Panasonic®
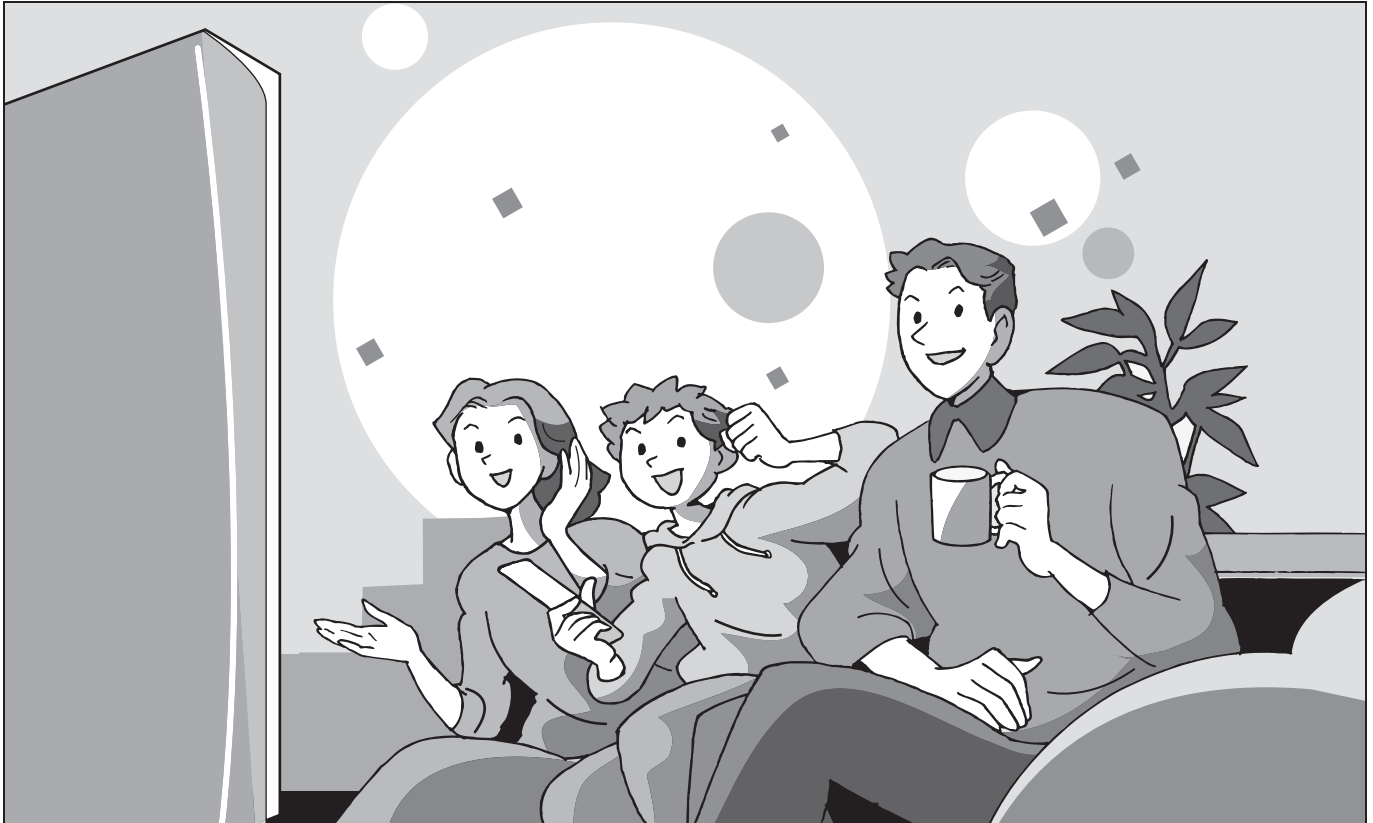
AV Control Receiver

Model No. *SA-XR58*

Dear customer

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

HDMI™
HIGH·DEFINITION MULTIMEDIA INTERFACE

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 operating instructions occurs, disconnect the AC mains lead and contact your dealer or an authorized service center. Electric shock or damage to the unit can occur if the unit is repaired, disassembled or reconstructed by unqualified persons.
Extend operating life by disconnecting the unit from the power source if it is not to be used for a long time.

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.**

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.

THIS UNIT IS INTENDED FOR USE IN MODERATE CLIMATES.

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 or the mains plug or an appliance coupler shall remain readily operable.

CAUTION!
Do not place anything on top of this unit or block the heat radiation vents in any way. In particular, do not place DVD recorder or CD/DVD players on this unit as heat radiated from it can damage your software.

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HDAVI Control™ is a trademark of Matsushita Electric Industrial Co., Ltd.

Manufactured under license from Dolby Laboratories. "Dolby", "Pro Logic" and the double-D symbol are trademarks of Dolby Laboratories.

"DTS", "DTS-ES", "Neo:6" and "DTS 96/24" are trademarks of Digital Theater Systems, Inc.

Refer to the back cover for "Supplied accessories".

Table of contents

The remote control

Batteries

Press on the tab to open.
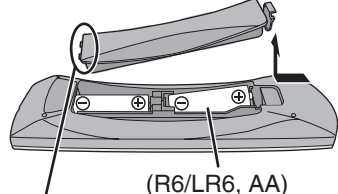
(R6/LR6, AA)

Insert this side first when closing.

Note
- Insert so the poles (+ and –) match those in the remote control.
- Do not use rechargeable type batteries.

Use

Sensor

7 meters (actual distance depends on the angle)

30°   30°
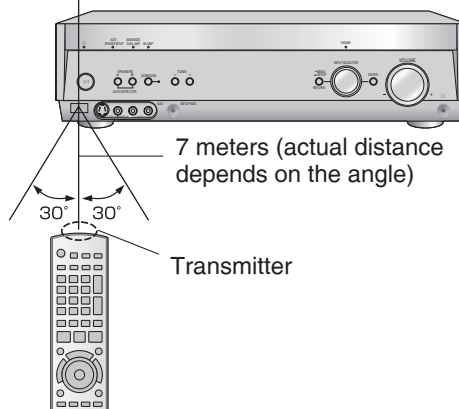
Transmitter

Caution
- Ensure there are no obstacles between the remote control and the main unit.
- Strong light sources (direct sunlight or strong fluorescent light) can interfere with operation.
- Keep the transmitter and sensor free from dust.

When you set the unit in a cabinet

Thick or coloured glass can reduce the operating distance.

RQTV0156

Control guide

Remote control
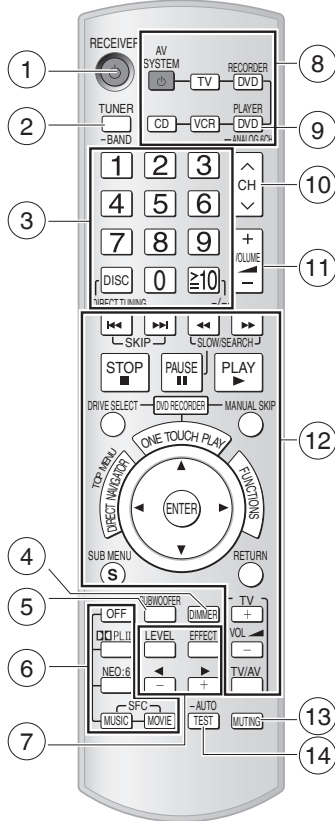
1. Power button

2. For selecting tuner/ For switching FM or AM (➡ page 32)

3. For selecting stations directly
   TUNER (➡ page 32)
   For selecting channels
   TUNER (➡ page 33)
   TV (➡ page 34)
   DVD recorder (➡ page 35)
   VCR (➡ page 36)
   For selecting tracks and chapters
   DVD recorder/DVD player (➡ page 35)
   For selecting tracks
   CD player (➡ page 36)

4. To dim the display (➡ page 31)

5. To adjust the subwoofer level (➡ page 31)

6. For selecting sound modes (➡ pages 22, 23, and 24)

7. For speaker adjustments (➡ page 17)
   For changing sound quality and sound field (➡ pages 22, 23, and 25)

8. Switches on or off other equipment/ switches the source/ switches the remote control mode (➡ pages 34 to 37)

9. For switching on the DVD-Audio 6-channel mode (➡ page 20)

10. To change channels
    TUNER (➡ page 33)
    TV (➡ page 34)
    DVD recorder (➡ page 35)
    VCR (➡ page 36)

11. Adjusts volume (➡ page 17)

12. For operating other equipment (➡ pages 21 and 34 to 37)

13. To mute the volume (➡ page 31)

14. For auto speaker setup (➡ pages 14 to 16)
    For testing speaker output (➡ page 17)

The main unit and display

1. **Standby/on switch [⏻/|]**
   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 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. Flashes during auto speaker setup. Lights when the setup finishes (➡ pages 14 to 16)

4. Lights when you are using the Advanced Dual Amp (➡ page 20)

5. Lights when you are using the bi-amp (➡ page 20)
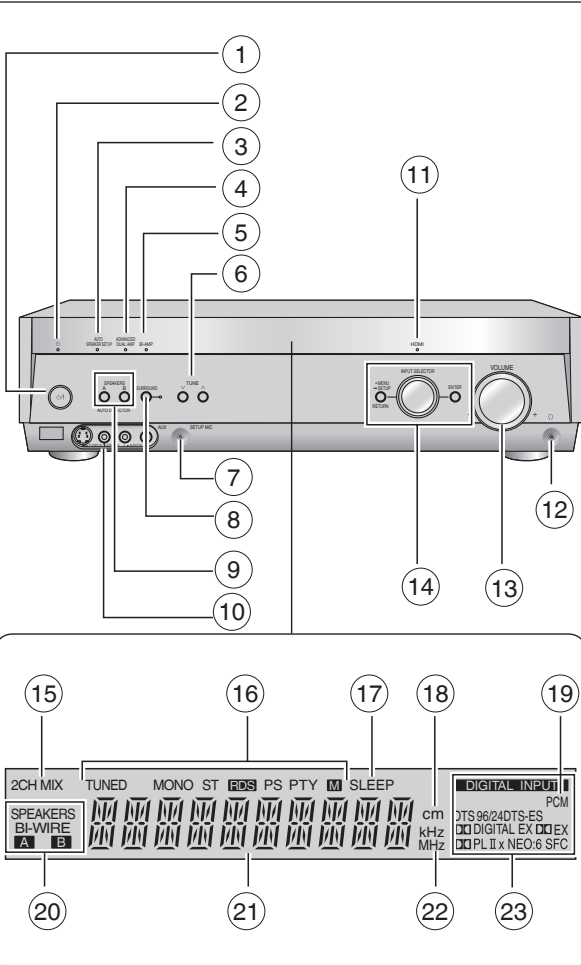
6. For tuning the radio and selecting preset stations (➡ pages 32 to 33)

7. Setup microphone jack (➡ page 14)

8. For switching surround (The indicator lights when you are using this feature) (➡ page 18)

9. For selecting front speakers (➡ pages 11, 17, 18, and 20)

10. For connecting other equipment (➡ pages 10)

11. Lights when you are using the HDMI connections (➡ page 5)

12. Headphone jack (➡ page 11)

13. Adjusts volume (➡ pages 11 and 18)

14. For switching input (➡ page 18) Also used during menu and setup operation

15. Lights when multi-channel sources are being down-mixed to 2 channels

16. Radio indicators

17. Sleep timer indicator

18. Units for speaker distance and Bi-amp delay time

19. Lights when you have set the PCM FIX mode

20. Shows the front speaker mode you have selected

21. General display

22. Frequency unit indicators

23. Digital signal format (➡ page 19)

Home Theater connections

- Turn off all components before making any connections.
- Peripheral equipment and cables sold separately unless otherwise indicated.
- To connect equipment, refer to the appropriate operating instructions.

