instructions and try again.	—
F99	●The unit fails to operate properly. Press [⏻/I] on this unit to switch the unit to standby for 3 seconds. Now press [⏻/I] on this unit again to turn the unit on.	—
HDMI ONLY	●Some BD-Video discs can only be output with HDMI.	—
No PLAY	●There is a viewing restriction on a BD-Video or DVD-Video.	34
No READ	●The disc is dirty or badly scratched. The unit cannot play.	—
PLEASE WAIT	●Displayed when the unit is started and turned off. This is not a malfunction. ●The unit is carrying out its recovery process. You cannot operate the unit while "PLEASE WAIT" is displayed.	— —
SET □ (“□” stands for a number.)	●The remote control and this unit are using different codes. Change the code on the remote control. e.g., Display  Press and hold [OK] and the indicated number button at the same time for more than 5 seconds.	42
UNFORMAT	●You inserted an unformatted DVD-RAM, DVD-RW, +RW, an unused +R, +R DL or DVD-RW (DVD-Video format).	—
UNSUPPORT	●You have inserted a disc the unit cannot play.	14, 15
U59	●The unit is hot. The unit switches to standby for safety reasons. Wait for about 30 minutes until the message disappears. Select a position with good ventilation when installing the unit. Do not block the cooling fan on the rear of the unit.	—
“W2S” or “W4S” is flashing. (when using the optional wireless accessory: SH-FX67)	●There is no link between this unit and the wireless system. Check that the wireless system is plugged into the household mains socket and is turned on. ●Ensure that the digital transmitter is fully inserted into the slot of this unit. ●If the wireless system is not used, disconnect the digital transmitter from this unit.	— — —
U72 U73	●The HDMI connection acts unusually. —The connected equipment is not HDMI compatible. —Please use HDMI cables that have the HDMI logo (as shown on the cover). —The HDMI cable is damaged.	—
H□□ or F□□	●Check and correct the speaker cable connections. ●There is something unusual. (The service number displayed after H and F depends on the unit's condition.) ●Check the unit using the troubleshooting guide. If the service number does not disappear, do the following. ① Disconnect the plug from the household mains socket, wait a few seconds, then reconnect it. ② Press [⏻/I] to turn the power on. (The unit may be fixed.) If the service number does not disappear despite doing the above, request service from the dealer. Inform the dealer of the service number when requesting service.	6 — 40–42
NOT CONDITIONAL NO SURROUND SPEAKER	●7.1ch Virtual Surround is available only when playing 6ch sources or above. ●7.1ch Virtual Surround is available only when speaker setting is set to 5.1ch.	29 29, 37

Maintenance

Clean this unit with a soft, dry cloth

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

Observe the following points to ensure continued listening and viewing pleasure.

Dust and dirt may adhere to the unit's lens over time, making it impossible to play discs.

Use the lens cleaner (not included) about once every year, depending on frequency of use and the operating environment. Carefully read the lens cleaner's instructions before use.

Lens cleaner: RP-CL720E

- This lens cleaner is not for sale in Germany and may not be for sale depending on the region.
- This lens cleaner is sold as specific for DIGA, but can be used without problem on this unit as well.

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.

The following do not indicate a problem with this unit:

- Regular disc rotating sounds.
- Image disturbance during search.

To reset this unit

		Page
To restore the unit if it freezes due to one of the safety devices being activated	● Press and hold [⏻/I] on this unit for 10 seconds. (The settings remain unchanged.)	—
To return all settings other than some settings to the factory preset	● Select “Yes” in “Default Settings” in the Setup menu. This returns all values in the Setup menu and the on-screen menu, except for “Remote Control”, “On-screen Language”, “DVD-Video Ratings”, “BD-Video Ratings” and “Speaker” to the default settings.	34
To return to the factory preset	● Reset the unit as follows: ① Press [⏻/I] on the unit to turn off the unit. ② Press and hold [▶▶/▶▶], [■] (Stop) and [▲ OPEN/CLOSE] on the unit at the same time for more than 5 seconds until “PLEASE WAIT” is displayed on the unit. ③ The power is turned off automatically.	—

Power

No power.	● Insert the AC mains lead securely into a known active household mains socket.	9
The unit switches to standby mode.	● When the time set for the sleep timer has passed, the unit will be turned off. ● One of the unit's safety devices is activated. Press [⏻/I] on this unit to turn the unit on.	18 —

Operation

The remote control doesn't work properly.	● The remote control and this unit are using different codes. Change the code on the remote control. e.g., Display . - Press and hold [OK] and the indicated number button at the same time for more than 5 seconds. ● The batteries are depleted. Replace them with new ones. ● You are not pointing the remote control at this unit's remote control signal sensor during operation. ● Coloured glass may obstruct the signal reception/transmission. ● Do not place the signal sensor in direct sunlight or in areas that may be subject to sunlight exposure. ● It may be necessary to set the code on the remote control again after changing the batteries.	42 10 10 — — 42
The unit is on but cannot be operated.	● Confirm the correct source is selected. ● Some operations may be prohibited by the disc. ● The unit is hot (“U59” appears on the display). Wait for “U59” to disappear. ● One of the unit's safety devices may have been activated. Reset the unit as follows: ① Press [⏻/I] on this unit to switch the unit to standby. If the unit doesn't switch to standby, press and hold [⏻/I] on this unit for about 10 seconds. Alternatively, disconnect the AC mains lead, wait one minute, then reconnect it. ② Press [⏻/I] on this unit to switch it on. If the unit still cannot be operated, consult the dealer. ● Condensation has formed: Wait 1 to 2 hours for it to evaporate.	12 — 39 —
Play fails to start even when [▶ PLAY] is pressed. Play starts but then stops immediately.	● Insert the disc correctly with the label facing up. ● The disc is dirty. ● You tried to play a blank disc or unplayable disc on this unit. ● The producers of the disc can control how discs are played. So you may not always be able to control play as described in these operating instructions. Read the disc's instructions carefully. ● DivX If playing DivX VOD content, refer to the homepage where you purchased it.	16 15 14, 15 —
Cannot eject disc.	● The unit may have a problem. While the unit is off, press and hold [◀◀/▶▶] and [▲ OPEN/CLOSE] on this unit at the same time for about 5 seconds. Remove the disc and consult the dealer.	15 —
Startup is slow. When the unit is turned on, audio and video output takes a long time. It takes time before play starts.	● Startup takes time in the following situations. —Immediately after a power failure or the AC mains lead is connected. —When the unit is connected with an HDMI cable. ● DivX This is normal on DivX video.	— —
Cannot set “On” in “BD-Video 24p Output”.	● Only when the unit is connected to the HDMI terminal of a TV supporting 24p you can select “On”.	36

Displays

The display is dim.	● Change “FL Display” in the Setup menu.	35
The elapsed time displayed is actually less than the playtime.	● The displayed play time is converted from the number of frames at 29.97 frames (equal to 0.999 seconds) to one second. There will be a slight difference between the time displayed and the actual elapsed time (e.g., actual one-hour elapsed time may display as approximately 59 minutes 56 seconds).	—

TV screen and video

Picture stops.	● DivX Picture may stop if the DivX file are greater than 2 GB.	—
The 4:3 aspect ratio picture expands left and right.	● Use the TV to change the aspect. Refer to your TV's operating instructions. ● When using an HDMI cable, set “TV Aspect” to “16:9”. ● When using a component video cable, set “Progressive” to “Off”. If the situation is not restored after that, set “TV Aspect” to “4:3 Pan & Scan”.	— 36 33, 36
Screen size is wrong.		

The images from this unit do not appear on the TV.	● Make sure that the TV is connected to the VIDEO OUT terminal, S VIDEO OUT terminal, COMPONENT VIDEO OUT terminals or HDMI AV OUT terminal on this unit. ● Make sure that the TV's input setting (e.g., AV 1) is correct.	7, 8
Picture is distorted.	● To output video from a device connected with an HDMI cable, set "HDMI Video Mode" to "On" in the Setup menu. ● If "BD-Video 24p Output" is turned "On" when the unit is connected to a TV through any terminal other than HDMI, images may not display properly. In this case, turn "BD-Video 24p Output" to "Off". ● When "BD-Video 24p Output" is set to "On", HDMI authentication takes place where 24p images switch to other images, and a black screen is displayed. ● When you use the HDMI AV OUT terminal for video output, press and hold [▶] (Play) and [■] (Stop) simultaneously on the unit for more than 5 seconds to shift the mode to one more compatible with HDMI equipment. ● Picture may not be seen when more than 3 devices are connected with HDMI cables. Reduce the number of connected devices. ● An incorrect resolution is selected in "Component Resolution", when the TV is connected to COMPONENT VIDEO OUT terminals. While stopped, press and hold [▶] (Play) and [■] (Stop) on the unit at the same time for more than 5 seconds to cancel this setting. Set the item again. ● The unit and TV are using different video systems. While stopped, keep pressing [■] (Stop) and [▲ OPEN/CLOSE] on the unit for 5 or more seconds. The system switches from PAL to NTSC or vice versa. ● The system used on the disc doesn't match your TV. – PAL discs cannot be correctly viewed on an NTSC TV. – This unit can convert NTSC signals to PAL60 for viewing on a PAL TV ("NTSC Contents Output" in the "Picture" menu). ● DivX Images may not be output due to how files were created. ● Mobile telephone chargers can cause some disturbance. ● If you are using an indoor TV antenna, change to an outdoor antenna. ● The TV antenna wire is too close to the unit. Move it away from the unit.	36 36 36 36 — 36 — — 35 — — — —
The screen changes automatically.	● When the "Screen Saver Function" in the Setup menu is set to "On", the display may return to the screen saver mode automatically if there is no operation for 10 minutes or more.	35
Video is not output in high definition.	● High definition video cannot be output through the VIDEO OUT or S VIDEO OUT terminal. ● Confirm that the "HDMI Video Mode", "HDMI Video Format", and "Component Resolution" in the Setup menu are set properly. ● The video output resolution is restricted to "576p/480p" when DVD-Video, DivX and BD-Video discs recorded at a rate of 50 frames per second is output from the COMPONENT VIDEO OUT terminals.	— 36 —
The Setup menu cannot be accessed.	● Select "BD/DVD/CD" or "SD" as the source.	—
Status messages do not appear.	● Select "Automatic" in "On-Screen Messages" in the Setup menu.	35
There is a lot of after-image when playing video.	● Turn "3D NR" or "Integrated NR" off if it is on.	33
When playing DVD-Video using progressive output, one part of the picture momentarily appears to be doubled up.	● When you use the COMPONENT VIDEO OUT terminal for video output, set "Progressive" of "Picture" menu on the on-screen menu to "Off". This problem is caused by the editing method or material used on DVD-Video, but should be corrected if you use interlace output. ● When you use the HDMI AV OUT terminal for video output, follow the steps below for setting. 1 Connect this unit to the TV with any cable except the HDMI cable. 2 When you connect with the Component Video cable, set "HDMI Video Mode" to "Off" and "Component Resolution" to "576i/480i" in the Setup menu.	33 36
There is no apparent change in picture quality when adjusted with the "Picture" menu in the on-screen menu.	● The effect is less perceivable with some types of video.	—
The masked-off area is masked in gray.	● If the "Screen Saver Function" in the Setup menu is set to "Off", the masked-off area is displayed in black.	35