Connecting your television and DVD equipment

High-quality audio and video simply with HDMI connection

[HDMI]

- The HDMI (High Definition Multimedia Interface) connection means you only need one cable to transmit digital audio and video between two pieces of equipment. It also carries a command signal that allows you to control your Panasonic TV (VIERA) or DVD recorder (DIGA) with one touch of a button (➡ page 21).
- DVD-Audio multi-channel audio is carried as a digital signal. Some DVD equipment (e.g. with HDMI Ver.1.0) cannot output multi-channel audio as a digital signal. Use the 6-channel discrete connection (➡ pages 8 and 20) if this is the case.
- The HDMI indicator lights when you are using this connection.

Connection cable

Video and Audio cable
HDMI Cable **(Use a Panasonic HDMI cable for best results.)** [Recommended part number: RP-CDHG15 (1.5 m), RP-CDHG30 (3.0 m), RP-CDHG50 (5.0 m) etc.] • Use only HDMI cables that have the HDMI logo (as shown on the cover).

To play audio from the television through speakers connected to this unit, ➡ page 9.

TV HDMI (AV IN)

Rear panel

DVD equipment

DVD HDMI (AV OUT)
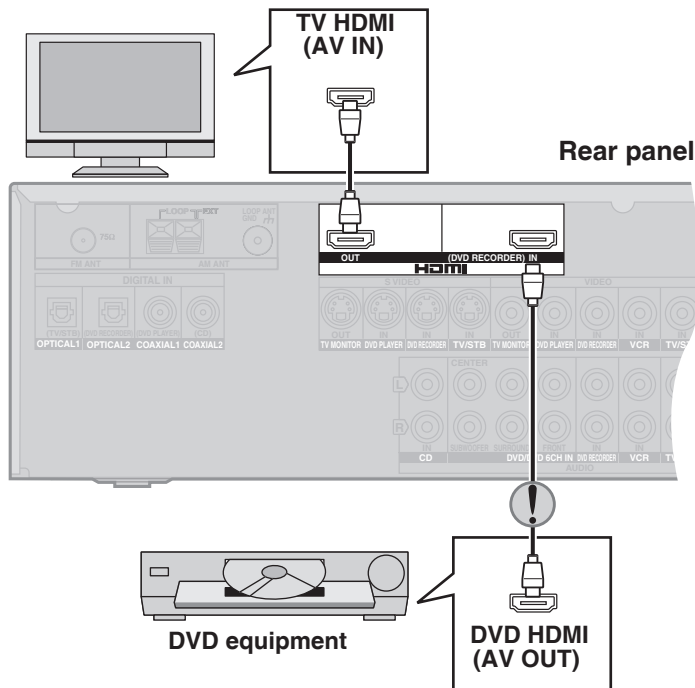
If you decide to connect a DVD player through the HDMI, change the "HDMI settings" (➡ page 29).

Note

Connect only DVD equipment to the HDMI input terminal of the unit. Connecting other equipment may prevent the output of sounds or show distorted pictures.

In such cases, see "Connecting other equipment", ➡ page 10, for connections other than HDMI.

Audio and video signal flow when you have used HDMI connections

The audio and video signals from DVD equipment pass through to the television even if this unit is set to standby.

When this unit is on

TV

Video
Audio   Audio
Speakers
This unit
Video   Audio
DVD equipment
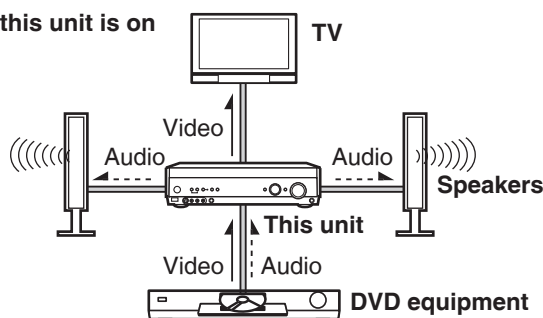
When this unit is in standby mode
(in standby ON condition, ➡ page 29)

TV

Video   Audio
Speakers
This unit
Video   Audio
DVD equipment
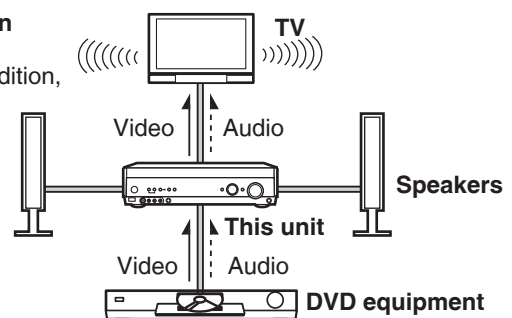
For your reference

- Audio signals from HDMI connection takes priority to digital terminal connections (➡ page 6 and 7).
- This unit's HDMI can carry video signals up to 1125i (1080i) (even when this unit is in standby mode).
  1125i: an interlace (jump scanning) system that divides 1,125 scan lines in two and sends each half alternately every 1/60 second.

Home Theater connections

Connecting your television and DVD equipment (cont.)

Connections for high-resolution video (components without an HDMI)

Connection cable
• Check the connections on your equipment and prepare the necessary cables.
• Your equipment will have more than one way of connecting video, so decide which best suits your needs.

Video cable	Audio cable	
S-VIDEO connection cable	**Optical fibre cable**	**Connecting the optical fibre cable** Note the shape and fit it correctly into the terminal. Do not bend!
Video connection cable	**Coaxial cable**	

To play audio from the television through speakers connected to this unit, ➡ page 9.

TV

S-VIDEO IN COMPONENT VIDEO IN
Y P$_B$ P$_R$

Digital input settings
You can change the input settings for the digital terminals if necessary (➡ page 28).

Rear panel

DIGITAL IN

DVD player

DIGITAL AUDIO OUT (COAXIAL) S-VIDEO OUT

DVD recorder

DIGITAL AUDIO OUT (OPTICAL) S-VIDEO OUT COMPONENT VIDEO OUT

The video terminals
• Connect the video cables in sets so that you have the same type for input and output.
• The component video connection provides the best colour reproduction by separating the luminance (Y) and colour (red: P$_R$ or C$_R$, and blue: P$_B$ or C$_B$) signals.

Note

- Turn off all components before making any connections.
- Peripheral equipment and cables sold separately unless otherwise indicated.
- To connect equipment, refer to the appropriate operating instructions.

Connections for standard-resolution video (components without an HDMI)

Connection cable

Video cable	Audio cable	
Video connection cable	**Optical fibre cable**	**Connecting the optical fibre cable**
		Note the shape and fit it correctly into the terminal. Do not bend!
Scart cable		
21-pin scart cable	**Coaxial cable**	
You will need an adaptor to connect equipment with a 21-pin scart terminal.		

To play audio from the television through speakers connected to this unit, ➡ page 9.

Digital input settings
You can change the input settings for the digital terminals if necessary (➡ page 28).

VIDEO IN

TV

Rear panel

DIGITAL AUDIO OUT (COAXIAL) · VIDEO OUT · **DVD player**

DIGITAL AUDIO OUT (OPTICAL) · VIDEO OUT · **DVD recorder**

Note

To connect a set top box (cable or satellite), ➡ page 10.
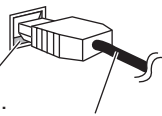
Connection with 21-pin scart cable

DVD recorder · AV

DVD player · AV
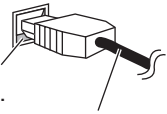
AV · **TV**

Rear panel

Home Theater connections
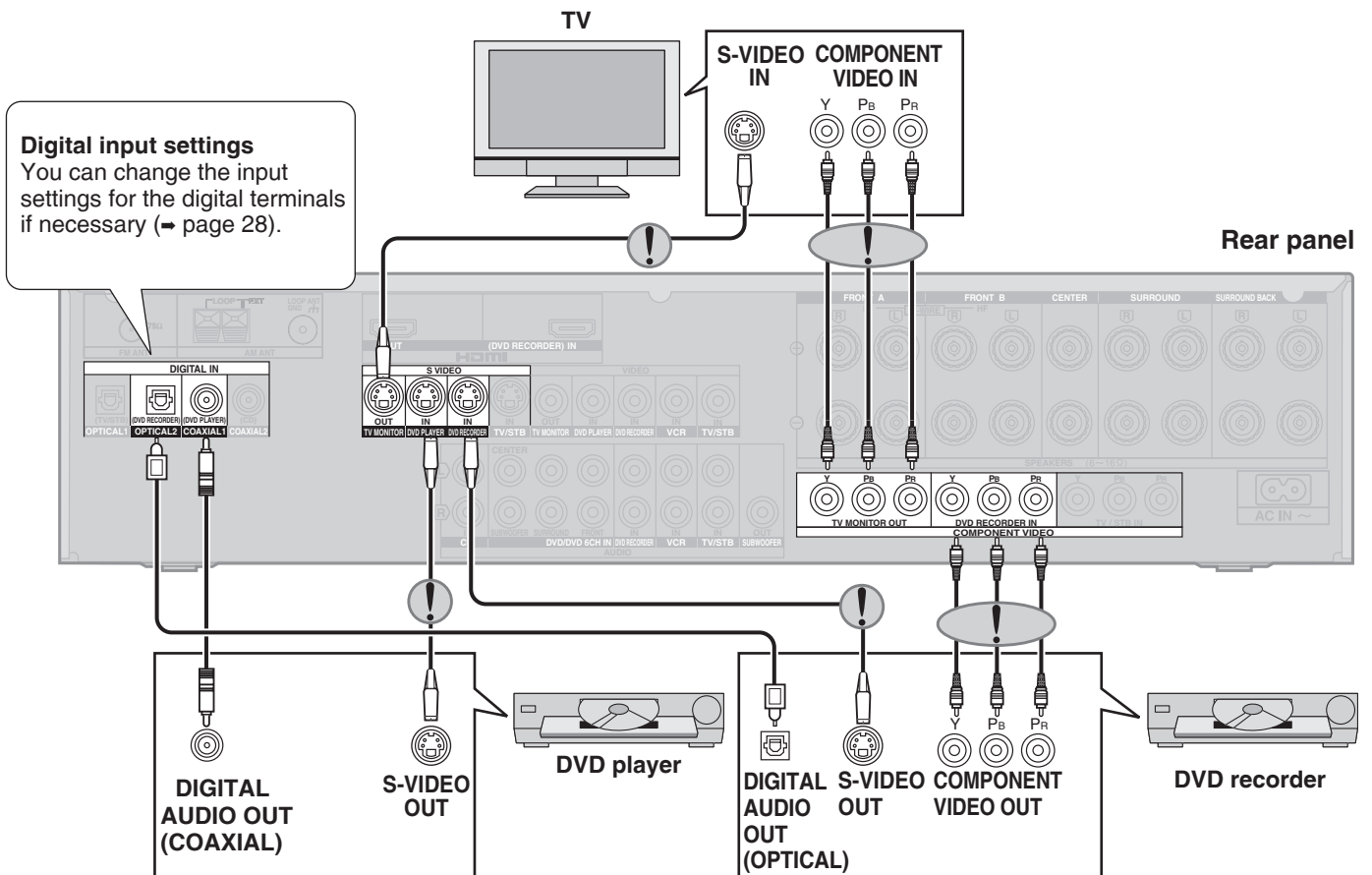
Connecting your television and DVD equipment (cont.)

Connection cable

Video cable	Audio cable
Video connection cable	**Stereo phono cable**
	White (L) Red (R)
	Optical fibre cable
	Connecting the optical digital cable Note the shape and fit it correctly into the terminal. Do not bend!

6-channel discrete connection (for high-quality DVD-Audio sound)

Rear panel

DVD equipment

SUBWOOFER CENTER (R) (L) FRONT (R) (L) SURROUND

See also "Playing DVD-Audio", ➡ page 20.
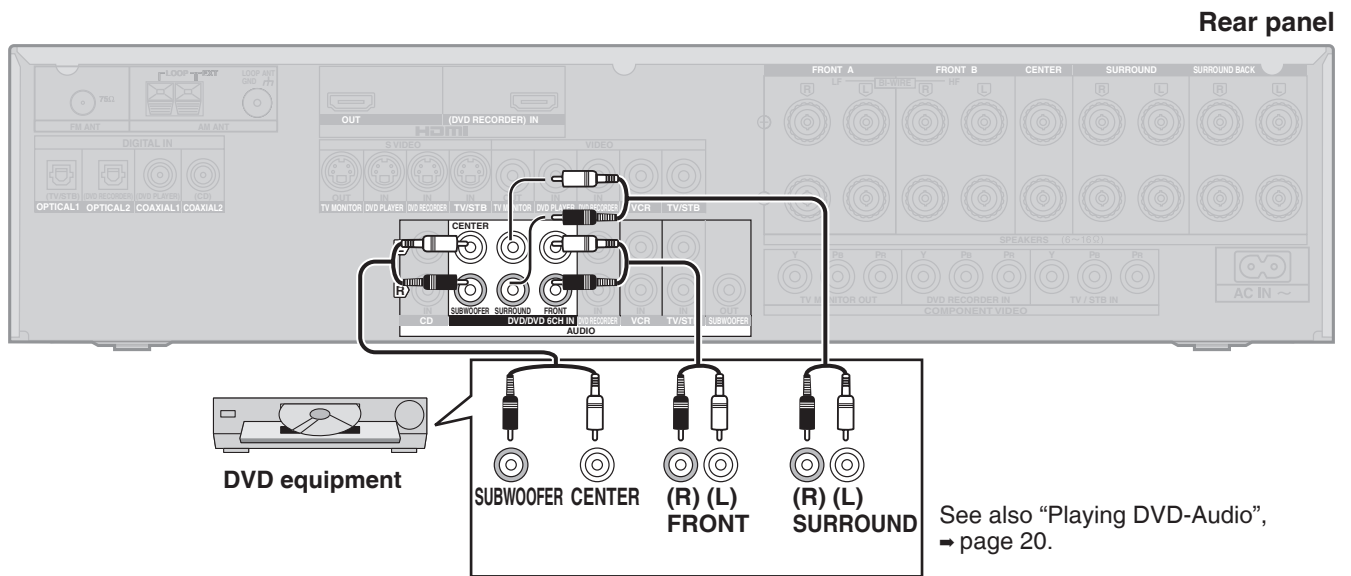
Analogue audio connections

There are some limitations on digital output from DVD equipment, so you may need to make this connection. For video connections, ➡ pages 6 and 7.
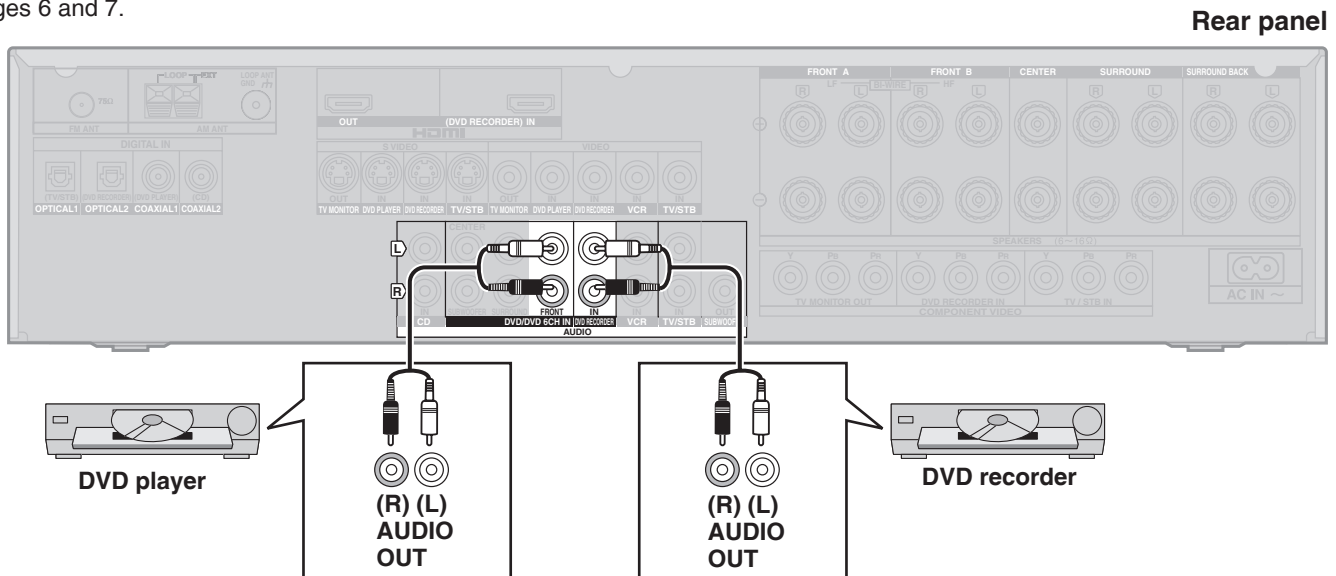
Rear panel

DVD player

(R) (L) AUDIO OUT

(R) (L) AUDIO OUT

DVD recorder

- Turn off all components before making any connections.
- Peripheral equipment and cables sold separately unless otherwise indicated.
- To connect equipment, refer to the appropriate operating instructions.

Playing audio from your television through speakers connected to this unit

Your equipment may be able to output both digital and analogue audio, so decide which best suits your needs.
To take advantage of the multi-channel sounds now available with digital television, use a digital connection. Read your television's operating instructions for details.

TV

DIGITAL AUDIO OUT (OPTICAL)

AUDIO OUT (R) (L)

Rear panel

Digital input settings
You can change the input settings for the digital terminals if necessary (➡ page 28).
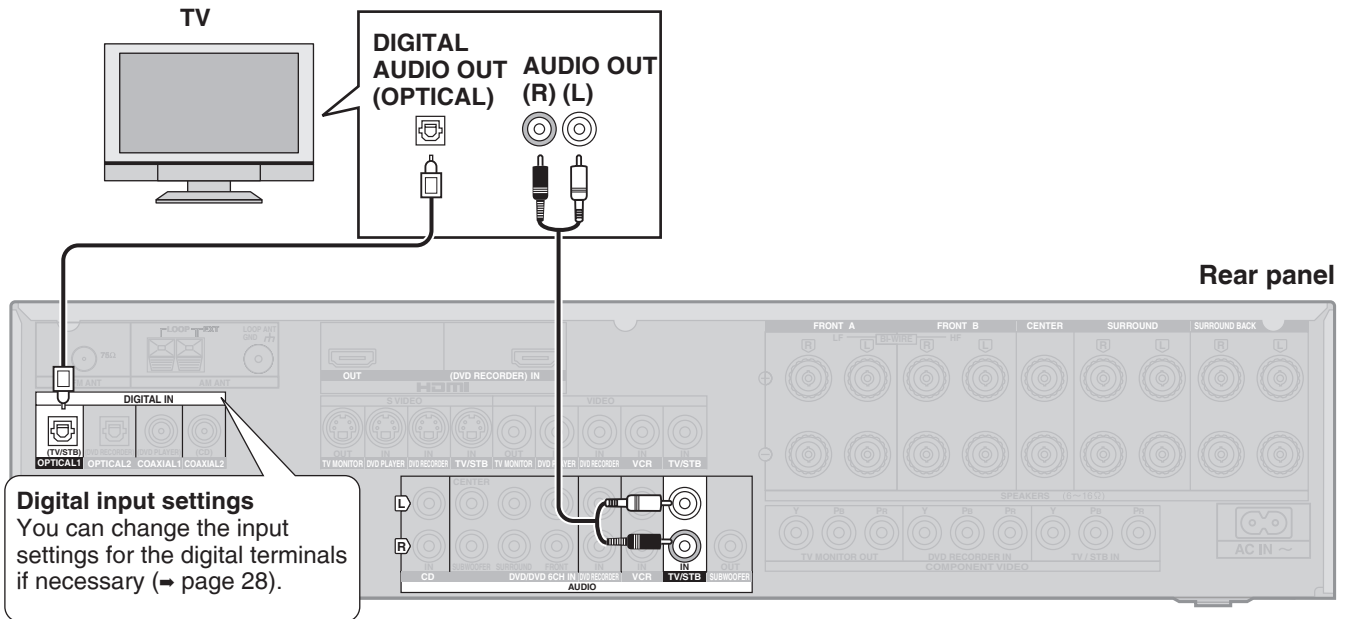
Connecting a combination DVD recorder/VCR

Digital input settings
You can change the input settings for the digital terminals if necessary (➡ page 28).

Rear panel

Combination DVD recorder/VCR

DIGITAL AUDIO OUT (OPTICAL)

VIDEO OUT

DVD OUT terminals

(R) (L) AUDIO OUT

VIDEO OUT

DVD/VHS COMMON OUT terminals

For playback instructions, ➡ page 18.

Connecting other equipment

Connecting a set top box (cable or satellite)

Your equipment may be able to output both digital and analogue audio, so decide which best suits your needs.

- Connect the video cables in sets so that you have the same type for input from the equipment and output to your television.
- For television connections, ➡ pages 6 and 7.

Cable box or satellite receiver etc.

Rear panel

Digital input settings
You can change the input settings for the digital terminals if necessary (➡ page 28).