Sound

No sound. Low volume. Distorted sound. Cannot hear the desired audio type.	● Turn the volume up. ● Turn the muting off. ● Check connections to speakers and other equipment. ● Press [>, < SELECT] to select the corresponding source. ● Press [AUDIO] to select the audio. ● Ensure the speaker settings for your speakers are correct when using the 5.1ch or 7.1ch speaker system. ● To output audio from a device connected with an HDMI cable, set "HDMI Audio Output" to "On" in the Setup menu. ● When "BD-Video Secondary Audio" is set to "On", Dolby TrueHD, Dolby Digital Plus, DTS-HD Master Audio and DTS-HD High Resolution Audio are output as Dolby Digital. ● Audio may not be heard when more than 3 devices are connected with HDMI cables. Reduce the number of connected devices. ● DivX Audio may not be output due to how files were created.	16, 17 18 6–9 12 18 35, 37 36 35 — —
Humming is heard during play.	● An AC mains lead or fluorescent light is near this unit. Keep other appliances and cables away from this unit.	—

(Continued on next page)

RQT9161

Troubleshooting guide

Sound (Continued)

		Page
No surround sound.	- Press [DOLBY] to turn on Dolby Virtual Speaker. - Press [DOLBY] to turn on Dolby Pro Logic Ix/Dolby Pro Logic II. - Press [NEO:6] to turn on DTS NEO:6.	29 29 29
Cannot switch audio.	There are discs for which audio cannot be changed because of how the disc was created.	—

Card

The capacity of the SD card decreased.	When a BD-Video that supports the virtual package is used, and an SD card is in the slot, data may be written to the SD card. Erase the data by using "BD-Video Data Erase", format the card or use a new card.	26
MPEG-2 motion pictures and music on an SD card cannot be played.	Data that can be played from an SD card are AVCHD and JPEG data.	16
The contents of the card cannot be read.	- The card is not compatible or the contents on the card may be damaged. - Turn off and then turn on the unit again.	15 —

iPod operation

Cannot charge or operate.	- Check that the iPod is connected firmly. - The battery of the iPod is depleted. Charge the iPod, and then operate again.	22 —
Cannot display iPod videos/photos on the TV.	- Make sure that TV is connected to the VIDEO OUT or S VIDEO OUT terminal on this unit. - Operate the iPod menu to make the appropriate video/photo output settings for your TV. (Refer to operating instructions for your iPod.)	7 —

Radio

Distorted sound or noise is heard. "ST" flickers or does not light.	- Adjust the position of the antenna. - Use an outdoor antenna.	— 9
A beat sound is heard.	Turn the TV off or move it away from the unit.	—

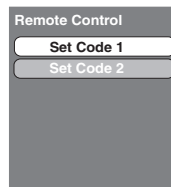
Other difficulties with playback

Audio and video momentarily pause.	- This occurs between playlist chapters or scenes (AVCHD). - When playing a title recorded on both layers, the unit automatically switches between layers and plays the title in the same way as a normal programme. However, video and audio may momentarily cut out when the unit is switching layers.	— —
BD-Video or DVD-Video is not played.	- Ensure the disc is for the correct BD-Video region code or DVD-Video region number, and is not defective. - You have set a ratings level to limit BD-Video or DVD-Video play. Change this setting. - Some BD-Video can only be output with HDMI.	Cover 34 —
Picture-in-picture is not played with BD-Video.	Confirm whether the disc supports picture-in-picture.	—
The virtual package is not played with BD-Video.	- Confirm whether the disc supports the virtual package. - The inserted SD card does not have sufficient available capacity. - The SD card is write-protected. - Sub contents copied to an SD card are provided by the disc producer as a part of the BD-Video content. Even if you record images and audio onto an SD card, it cannot be played as a virtual package.	26 — 15 26
Alternative soundtrack and subtitles cannot be selected.	- The languages are not recorded on the disc. - You may not be able to use the on-screen menu to change the soundtrack and subtitles on some discs. Use the disc's menus to make changes.	— 16, 26
No subtitles.	- Subtitles are not recorded on the disc. - Turn the subtitles on. Set "Subtitle" on the on-screen menu to "On".	— 32
Angle cannot be changed.	Angles can only be changed during scenes where different angles are recorded.	—
The resume play function does not work.	- Memorized positions are cancelled when - pressing [■ STOP] several times. - opening the disc tray. - The resume play function may not work depending on the disc.	— —

When other Panasonic products respond to this remote control

Change the remote control code on this unit and the remote control (the two must match) if you place other Panasonic products close together.