- S-VIDEO OUT
- VIDEO OUT
- P_R COMPONENT
- P_B VIDEO OUT
- Y
- (L) AUDIO
- (R) OUT
- DIGITAL AUDIO OUT (OPTICAL)

Connecting a VCR

Rear panel

VCR

- VIDEO OUT
- (L) AUDIO
- (R) OUT
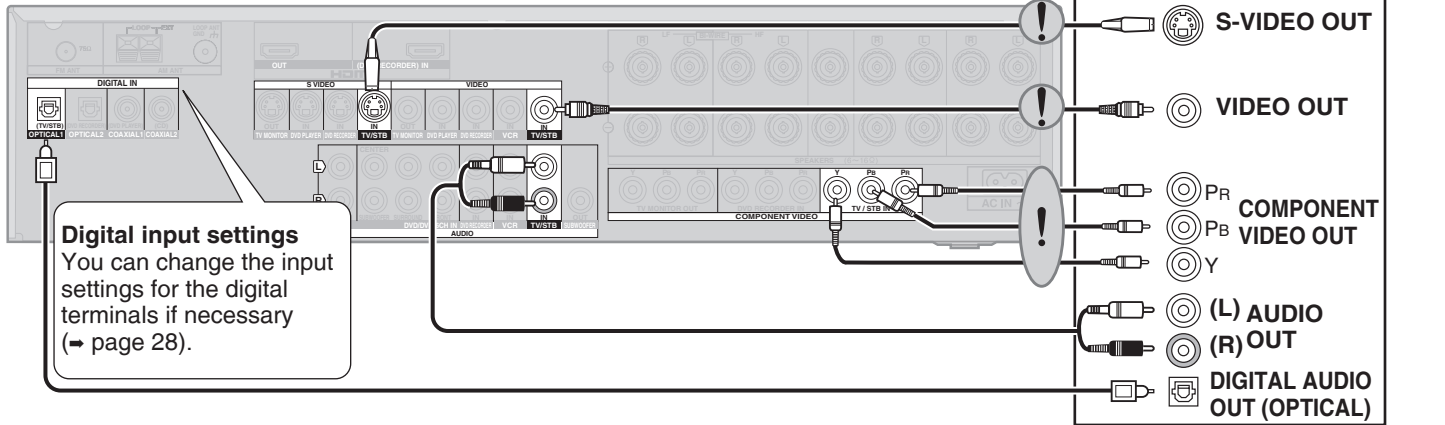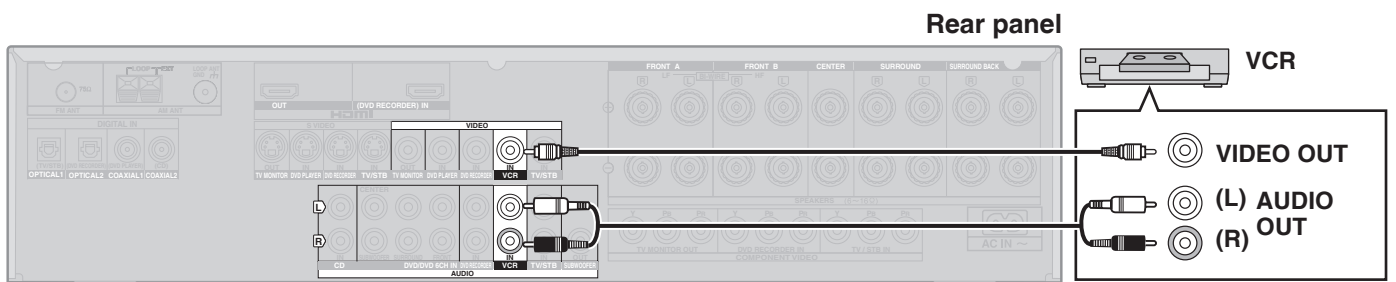
Note that you must also use matching connections for your television and DVD recorder, "Connections for standard-resolution video", ➡ page 7, to view or record the images played on the VCR.

Connecting a CD player

Your equipment may be able to output both digital and analogue audio, so decide which best suits your needs.

CD Player

- DIGITAL AUDIO OUT (COAXIAL)
- (L) AUDIO
- (R) OUT

Digital input settings
You can change the input settings for the digital terminals if necessary (➡ page 28).

Rear panel
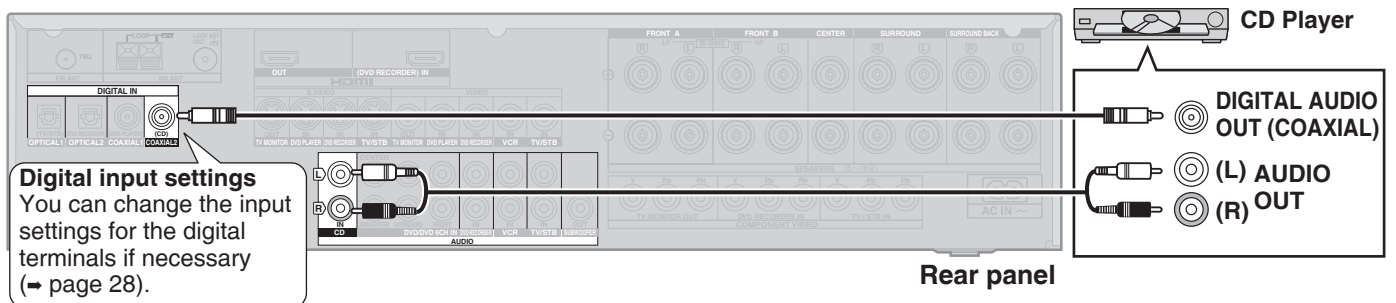
Connecting a video camera or other portable device

Use these terminals for temporary connections.
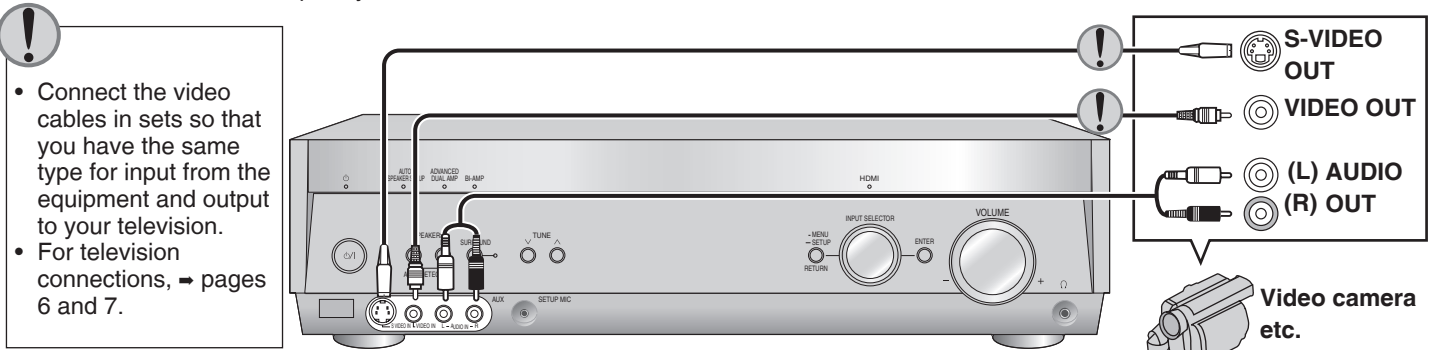
- Connect the video cables in sets so that you have the same type for input from the equipment and output to your television.
- For television connections, ➡ pages 6 and 7.

- S-VIDEO OUT
- VIDEO OUT
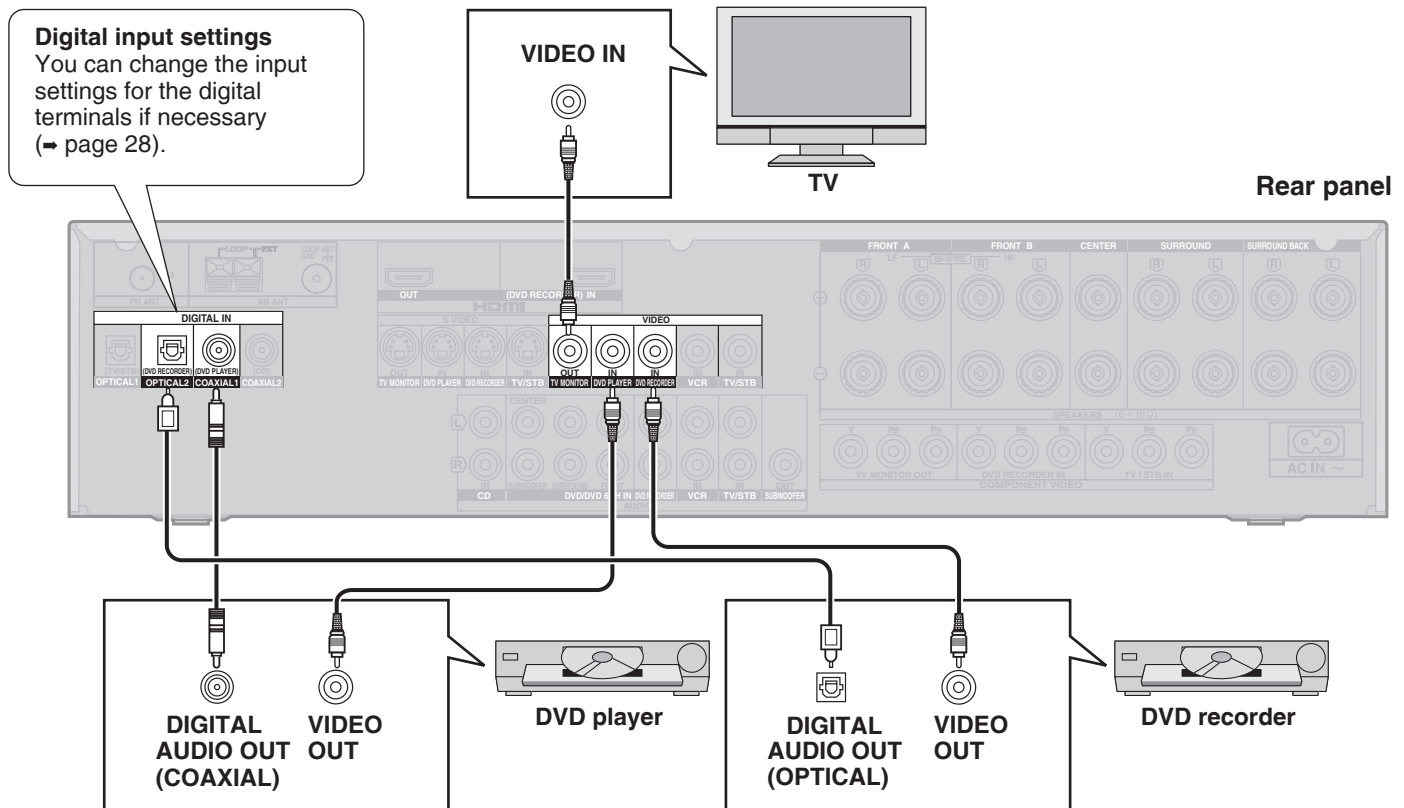- (L) AUDIO
- (R) OUT

Video camera etc.

- Turn off all components before making any connections.
- Peripheral equipment and cables sold separately unless otherwise indicated.
- To connect equipment, refer to the appropriate operating instructions.

Connecting the antennas and AC mains lead

Adhesive tape

Rear panel

FM indoor antenna (included)
Fix the other end of the antenna where reception is best.

AM loop antenna (included)
Keep the antenna cord away from DVD recorders, DVD players, and other cords.

Black
Red
White

AC mains lead (included)

To household mains socket

FM outdoor antenna (not included)
- Disconnect the FM indoor antenna.
- The antenna should be installed by a competent technician.

FM outdoor antenna

75 Ω coaxial cable

Insertion of connector
Even when the connector is perfectly inserted, depending on the type of inlet used, the front part of the connector may jut out as shown in the drawing. However there is no problem using the unit.

Appliance inlet
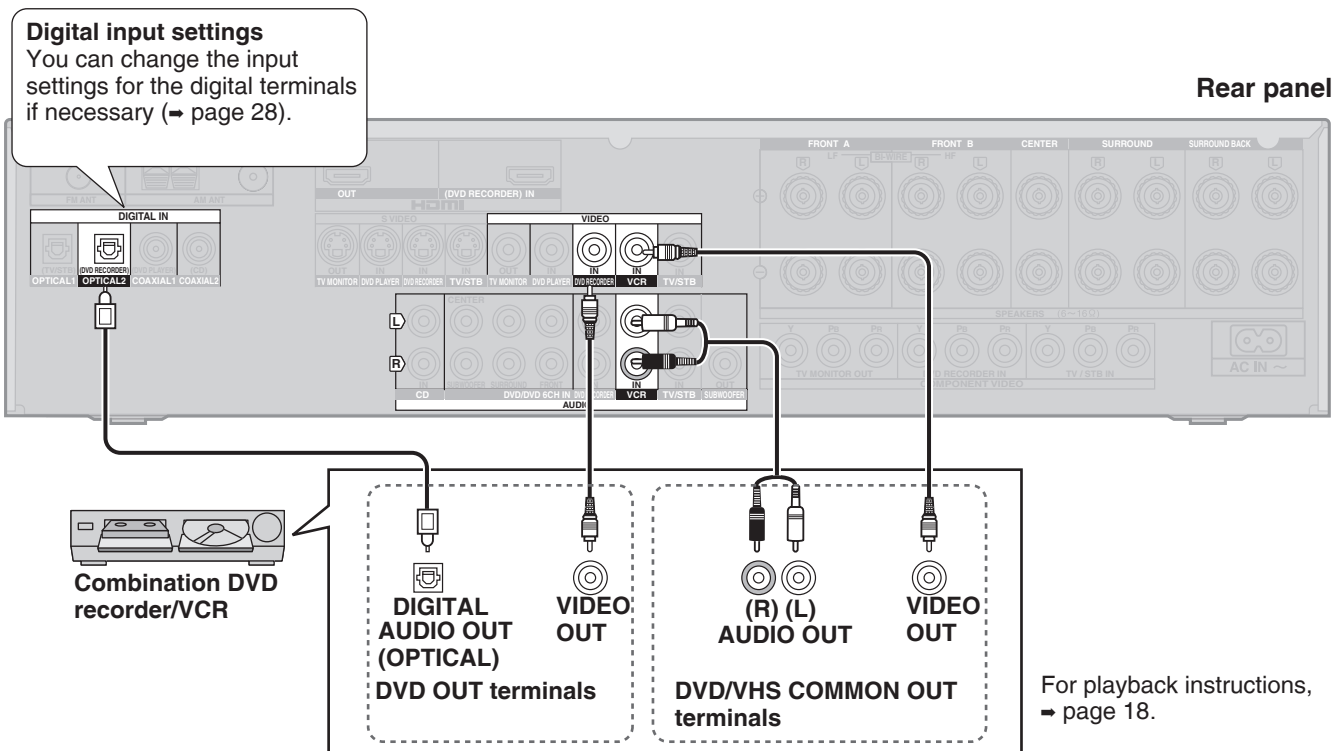Connector
Approx. 6 mm

Connect AC mains lead after all other cables and cords are connected.
- The included AC mains lead is for use with this unit only. Do not use it with other equipment.
- Do not use an AC mains lead from other equipment.
- If the unit is left unplugged for longer than two weeks, all settings will revert to the factory settings. Perform the settings again if this occurs.

Using headphones

VOLUME

SPEAKERS A B

Ω (Headphone jack)
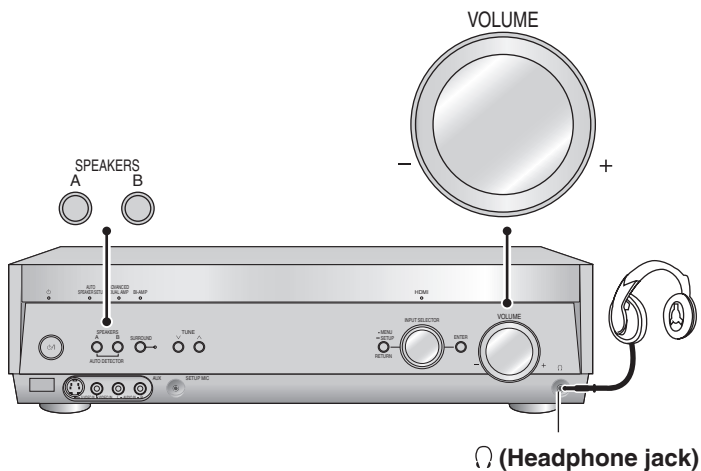
1. **Press [SPEAKERS A] and [SPEAKERS B] to turn off the speakers.**
2. **Reduce the volume and connect the headphones.**
   Plug type: 6.3 mm stereo (in diameter)
3. **Adjust the volume.**

Note

- Avoid listening for prolonged periods of time to prevent hearing damage.
- Turning the speakers off automatically engages stereo play, and when you play multi-channel sources they are down-mixed (2CH MIX). (Some DVD-Audio prohibit down-mixing.)
- Note that if you are using DVD 6CH input (➡ page 20), the input source switches to *"DVD"* (2 channel) and only the sound for the front speakers is output.

Speaker connections

Connecting speakers

Connections and placement to suit the number of speakers you have

The ideal is to have all the speakers (except the subwoofer) at equal distances from the seating area.
Auto speaker setup compensates for any differences (➡ pages 14 to 16).
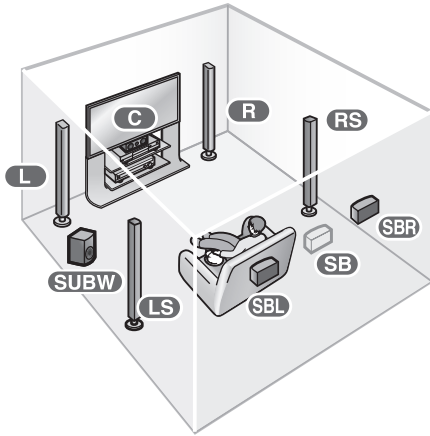
Front speakers (left L , right R)
Place either side of the television, then adjust their position and angle towards the seating position until you are satisfied with the relationship between the images and sound.
Center speaker (C)
Place directly above or below the center of the television, aiming at the seating position.

Surround speakers (left LS , right RS)
Place on either side of or slightly behind the seating area, about one meter higher than ear level.
Surround back speakers (left SBL , right SBR / when you connect only one speaker SB)
Place behind the seating area, about one meter higher than ear level.

Subwoofer (SUBW)
Place anywhere near the television (but not so close as to cause excessive vibration).

Number of speakers	Placement
7	• This setup is suitable for playing 6.1-channel sources (DTS-ES and Dolby Digital Surround EX). • Use Dolby Pro LogicIIx, DTS NEO:6, or SFC to enhance 2-channel or 5.1-channel sources.
6	• This is the best setup for playing 6.1-channel sources (DTS-ES and Dolby Digital Surround EX). • Use Dolby Pro LogicIIx, DTS NEO:6, or SFC to enhance 2-channel or 5.1-channel sources.
6	• Use this setup when you do not have a center speaker. • The center channel is split between the front speakers.
5	• This is the best setup for playing 5.1-channel sources (Dolby Digital and DTS materials). • Use Dolby Pro LogicIIx, DTS NEO:6, or SFC to enhance 2-channel sources.
5	• Use this setup when you do not have a center speaker. • The center channel is split between the front speakers.
4	• Any center-channel sound (from 2-channel, 5.1-channel or 6.1-channel sources or allocated by Dolby Pro LogicIIx, DTS NEO:6, or SFC) is split between the front speakers. Surround back speakers are split between the surround speakers.
3	• Any surround or surround back-channel sound (from multi-channel sources or allocated by Dolby Pro LogicIIx, DTS NEO:6, or SFC) is split between the front speakers.
2	• This is the best setup for stereo sources. • All other channels are "down-mixed" and played through the front speakers.

- Turn off all components before making any connections.
- Peripheral equipment and cables sold separately unless otherwise indicated.
- To connect equipment, refer to the appropriate operating instructions.

Speaker impedance
Front A: 6 to 16 Ω
Center: 6 to 16 Ω
Surround: 6 to 16 Ω
Surround back: 6 to 16 Ω

If you have a single surround back speaker, connect it to the SURROUND BACK (L) terminal.
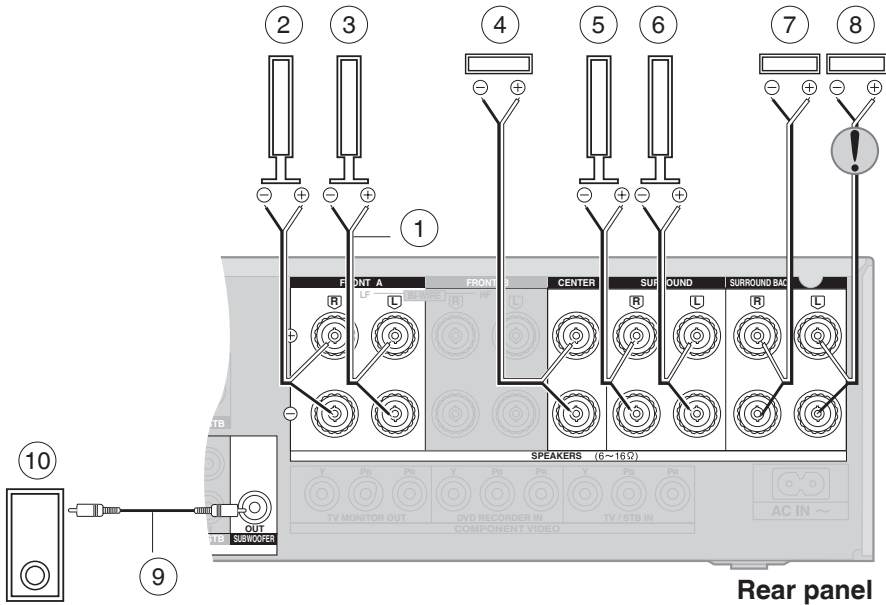
1. Speaker cable
2. Front speaker (R)
3. Front speaker (L)
4. Center speaker
5. Surround speaker (R)
6. Surround speaker (L)
7. Surround back speaker (R)
8. Surround back speaker (L)
9. Monaural connection cable
10. Active subwoofer

Rear panel

Note

After changing your speaker set up: Perform auto speaker setup (➡ pages 14 to 16) or automatic speaker detection (➡ page 17); or for manual settings (➡ page 27).