- Press [BD/SD] to select "BD/DVD/CD" or "SD".
- While stopped, press [SETUP].
- Press [▲, ▼] to select "General" and press [OK].
- Press [▲, ▼] to select "Remote Control" and press [OK].
- Press [▲, ▼] to select the code (1 or 2) and press [OK].
- To change the code on the remote control
While pressing [OK], press and hold the numbered button ([1] or [2]) for more than 5 seconds.
- Press [OK].



NOTE

When the following indicator appears on the unit's display and you are unable to operate the unit

e.g., Display



The unit's remote control code
Press and hold [OK] and the indicated number button at the same time for more than 5 seconds.

About MP3/JPEG/DivX files



DivX information is only for the Continental Europe model.

File format	MP3	JPEG
Playable media	CD-R/CD-RW ^{*1}	CD-R/CD-RW ^{*1} , DVD-RAM ^{*2} , BD-RE ^{*3} , SD card
Extension	Files must have the extension “.mp3” or “.MP3”.	Files must have the extension “.jpg” or “.JPG”.
Picture resolution	—	between 34×34 and 5120×3840 pixels (sub sampling is 4:2:2 or 4:2:0)
Compression rates	32 kbps to 320 kbps	—
Sampling frequency	44.1 kHz/48 kHz	—
Reference	ID3 tags: version 1, 2.2, 2.3, 2.4 ID3 is a tag embedded in MP3 track to provide information about the track. This unit supports the versions listed above but only titles and the names of artists can be displayed. ● If there is a large amount of still picture data etc. within a MP3 file, play may not be possible.	● MOTION JPEG: not supported ● Progressive JPEG is not supported. ● SD card: JPEG conforming DCF ^{*4} Thawing Time: approx. 2 sec. (7M pixels)
File format	DivX	Subtitles text file of DivX
Playable media	CD-R/RW ^{*1} , DVD-R ^{*5} , DVD-R DL ^{*5}	CD-R/RW ^{*1} , DVD-R ^{*5} , DVD-R DL ^{*5}
File format	—	MicroDVD, SubRip, or TMLPlayer
Extension	Files must have the extension “.DIVX”, “.divx”, “.AVI” or “.avi”.	Files must have the extension “.SRT”, “.srt”, “.SUB”, “.sub”, “.TXT”, or “.txt”
Picture resolution	between 32×32 and 720×576 pixels	—
Reference	- Plays all versions of DivX video (including DivX[®] 6) with standard playback of DivX[®] media files. Certified to the DivX Home Theater Profile. Video - Number of stream: Up to 1 - Codec: DIV3, DIV4, DIVX, DV50, DIV6 - FPS (Frame Per Second): Up to 30 fps Audio - Number of stream: Up to 8 - Format: MP3, MPEG, AC3 - Multi channel: AC3 is possible. MPEG multi is 2 ch conversion. - GMC (Global Motion Compensation) is not supported.	- The DivX video file and subtitles text file are inside the same folder, and the file names are the same except for the file extensions. - If there are more than one subtitles text files inside the same folder, they are displayed in the following order of priority: “.srt”, “.sub”, “.txt”. - In the following situations, the subtitles cannot be displayed as recorded. Furthermore, depending on the methods used to create the file or the state of the recording, only parts of the subtitles may be displayed, or the subtitles may not be displayed at all. - When special text or characters are included in the subtitles text. - When the file size is larger than 256 KB. - When characters with styling specified are included in the subtitle data. - Codes that specify the character style within files are displayed as subtitle characters. - When data with a different format exists within the subtitle data. - If the file name of the DivX video file is not displayed correctly on the menu screen (the file name is displayed as “_”), the subtitles text may not be displayed correctly. - Depending on the disc, the subtitles text cannot be displayed when search and other such operations are being performed.

- English alphabet and Arabic numerals are displayed correctly. Other characters may not be displayed correctly.
- The display order on this unit may differ from how the order is displayed on a computer.
- Depending on how you create the media (writing software), files and folders may not play in the order you numbered them.
- This unit is not compatible with packet-write format.
- Depending on the recording conditions, the media may not play.
- Operation may take time to complete when there are many files and/or folders and some files may not display or be playable.

■ Structure of MP3, still pictures (JPEG) and DivX folders

You can play MP3, still pictures (JPEG) and DivX with this unit by making folders on disc as shown (⇒ right).

- Folder structure created on a DVD-RAM, BD-RE or an SD card is not displayed.

MP3 files and folders in CD-R/CD-RW

Prefix with 3-digit numbers in the order you want to play them.

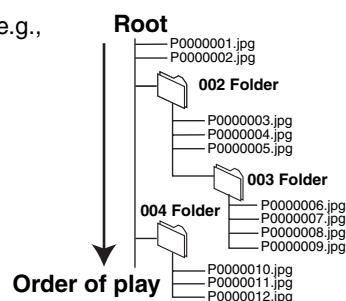
Still pictures (JPEG) in CD-R/CD-RW

Files inside a folder are displayed in the order they were updated or taken.

When the highest level folders are “DCIM” folders, they are displayed first on the tree.