Connecting biwireable speakers

Biwireable speakers have separate terminals for the high frequency and low frequency signals.
- Use this connection to reduce interference between the high frequency and low frequency signals for high-fidelity sound.
- When you are playing analogue or 2-channel PCM sources, the unit can allocate an amplifier each to the high frequency and low frequency signals, thereby giving you a much clearer bi-amp stereo sound (➡ page 20).
- HF stands for high frequency and LF for low frequency.

Speaker impedance
BI-WIRE: 6 to 16 Ω

Rear panel

For your reference
- Be sure to connect the HF cables to the FRONT B terminals, and the LF cables to the FRONT A terminals, so that you can correct any delay that may occur (➡ page 28).
- To take advantage of this connection and ensure the best possible sound, be sure to change the setting in "LR BI-WIRE setting" to *"YES"* (➡ page 27).
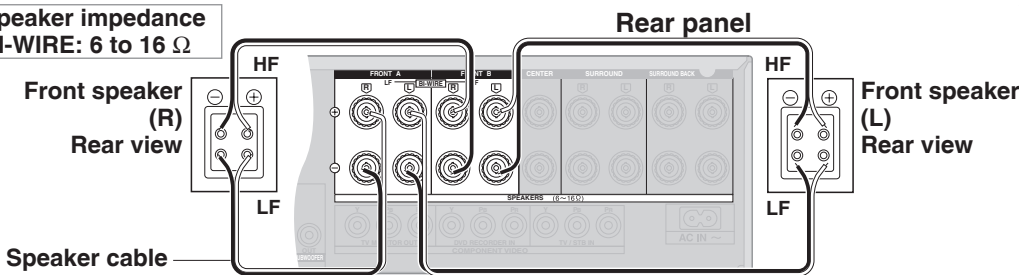
Connecting a second pair of front speakers

This second set of terminals allows you to connect a second pair of speakers to place in another room, for example.
To use the speakers connected to the FRONT B terminals, press [SPEAKERS B] (➡ page 20).

Speaker impedance
Front A and B: 6 to 16 Ω
Front B: 6 to 16 Ω
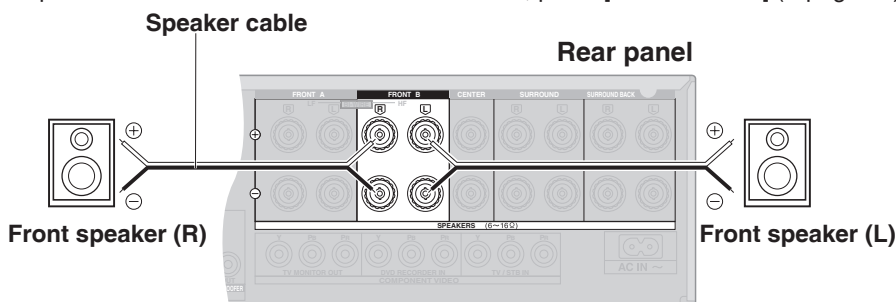
Note

When only SPEAKERS B is on, output will be 2-channel only. Signals from multi-channel sources are "down-mixed" and output through the two front speakers you have connected.

Before playback

Auto speaker setup

Auto speaker setup allows you to achieve a satisfactory listening environment easily with the use of the supplied calibration microphone as a detector of sound signals. The unit will first perform automatic speaker detection, then checks and adjusts the following settings.

Automatic speaker detection (This can also be performed in "Automatic speaker detection", ➡ page 17. However, for a more optimized listening environment, carry out the setup here.)	• Checks which speakers you have connected. • The factory setting is 7 speakers and a subwoofer. • Some types of speakers and cables may cause disruptions to the setup. In this case, conduct manual setting, "Speaker and size settings", ➡ page 27.
DISTANCE	• Checks the distance of each speaker from the listening position and adjusts the timing of each channel. For manual setup, "Distance", ➡ page 27.
POLARITY	• Checks the polarity of each speaker. You can choose not to have polarity checked, "Auto setup", ➡ page 27.
SIZE	• Checks the speaker's frequency response. For manual setup, "Speaker and size settings", ➡ page 27. • The front speakers are set to SMALL if the unit determines that they are different sizes.
FREQUENCY	• Sets the appropriate low frequency crossover for each channel according to the speaker size. For manual setup, "Low-pass filter", ➡ page 27. • The setting is based on the speaker with the lowest bass reproduction range. • Also checks on *"Level"* setting to adjust the sound level (volume) for each speaker.
LEVEL	• Makes any further corrections to the volume of each speaker (for manual setup, "Speaker output and level" ➡ page 17) and also to the frequency response.

Before setup
• Conduct the auto speaker setup in a quiet environment. A noisy background will give unsatisfactory results.
• Put the subwoofer in position, switch it on, and sets its volume to the level you would normally use. If you do auto speaker setup without the subwoofer, the front speakers will be set as large, possibly resulting in an unsatisfactory bass.

Process for auto speaker setup

1 **Placing of calibration microphone.**

Place on a flat surface at the seating area. Use a tripod for best results.
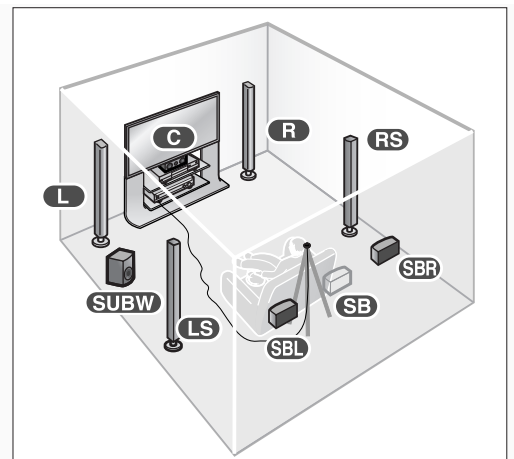
2 **Connect the calibration microphone to the [SETUP MIC] jack on the front panel.**

Note

The calibration microphone is sensitive to heat. Keep it away from direct sunlight and do not place it on top of the unit.
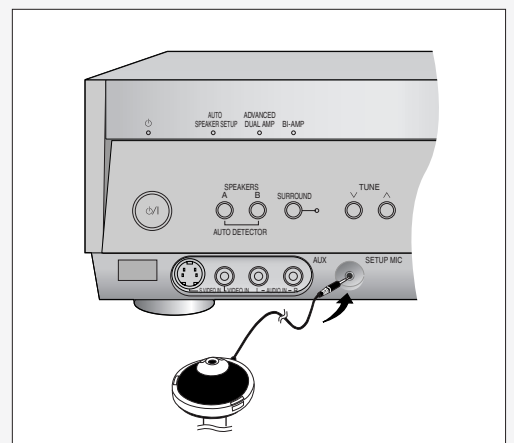
- Turn off all components before making any connections.
- Peripheral equipment and cables sold separately unless otherwise indicated.
- To connect equipment, refer to the appropriate operating instructions.

3 Start performing auto speaker setup.

Turn on the unit.

Press ⏻/I

- The standby indicator goes off when you turn on the unit.

⏻ ➡ ⏻

a) Press and hold – AUTO **TEST for about 2 seconds.**

- [AUTO SPEAKER SETUP] indicator starts flashing.

AUTO SPEAKER SETUP ➡ AUTO SPEAKER SETUP

- *"AUTO SETUP"* appears on the display.

b) The unit checks that you have correctly connected the calibration microphone.

c) The automatic setup starts the automatic speaker detection, STEP 1, STEP 2, and STEP 3 calibration as follows.

```
ATR S SD W
```
(Automatic speaker detection)

↓

```
STEP1 - DISTANCE / POLARITY
```
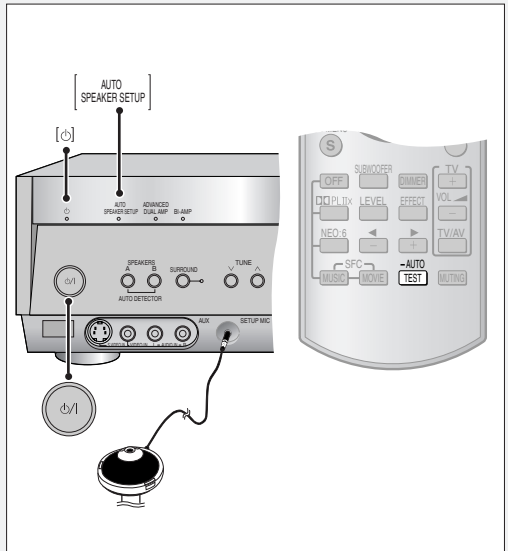
STEP1 L→STEP1 C→STEP1 R→STEP1 RS→STEP1 SBR →STEP1 SBL→STEP1 LS→STEP1 SUBW→PROCESSING

↓

```
STEP 2 - SIZE / FREQUENCY
```

STEP2 L→STEP2 C→STEP2 R→STEP2 RS→STEP2 SBR →STEP2 SBL→STEP2 LS→STEP2 SUBW→PROCESSING

↓

```
STEP 3 - LEVEL
```

STEP3 L→STEP3 C→STEP3 R→STEP3 RS→STEP3 SBR →STEP3 SBL→STEP3 LS→STEP3 SUBW→PROCESSING

During setup, operations may stop when there is an error message on the display. Refer to page 16 for troubleshooting.

Speaker abbreviations

L: Front left	*C:* Center	*R:* Front right
S: Surround	*RS:* Surround right	*LS:* Surround left
SB: Surround back	*SBR:* Surround back right	*SBL:* Surround back left
W/SUBW: Subwoofer		

For your reference

- Loud test tones are output from each speaker during the configuration.
- The checked settings display for a minimum of 3 seconds each.

4 Auto speaker setup finishes.

- *"COMPLETE"* appears on the display and all calibrations are saved.
- [AUTO SPEAKER SETUP] indicator lights.
- To exit, press – AUTO **TEST** .
- Disconnect the calibration microphone.

To cancel during setup

Press any button on the main unit or remote control. *"CANCELED"* appears on the display.

Note

Perform auto speaker setup again if you have changed the speakers, speaker positions, or the layout of your listening environment.

Before playback

Auto speaker setup

SPEAKERS
A   B

AUTO DETECTOR

AUTO SPEAKER SETUP

[⏻]

While performing auto speaker setup, errors may occur and the messages will blink or scroll on the display, depending on the conditions. Press any button on the main unit or remote control to stop the setup.

After troubleshooting, press and hold $\boxed{\text{TEST}}$ (−AUTO) for 2 seconds to start the setup process again.