- ^{*1} ISO9660 level 1 or 2 (except for extended formats), Joliet
This unit is compatible with multi-session.
- ^{*2} Discs must conform to UDF 2.0.
- ^{*3} Discs must conform to UDF 2.5.
- ^{*4} Design rule for Camera File system: unified standard established by Japan Electronics and Information Technology Industries Association (JEITA).
- ^{*5} Discs must conform to UDF bridge (UDF 1.02/ISO9660).
This unit is not compatible with multi-session. The default session only is played.

e.g.,



Glossary

AVCHD

AVCHD is a new format (standard) for high definition video cameras that can be used to record and play high-resolution HD images.

BD-J

Some BD-Video discs contain Java applications, and these applications are called BD-J. You can enjoy various interactive features in addition to playing normal video.

Bitstream

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

BONUSVIEW (Final Standard Profile)

This is a BD-Video (BD-ROM version 2 Profile 1 version 1.1) that supports the new functions such as Picture-in-picture, Secondary Audio, and Virtual Package, etc.

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 (2ch) audio, these signals can also be multi-channel audio.

Dolby Digital Plus

Multi-channel audio and higher audio quality is made possible using Dolby Digital Plus. BD-Video supports up to 7.1ch output.

Dolby Digital Surround EX

This is the digital surround system developed by Dolby Laboratories. Dolby Digital Surround EX adds a surround back channel to the traditional 5.1ch format of Dolby Digital. This creates a sound with greater presence.

Dolby Pro Logic II

Dolby Pro Logic II enables you to play stereo sources on 5.1ch.

Dolby Pro Logic IIx

Dolby Pro Logic IIx enables you to play stereo and 5.1ch sources on 7.1ch.

Dolby TrueHD

Dolby TrueHD is a very high quality audio format that reproduces the studio master audio. BD-Video supports up to 7.1ch output.

DTS (Digital Theater Systems)

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

DTS-ES

DTS-ES adds a surround back channel to the traditional 5.1ch format of DTS. This creates a sound with greater presence.

DTS-HD

DTS-HD is a high-quality, sophisticated audio format used in movie theatres. Previous DTS Digital Surround-compatible equipment can play DTS-HD as DTS Digital Surround audio. BD-Video supports up to 7.1ch output.

DTS NEO:6

DTS NEO:6 enables you to play stereo and 5.1ch sources on 6.1 channels.

DTS 96/24

DTS 96/24 provides 96 kHz sound at up to 24 bits. The 96 kHz/24 bit high frequency sounds are played through multiple channels.

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.

Dynamic range compression means reducing the gap between the loudest and softest sounds. This means you can listen at low volumes but still hear dialogue clearly.

Film and video

DVD-Video 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 programmes or animation.

Frames and fields

Frames refer to the single images that constitute the video you see on your TV. Each frame consists of two fields.



Frame

Field

Field

- A frame still shows two fields, so there may be some blurring, but picture quality is generally better.
- A field still shows less picture information so it may be rougher, but there is no blurring.

HDMI (High-Definition Multimedia Interface)

HDMI is a digital interface for consumer electronic products. Unlike conventional connections, it transmits uncompressed digital video and audio signals on a single cable.

JPEG (Joint Photographic Experts Group)

This is a system used for compressing/decoding colour 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.

Local storage

This storage area is used as a destination for sub contents for playing virtual packages on BD-Video.

LPCM (Linear PCM)

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 significant loss of audio quality.

Pan&Scan/Letterbox

In general, DVD-Video are produced with the intention that they be viewed on a widescreen TV (16:9 aspect ratio), so images often don't fit regular (4:3 aspect ratio) TVs. Two styles of picture, "Pan & Scan" and "Letterbox", deal with this problem.

Pan&Scan: The sides are cut off so the picture fills the screen.



Letterbox: Black bands appear at the top and bottom of the picture so the picture itself appears in an aspect ratio of 16:9.



Picture-in-picture

This is a new function of BD-Video that plays the primary video and secondary video simultaneously. For instance, the function is capable of playing the original movie as the primary video while playing video commentary from the film director on a small screen as a secondary video.

Progressive/Interlace

The PAL video signal standard has 625 (or 576) interlaced (i) scan lines, whereas progressive scanning, called 625p (or 576p), uses twice the number of scan lines. For the NTSC standard, these are called 525i (or 480i) and 525p (or 480p) respectively.

Using progressive output, you can enjoy the high-resolution video recorded on media such as DVD-Video. Your TV must be compatible to enjoy progressive video. Panasonic TV with 625 (576)/50i-50p, 525 (480)/60i-60p input terminals are progressive compatible.

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.

Virtual package

Some BD-Video discs copy data to other media (local storage) and then play the secondary video, secondary audio, and subtitles (sub contents) simultaneously.

These functions are called virtual packages.

Sub contents are automatically recorded to other media from the disc prior to playing the virtual package. The playback methods vary depending on discs.

1080i (1125i)

In one high definition image, 1080 (1125) alternating scan lines pass to create an interlaced image. Because 1080i (1125i) more than doubles current TV broadcasts of 480i, the detail is much clearer and creates a more realistic and rich image.

1080p (1125p)

In one high definition image, 1080 (1125) scan lines pass at the same time to create a progressive image. Since progressive video does not alternate scan lines like interlace, there is a minimal amount of screen flicker.

24p

This is a progressive image recorded at a rate of 24 frames per second.

720p (750p)

In one high definition image, 720 (750) scan lines pass at the same time to create a progressive image. Since progressive video does not alternate scan lines like interlace, there is a minimal amount of screen flicker.

Specifications

AMPLIFIER SECTION

RMS TTL Power Output	1000 W
Front Ch	250 W per channel (6 Ω), 1 kHz, 10 % THD
Centre Ch	250 W per channel (6 Ω), 1 kHz, 10 % THD
Subwoofer Ch	250 W per channel (6 Ω), 100 Hz, 10 % THD

DIN TTL Power Output	600 W
Front Ch	150 W per channel (6 Ω), 1 kHz, 1.0 % THD
Centre Ch	150 W per channel (6 Ω), 1 kHz, 1.0 % THD
Subwoofer Ch	150 W per channel (6 Ω), 100 Hz, 1.0 % THD

Audio Input	
AUX	× 1

Digital Audio Input	
Optical	× 1
Sampling frequency	32 kHz, 44.1 kHz, 48 kHz

Digital Audio Output	
Optical	× 1

FM TUNER SECTION

Frequency range	87.50 to 108.00 MHz (50-kHz step)
Antenna terminals	75 Ω (unbalanced)

DISC SECTION

Playable disc:

BD-Video:	BD-ROM Version 2
BD-RE:	Version 3 (Single Layer, Dual Layer), JPEG ^{*6}

BD-R	Version 2 (Single Layer, Dual Layer)
------	--------------------------------------

DVD-RAM:	DVD Video Recording format, AVCHD format ^{*8} , JPEG ^{*4}
----------	--

DVD-R/DVD-R DL:	DVD-Video format ^{*1} , DVD-Video Recording format, AVCHD format ^{*1,8} , DivX ^{*7}
-----------------	--

DVD-RW	DVD-Video format ^{*1} , DVD-Video Recording format, AVCHD format ^{*1,8}
--------	--

+R/+RW/+R DL:	Video ^{*1} , AVCHD format ^{*1,8}
---------------	--

DVD-VIDEO:	DVD-Video format
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CD-Audio:	CD-DA
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CD-R/CD-RW:	CD-DA, JPEG ^{*5} , MP3, DivX ^{*7}
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Optical pick-up:	System with 2 lenses
Wavelength:	782 nm (CDs)/662 nm (DVDs)/405 nm (BDs)

LASER Specification:	System with 2 lenses
Class 1 LASER Product	

Wavelength:	782 nm (CDs)/662 nm (DVDs)/405 nm (BDs)
-------------	---

Laser power:

No hazardous radiation is emitted with the safety protection

NORSK

Bølgelengde	782 nm (CDs)/662 nm (DVDs)/405 nm (BDs)
Laserstyrke	Ingen farlig stråling sendes ut

SD CARD SECTION

SD card slot:	Output connector (1 system)
----------------------	-----------------------------

SD card:	
SD Memory Card ^{*2} formatted FAT12, FAT16, FAT32 ^{*3} :	
JPEG ^{*4} , AVCHD format ^{*8}	

● Usable capacity will be less (SD Card).

^{*1} Finalizing is necessary.

^{*2} includes SDHC card

includes miniSD cards (need a miniSD Adaptor)

includes microSD cards (need a microSD Adaptor)

^{*3} Does not support long file name

^{*4} The total combined maximum number of recognizable picture contents and folders: 3000 picture contents and 300 folders.

^{*5} The total combined maximum number of recognizable picture contents and folders: 999 audio and picture contents and 99 folders.

^{*6} The total combined maximum number of recognizable picture contents and folders: 9999 picture contents and 300 folders.

^{*7} **Continental Europe only**

The total combined maximum number of recognizable picture contents and folders: 200 file contents and 300 folders.

^{*8} AVCHD format V1.0

VIDEO SECTION

Signal system	PAL/NTSC
----------------------	----------

Video output	
Output level	1.0 Vp-p (75 Ω)
Output connector	Pin jack (1 system)

S-Video output	
Y output level	1.0 Vp-p (75 Ω)
C output level	0.286 Vp-p (75 Ω) at Burst
Output connector	S terminal (1 system)

Component video output	(1080i/720p/480p/480i: 60 Hz) (1080i/720p/576p/576i: 50 Hz)
Y output level	1.0 Vp-p (75 Ω)
P _B output level	0.7 Vp-p (75 Ω)
P _R output level	0.7 Vp-p (75 Ω)
Output connector	Pin jack (Y: green, P _B : blue, P _R : red) (1 system)

HDMI AV output	
Output format:	480p (525p)/576p (625p)/720p (750p)/1080i (1125i)/1080p (1125p)
Output connector:	Type A (19 pin)
HDMI™ (Deep colour)	
● This unit supports "HDAVI Control 3" function.	