Troubleshooting for auto speaker setup

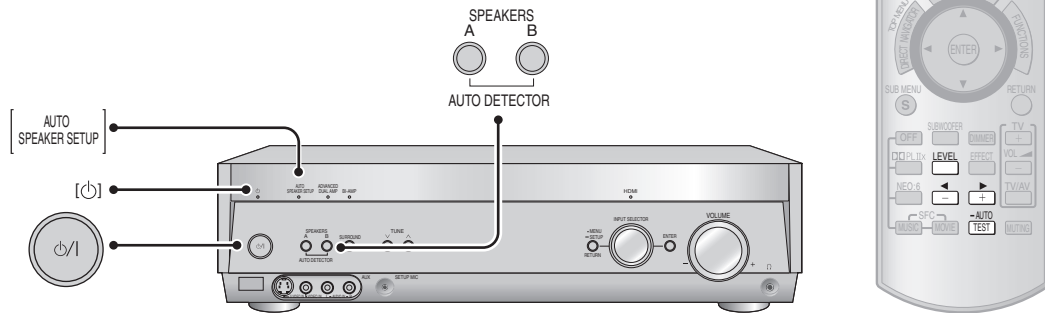| Message	Solutions	Pages
"INSERT MIC"	• Calibration microphone is not detected. Insert the microphone correctly.	14
"NO SIGNAL"	• Check that the calibration microphone is connected correctly.	14
"DISTANCE ERROR"	• Bring the speakers nearer to the calibration microphone.	-
"NOISY"	• Setup in a quiet environment or do auto speaker setup at a quieter time of day. • Turn off equipment that may produce noise, such as air conditioners.	- -
"MEASURING ERROR"	• Change the positions of the speakers and perform the setup again.	-
"CHECK CONNECTION TO SBL SPEAKER"	• Left surround back speaker not detected. If you have decided to use only one surround back speaker, connect it to the SURROUND BACK (L) terminal. • Check connection to left surround back speaker.	13 13
"NEED TO CONNECT LS/RS SPEAKERS"	• Surround speakers not detected. You must have surround speakers connected before you can connect and use surround back speakers effectively.	13
"CHECK CONNECTIONS TO LS/RS SPEAKERS"	• One or both surround speakers not detected. Check the connections.	13
"CHECK CONNECTIONS TO L/R SPEAKERS"	• Check the front (L) and (R) connections.	13
"LOW SIGNAL"	• Change the position (height and direction) of the microphone. • Make sure there is nothing around the microphone that could interfere with the test tones. • Make sure the volume of the subwoofer is set to the level you would normally use.	- - 17

Note

• Auto speaker setup may produce an unsatisfactory result with some speaker setups and configurations.
• You can perform auto speaker setup even if SPEAKERS A are off.
• For subwoofer, only level is adjusted in auto speaker setup.
• All settings in auto speaker setup return to the factory setting if you do automatic speaker detection (➡ page 17) separately, or, change the speaker size (except for front speakers) from *"NO"* or *"NONE"* to other size settings ("Speaker and size settings", ➡ page 27).
• Auto speaker setup will not start if you have muted the speakers. Turn the muting off (➡ page 31).
• HDAVI Control™ (➡ page 21) is disabled during auto speaker setup.

Automatic speaker detection

Automatic speaker detection is performed during auto speaker setup. Do the following only if you want to check speakers' status, and not other settings.
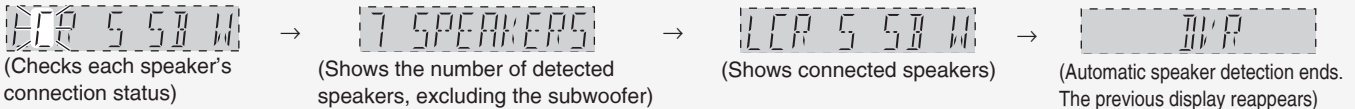
1 **Turn on the unit.**

Press [⏻/|]

• The standby indicator goes off when you turn on the unit.

⏻ ➡ ⏻

2 **Start automatic speaker detection.**

Press ○ ○ **at the same time.**
SPEAKERS A   B
AUTO DETECTOR

⌐LCR S SB W⌐ → ⌐7 SPEAKERS⌐ → ⌐LCR S SB W⌐ → ⌐DVR⌐

(Checks each speaker's connection status) → (Shows the number of detected speakers, excluding the subwoofer) → (Shows connected speakers) → (Automatic speaker detection ends. The previous display reappears)

• These settings are saved even if you turn the unit off.
• Refer to page 14 for further notes and page 16 for error message explanations. (*"WARNING"* may appears on the display during the detection here.)

Speaker output and level

Adjust the level of the speakers so they are the same apparent level as the front speakers from the seating area.
Speaker level is adjusted during auto speaker setup. Do the following only if you find the level unsatisfactory.

1 **To turn on SPEAKERS A.**

Press ○
SPEAKERS A

If you have bi-wired your front speakers (➡ page 13), make sure you have selected *"YES"* for the "LR BI-WIRE setting" (➡ page 27).

Press ○ **or** ○
SPEAKERS A   SPEAKERS B

SPEAKERS BI-WIRE A B

SPEAKERS A are on

SPEAKERS A

or

SPEAKERS A and B are on

SPEAKERS A B

• The unit does not output the test signal if only SPEAKERS B is on.

2 **Press** [TEST] **to output the test signal.**
−AUTO

• The signal is output from each speaker in order for about two seconds each:

L→C→R→RS→SBR→SBL→LS→SUBW
or *L→C→R→RS→SB¹→LS→SUBW*
¹If you connect one surround back speaker only (the left surround back speaker)

Make sure your speaker settings match your connections (➡ pages 13, and 14 to 16). There will be no output from a speaker if it is set as NO or NONE (➡ page 27).

Speaker abbreviations

L: Front left	*C:* Center
R: Front right	*RS:* Surround right
LS: Surround left	*SBR:* Surround back right
SBL: Surround back left	*SB:* Surround back (If you connect one surround back speaker)
SUBW: Subwoofer	

3 **Set speakers volume to the level you would normally use.**

Press [+ VOLUME −]

Volume range:
-- dB (minimum), *-79 dB* to *0 dB* (maximum)

4 **Press** [LEVEL] **to select the speaker channel to adjust.**

5 **Press** [◄ −] [► +] **to adjust the level to the same apparent level as the front speakers.**
Repeat steps 4 and 5 for each speaker channel.

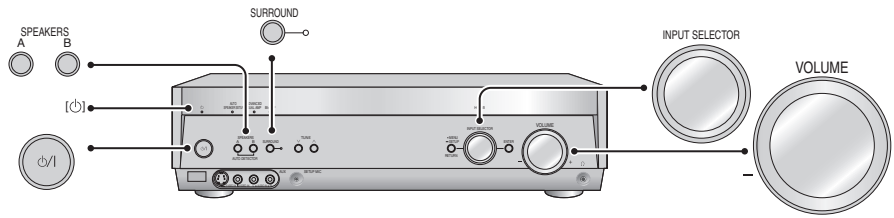**Adjustment range:**
-20 dB to *+10 dB* (Factory setting: *0 dB*)
For the subwoofer **(SUBW)**
MIN (minimum) ↔ *1* to *29* ↔ *MAX* (maximum)
(Factory setting: *20*)

The test signal is output only from the speaker you are adjusting in steps 4 and 5. Test signal for connected speakers resumes after 2 seconds.

6 **Press** [TEST] **to stop the test signal.**
−AUTO

Enjoying Home Theater features

Basic play

1 Turn on the unit.

Press [⏻/|]

- The standby indicator goes off when you turn on the unit.

⏻ ➡ ⏻

The [SURROUND] indicator lights to show that the surround mode is on (factory setting).

SURROUND

Note

Before using the unit for the first time or after changing your speaker set up, make sure that you perform auto speaker setup (➡ pages 14 to 16) or automatic speaker detection (➡ page 17), or for manual settings (➡ page 27).

2 Turn on SPEAKERS A.

Press ○
SPEAKERS A

SPEAKERS
A

If you have bi-wired your front speakers (➡ page 13), make sure you have selected *"YES"* for the "LR BI-WIRE setting" (➡ page 27).

Press ○ **or** ○
SPEAKERS A   SPEAKERS B

SPEAKERS
BI-WIRE
A   B

If you also want to use SPEAKERS B, press [SPEAKERS B] to turn them on. (Remember that sound will only be stereo if you use just SPEAKERS B.)

3

INPUT SELECTOR

Turn ⊙ **to select the input source.**

If you have a combination DVD recorder/VCR (➡ page 9)
- Select *"DVR"* to watch DVDs.
- Select *"VCR"* to watch video tapes.

Input sources:
TUNER FM, TUNER AM, CD, TV/STB, DVD, DVR (DVD recorder)*, VCR* (video recorder)*, AUX* (front terminals)
- *"DVD RECORDER"* scrolls once across the display if you select *"DVR"*.
- You can also select the input source with the buttons on the remote control (➡ pages 34 to 36).

4 Start playing the source

If you would prefer to listen in stereo, press [SURROUND] to turn the indicator off.
To return to surround sound, press [SURROUND] to turn the indicator on.

- The unit stores whether you have selected SURROUND or not for each input source, but the mode automatically activates if you play a multi-channel source.
- You can "down mix" multi-channel sources to 2 channels by pressing [SURROUND] to turn the indicator off during play. (Some DVD-Audio prohibit down-mixing.)
2-channel down-mix cancels when you turn the unit off or change the input source.

5 Adjust the volume.

VOLUME

Turn ⊙
−   +
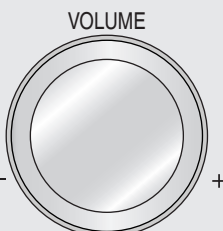
Volume range:
-- dB (minimum)*, -79 dB* to *0 dB* (maximum)

When you finish listening

Be sure to reduce the volume and press [⏻/|] to switch the unit to standby.

Digital signals this unit can play

| Dolby Digital (including Dolby Digital Surround EX)	These digital surround systems were developed by Dolby Laboratories. Dolby Digital Surround EX, with its additional surround back channels, produces an increased sense of realism.	DVD etc.
DTS (including DTS-ES and DTS 96/24)	These digital surround systems were developed by DTS (Digital Theater Systems, Inc.). DTS-ES, with its additional surround back channel, immerses you in sound. DTS 96/24 delivers multi-channel sound with superior fidelity (96 kHz/24 bit).	DVD etc.
PCM	You can input PCM signals with sampling frequencies up to 192 kHz with the DIGITAL IN COAXIAL 1 terminal. The other digital terminals allow input of up to 96 kHz. The display shows the sampling frequency when you input 88.2-kHz, 96-kHz, 176.4-kHz, or 192-kHz signals.	CD, DVD-Audio etc.

Note

This unit cannot process Dolby Digital RF or MPEG audio signal.

Signal indicators

2CH MIX   TUNED   MONO ST RDS PS PTY M SLEEP   DIGITAL INPUT

SPEAKERS   cm   DTS 96/24 DTS-ES   PCM
BI-WIRE   kHz   DD DIGITAL EX DD EX
A   B   MHz   DD PL II x NEO:6 SFC

DD DIGITAL:	Dolby Digital sources	DTS:	DTS sources
DD DIGITAL EX:	Dolby Digital Surround EX decoder (while in Dolby Pro LogicIIx mode) when the input signal is Dolby Digital 5.1-channel or Dolby Digital Surround EX and you are using one surround back speaker.	DTS 96/24:	DTS 96/24 sources
DD EX:	Dolby Digital Surround EX decoder (while in Dolby Pro LogicIIx mode) when the input signal is DTS 5.1-channel and you are using one surround back speaker.	DTS-ES:	DTS-ES Discrete 6.1 sources or when using the DTS-ES matrix
DD PLIIx:	Dolby Pro LogicIIx decoder	NEO:6:	DTS NEO:6 matrix
DD PLII:	Dolby Pro LogicII with stereo sources when you are not using a surround back speaker.	SFC:	Sound field control

For your reference

- Dolby Pro LogicIIx, NEO:6, and SFC add surround effects by "adding" channels, so if they are off, the unit plays the number of channels recorded in the original source.
  For example, if it is a 5.1-channel source, there will be no output from the surround back speakers.
- The SURROUND mode turns off when input is 192-kHz PCM.
- Whenever you switch to a different source, the following display appears to show you the number of channels. (It may not appear with some sources.)