SPEAKER SECTION

■ Front speaker SB-HF100	
Type	2 way, 3 speaker system (Bass reflex)

Speaker unit(s)	
Impedance	6 Ω
1. Woofer	6.5 cm Cone type × 2
2. Tweeter	6 cm Cone type
Input power (IEC)	250 W (Max) ^{*9}
Output sound pressure	83 dB/W (1 m)
Frequency range	80 Hz to 25 kHz (−16 dB) 93 Hz to 22 kHz (−10 dB)
Dimensions (W×H×D)	121 mm×328 mm×129 mm
Mass	Approx. 1.7 kg

■ Centre speaker SB-HC100	
Type	2 way, 3 speaker system (Bass reflex)

Speaker unit(s)	
Impedance	6 Ω
1. Woofer	6.5 cm Cone type × 2
2. Tweeter	6 cm Cone type
Input power (IEC)	250 W (Max) ^{*9}
Output sound pressure	83 dB/W (1 m)
Frequency range	80 Hz to 25 kHz (−16 dB) 93 Hz to 22 kHz (−10 dB)
Dimensions (W×H×D)	301 mm×111 mm×134 mm
Mass	Approx. 1.6 kg

■ Subwoofer SB-HW560	
Type	1 way, 1 speaker system (Kelton type)

Speaker unit(s)	
Impedance	6 Ω
1. Woofer	16 cm Cone type
2. Passive radiator	25 cm
Input power (IEC)	250 W (Max)
Output sound pressure	78 dB/W (1 m)
Frequency range	35 Hz to 200 Hz (−16 dB) 40 Hz to 198 Hz (−10 dB)
Dimensions (W×H×D)	181 mm×361 mm×315 mm
Mass	Approx. 4.7 kg

GENERAL

Power supply	AC 230 V to 240 V, 50 Hz
iPod connector	DC OUT 5 V 500 mA MAX
Power consumption	140 W

Dimensions (W×H×D)	
With transmitter	430 mm×96 mm×327 mm
Without transmitter	430 mm×90 mm×327 mm
Mass	Approx. 4.1 kg

(Dimensions and Mass do not include the speakers.)

Operating temperature range	0 °C to +40 °C
Operating humidity range	35 % to 80 % RH (no condensation)

Power consumption in standby mode Approx. 0.4 W

^{*9} Rating with low-cut filter equipped amplifier.

Note

Specifications are subject to change without notice.

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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 place 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 centre.
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.

SUOMI

VAROITUS!
LAITTEEN KÄYTTÄMINEN MUULLA KUIN TÄSSÄ KÄYTTÖOHJEESSA MAINITULLA TAVALLA SAATTAA ALTISTAA KÄYTTÄJÄN TURVALLISUUSLUOKAN 1 YLITTÄVÄLLE NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE.

VAROITUS:
VÄHENNÄ TULIPALON, SÄHKÖISKUN TAI LAITTEISTON VAHINGOITTUMISEN VAARAA
•TÄTÄ LAITETTA EI SAA ALTISTAA SATEELLE, KOSTEUELLE, ROISKEILLE TAI TIPPUVILLE NESTEILLE. LAITTEEN PÄÄLLE EI SAA MYÖSKÄÄN ASETTAA MITÄÄN NESTEELLÄ TÄYTETTYÄ ESINETTÄ, KUTEN MALJAKKOA.
•KÄYTÄ VAIN SUOSITELTUJA LISÄVARUSTEITA.
•ÄLÄ IRROTA KANTTA (TAI TAUSTAA). SISÄLLÄ EI OLE KÄYTTÄJÄN HUOLLETTAVISSA OLEVIA OSIA. HUOLLON SAA SUORITTA VAIN AMMATTITAITOINEN HENKILÖKUNTA.

VAROITUS!
•ÄLÄ ASENNA TAI LAITA TÄTÄ LAITETTA KABINETTITYYPPISEEN KIRJAKAAPPIIN TAI MUUHUN SULJETTUUN TILAAN, JOTTA TUULETUS ONNISTUISI. VARMISTA, ETTÄ VERHO TAI MIKÄÄN MUU MATERIAALI EI HUONONNA TUULETUSTA, JOTTA VÄLTETTÄISIIN YLIKUUMENEMISESTA JOHTUVA SÄHKÖISKU- TAI TULIPALOVAARA.
•ÄLÄ PEITÄ LAITTEEN TUULETUSAUKKOJA SANOMALEHDELLÄ, PÖYTÄLIINALLA, VERHOLLA TAI MUULLA VASTAAVALLA ESINEELLÄ.
•ÄLÄ ASETA PALAVAA KYNTTILÄÄ TAI MUUTA AVOTULEN LÄHDETTÄ LAITTEEN PÄÄLLE.
•HÄVITÄ PARISTOT LUONTOA VAHINGOITTAMATTOMALLA TAVALLA.

TÄMÄ LAITE ON TARKOITETTU KÄYTETTÄVÄKSI LEUDOSSA ILMASTOSSA.

Pistorasia tulee asentaa laitteen lähelle helppopääsyiseen paikkaan.
Verkkojohdon pistokkeen on oltava aina helposti käytettävissä.
Tämä laite voidaan kytkeä kokonaan irti verkkovirrasta irrottamalla verkkojohdon pistoke pistorasiasta.

NORSK

ADVARSEL!
DETTE PRODUKTET ANVENDER EN LASER. BETJENING AV KONTROLLER, JUSTERINGER ELLER ANDRE INNGREP ENN DE SOM ER BESKREVET I DENNE BRUKSANVISNING, KAN FØRE TIL FARLIG BESTRÅLING.
DEKSLER MÅ IKKE ÅPNES, OG FØRSØK ALDRI Å REPARERE APPARATET PÅ EGENHÅND. ALT SERVICE OG REPARASJONSARBEID MÅ UTFØRES AV KVALIFISERT PERSONELL.

ADVARSEL:
FØLG NEDENSTÅENDE INSTRUKSER FOR Å REDUSERE RISIKOEN FOR BRANN, ELEKTRISK STØT OG SKADE PÅ PRODUKTET:
•DETTE APPARATET MÅ IKKE UTSETTES FOR REGN, FUKTIGHET, DRYPP ELLER SPRUT, OG INGEN VÆSKEFYLTE GJENSTANDER, SOM F.EKS. VASER, MÅ PLASSERES PÅ APPARATET.
•BRUK KUN ANBEFALT TILBEHØR.
•IKKE FJERN DEKSELET (ELLER BAKSIDEN); APPARATET INNEHOLDER INGEN DELER SOM KAN SKIFTES ELLER REPARERES AV BRUKEREN. OVERLAT TIL KVALIFISERTE SERVICETEKNIKERE Å UTFØRE SERVICE.

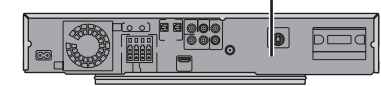
ADVARSEL!
•APPARATET MÅ IKKE PLASSERES I EN BOKHYLLE, ET INNEBYGGET KABINETT ELLER ET ANNET LUKKET STED HVOR VENTILASJONSFORHOLDENE ER UTILSTREKKELIGE. SØRG FOR AT GARDINER ELLER LIGNENDE IKKE FORVERRER VENTILASJONSFORHOLDENE, SÅ RISIKO FOR ELEKTRISK SJOKK ELLER BRANN FORÅRSAKET AV OVERHETING UNNGÅS.
•APPARATETS VENTILASJONSÅPNINGER MÅ IKKE DEKKES TIL MED AVISER, BORDDUKER, GARDINER OG LIGNENDE.
•PLASSER IKKE ÅPEN ILD, SLIK SOM LEVENDE LYS, OPPÅ APPARATET.
•BRUKTE BATTERIER MÅ KASSERES UTEN FARE FOR MILJØET.

DETTE APPARATET ER BEREGNET TIL BRUK UNDER MODERATE KLIMAFORHOLD.

Strømuttaket må befinne seg i nærheten av utstyret og være lett tilgjengelig.
Støpslet på strømkabelen må være klart til bruk.
Når dette apparatet skal kobles helt fra strømmettet (AC), må støpslet på strømkabelen trekkes ut av stikkkontakten.



LUOKAN 1 LASERLAITE
KLASS 1 LASER APPARAT



(Back of product)

DANGER – VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN. AVOID DIRECT EXPOSURE TO BEAM. FDA 21 CFR/Class IIb	
CAUTION – CLASS 3B VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN. AVOID EXPOSURE TO THE BEAM. IEC60825-1+A2/Class 3B	
ATTENTION – RAYONNEMENT LASER VISIBLE ET INVISIBLE. CLASSE 3B. EN CAS D'OUVERTURE, ÉVITER UNE EXPOSITION AU FAISCEAU.	
FORSIGTIG – SYNLIG OG USYNLIG LASERSTRÅLING KLASSE 3B. NÅR LÅGET ER ÅBENT, UNDGÅ AT BLIVE UDSAT FOR STRÅLEN.	
VARO – AVATTAESSA OLET ALTTIINA LUOKAN 3B NÄKYVÄÄ JA NÄKYMÄTTÖMÄ LASERSÄTEILYÄ. VÄRÖ ALTTIINTUMISTA SÄTEELLE.	
WARNING – KLASSE 3B SYNLIG OCH OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD. UNDVIK EXPOSITION FÖR STRÅLEN.	
VORSICHT – SICHTBARE UND UNSICHTBARE LASERSTRAHLUNG KLASSE 3B. WENN ABDECKUNG GEÖFFNET, NICHT DEM STRAHL AUSSETZEN.	
注意 – 打开时有可见及不可见激光辐射。避免光束照射。	
注意 – ここを開くと可視及び不可視レーザー光が出ます。ビームを見たり、触れたりしないでください。VOL1J70	

(Inside of product)
(Tuotteen sisällä)
(Produktets innside)

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Information for Users on Collection and Disposal of Old Equipment and used Batteries



These symbols on the products, packaging, and/or accompanying documents mean that used electrical and electronic products and batteries should not be mixed with general household waste. For proper treatment, recovery and recycling of old products and used batteries, please take them to applicable collection points, in accordance with your national legislation and the Directives 2002/96/EC and 2006/66/EC.

By disposing of these products and batteries correctly, you 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. For more information about collection and recycling of old products and batteries, please contact your local municipality, your waste disposal service or the point of sale where you purchased the items.

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]

These symbols are only valid in the European Union. If you wish to discard these items, please contact your local authorities or dealer and ask for the correct method of disposal.

Note for the battery symbol (bottom two symbol examples):

This symbol might be used in combination with a chemical symbol. In this case it complies with the requirement set by the Directive for the chemical involved.

Matsushita Electric Industrial Co., Ltd.

Web Site: <http://panasonic.net>

Pursuant to at the directive 2004/108/EC, article 9(2)
Panasonic Testing Centre
Panasonic Marketing Europe GmbH
Winsbergring 15, 22525 Hamburg, Germany

(En)

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F0408YM0