Subwoofer

Surround and surround back channels

Front and center channels

Playback options

Using SPEAKERS B	To use the speakers connected to the FRONT B terminals. SPEAKERS B **Press** ◯	• Sound will be stereo from SPEAKERS B. • If you have only SPEAKERS B on and the input signal is multi-channel, the signal is down-mixed and **"2CH MIX"** appears on the display. • To turn off sound from SPEAKERS A, press [SPEAKERS A] so " **A** " goes off. • Note that if you are using DVD 6CH input (below), only the sound for the front speakers is output. • Speaker settings (➡ page 27) are fixed as follows when you have only SPEAKERS B on. Speaker size: **LARGE** Subwoofer: **NO** (bass is output from the front speakers.)
ADVANCED DUAL AMP	The Advanced Dual Amp activates automatically. In stereo sources or in 5.1 channel, the unused surround back speakers amplifiers drive the front speakers for a clearer, purer sound.	• [ADVANCED DUAL AMP] lights when the function is on. • You can turn this function off (➡ page 29).
BI-AMP	The bi-amp activates if you have bi-wired your front speakers and play analogue or stereo PCM sources. The amplifiers for the front and surround speakers separately run the low frequency and high frequency. You can use this feature in combination with the Advanced Dual Amp (➡ above) for an even clearer and purer stereo sound.	**Preparation** • Bi-wire your front speakers (➡ page 13). • Make sure you have selected **"YES"** for the "LR BI-WIRE setting" (➡ page 27). • Turn the SURROUND mode off (➡ page 18).	• [BI-AMP] lights when the function is on. • To make bi-amp settings (➡ page 28). **Note** You cannot use the bi-amp if you are using DVD 6CH input (➡ below).

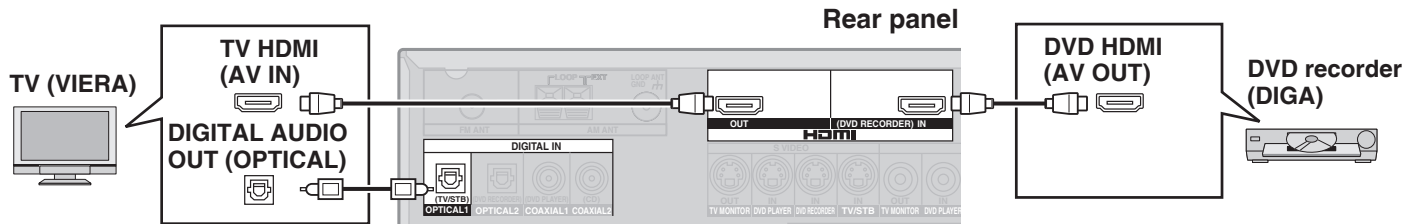|			
Playing DVD-Audio	**Digital**	Connect your DVD equipment with an HDMI cable (➡ page 5) or with a coaxial cable through the DIGITAL IN COAXIAL 1 terminal (➡ pages 6 and 7).	
	DVD analogue 6CH	**Preparation** • Connect through the DVD 6CH IN terminals (➡ page 8). • Switch on SPEAKERS A or BI-WIRE. • Select **"DVD"** as input (➡ page 18). PLAYER DVD **Press and hold** ─ANALOG 6CH **until** **"DVD 6CH" appears on the display.** ᴅⱽᴅ 6ᴄʜ • To cancel, press and hold until **"DVD"** appears on the display.	**If you are using a DVD recorder** You cannot switch to DVD 6CH input if **"DVR"** is the input source, so connect your recorder through the DVD 6CH IN terminals and select **"DVD"** as the input source if you want to listen to DVD-Audio. **Note** **"Level"** settings (➡ pages 14 and 17) made on this unit, except for subwoofer level, are ineffective.
	2-channel analogue	This mode lets you enjoy the high-quality stereo sound available with DVD-Audio recorded with a sampling frequency of 192 kHz.	1. Cancel **"DVD 6CH"** if necessary (➡ above). 2. In INPUT MODE, fix input to analogue (➡ page 28).

Using HDAVI Control™

HDAVI Control
This convenient feature links control of your receiver and your other Panasonic home theater equipment. VIERA televisions and DIGA DVD recorders connected with an HDMI cable can be controlled in this way. For details, refer to the operating instructions of your other equipment.

Preparation

1. **Connect your other Panasonic home theater equipment (HDAVI Control compatible VIERA television or DIGA DVD recorder) with an HDMI cable (➡ page 5).**
   (Cables that do not meet the HDMI specifications are not compatible with this feature. Use a Panasonic HDMI cable for best results.)
2. **Read your television's operating instructions and make the settings necessary to activate the HDAVI Control.**
3. **Switch on all your equipment, then switch your television off then on again and check that images from DIGA appear correctly.**
   (Do this whenever you change connections or settings.)

Rear panel

TV (VIERA) — TV HDMI (AV IN) — DIGITAL AUDIO OUT (OPTICAL) — DIGITAL IN — OUT — (DVD RECORDER) IN — DVD HDMI (AV OUT) — DVD recorder (DIGA)

- To take advantage of the multi-channel sounds now available with digital television, use a digital connection if your TV has a digital output terminal.

One-touch Home Theater

ONE TOUCH PLAY — **Point the remote control at your DIGA DVD recorder and press [ONE TOUCH PLAY].**

1. Your DIGA switches on. Play starts if there is a disc in the tray. If a disc is not in the tray, DIGA plays the television program last recorded to the hard disk.
2. Your VIERA switches on and input switches.
3. This unit switches on, input switches to *"DVR"*, and multi-channel play starts.
   Press [+ VOLUME -] to adjust the volume.
   You can also adjust the volume with VIERA's remote control.
   (An indicator appears on the television showing that you are adjusting this unit's volume.)
   If the beginning of the program is cut off, press [|◄◄ SKIP] to skip back to the beginning.

For your reference
- If you switch your VIERA off, this unit also switches off (unless you have changed the input source to *"TUNER"* or *"CD"*).
- VIERA's speakers start to output the audio instead if you switch this unit off. If you then switch this unit on again, audio output switches back to this unit.
- If this unit is off and you switch the setting on your VIERA so that audio is output from a connected receiver, this unit switches on and starts to output the audio.

Multi-channel audio for your VIERA
- Connect your VIERA's digital output terminal to the DIGITAL IN OPTICAL 1 terminal on this unit (➡ page 9).
- Refer to your VIERA's operating instructions and make the settings necessary to switch audio output from VIERA's speakers to speakers connected to this unit.
- The input source on this unit switches to *"TV"* if you select a channel or otherwise operate the television (➡ page 34).

To turn off HDAVI Control, "HDMI settings", ➡ page 29.

Surround sound

There are various modes you can use to add surround effects or play stereo through more than just the normal two speakers.

Dolby Pro LogicIIx

- **This feature adds surround effects to stereo sources.**
- **It can also expand 5.1-channel Dolby Digital and DTS so that you can hear them through 7.1 channels (when you have connected 2 surround back speakers) or 6.1 channels (when you have connected 1 surround back speaker).**
- **Use this mode when playing Dolby Digital Surround EX to make effective use of the surround back channel.**

Press [DOLBY PLIIx] **to select one of the following modes.**

MOVIE **(Movie)**	Use this mode when playing movie software, especially if it is recorded in Dolby Surround. If you have connected two surround back speakers, their output will be in stereo. This is the factory setting.
MUSIC **(Music)**	This mode is effective on music sources.
EX **(Dolby Digital EX)**	Use this mode when playing movie software, especially if it is recorded in Dolby Digital EX format. It is effective on multi-channel sources. If you have connected two surround back speakers, output from them will be monaural. • If you have connected one surround back speaker, the "DOLBYPLIIx" indicator goes out and either "DOLBYDIGITAL EX" or "DOLBYEX" lights instead.
GAME **(Game)**	Enjoy gaming with more impact. This mode is effective on stereo sources. You cannot use this mode unless you have connected both surround speakers and surround back speakers (➡ pages 13 and 14 to 17). Make sure you have also set these speakers as present in "Speaker and size settings" (➡ page 27).

To cancel, press [OFF]

Adjusting the Dolby Pro LogicIIx *"MUSIC"* mode

You can make the following adjustments in stereo sources.

DIMEN 0 **(Dimension Control)**	You can make up for differences in the output level of the front and surround speakers. **Press** [EFFECT] **to select** *"DIMEN"*, **then press** [◄ −] [► +] **to adjust the level.** Adjustment range: *-3* (emphasis on the surround speakers) to *+3* (emphasis on the front speakers) Factory setting: *0*
C-WIDTH 3 **(Center Width Control)**	This is an overall adjustment for the front and center speakers to achieve a more natural sound. **Press** [EFFECT] **to select** *"C-WIDTH"*, **then press** [◄ −] [► +] **to adjust the level.** Adjustment range: *0* (for a distinct center) to *7* (for a broad center) Factory setting: *3*
PANORAMA **(Panorama)**	This mode spreads sound out to envelope you in music. **Press** [EFFECT] **to select** *"PANORAMA"*, **then press** [◄ −] [► +] **to select** *"ON"* or *"OFF"*. Factory setting: *OFF*

Note

- You may be unable to use some of these surround effects with some sources.
- These settings are saved even if you turn the unit off.

NEO:6

- **This feature adds surround effects to stereo sources.**
- **It can also expand 5.1-channel Dolby Digital and DTS so that you can hear them through 6.1 channels.**

NEO:6
Press ⬚ to select one of the following modes.

CINEMA   Use this mode when playing movies.

(Cinema)

MUSIC   This mode is effective on music sources.

(Music)

For 2-channel Dolby Digital and DTS sources with matrix-encoded multi-channel audio, use *"CINEMA"*. For simple stereo sources, use *"MUSIC"*.

To cancel, press OFF

Adjusting the NEO:6 *"MUSIC"* mode

C-IMAGE 2   This is an overall adjustment for the front and center speakers to achieve a more natural sound.

(Center Image Control)

EFFECT   ◄   ►
Press ⬚ to select *"C-IMAGE"*, then press ⎯ ＋ to adjust the level.
Adjustment range: *0* (for a distinct center) to *5* (for a broad center)
Factory setting: *2*

Note

- There will be no output from the subwoofer when using NEO:6 on stereo sources and you have set all of your speakers to *"LARGE"* in "Speaker and size settings" (➡ page 27).
- You may be unable to use some of these surround effects with some sources.
- These settings are saved even if you turn the unit off.

Surround sound

There are various modes you can use to add surround effects or play stereo through more than just the normal two speakers.

SFC (Sound Field Control)

Use SFC modes to add realism and depth to Dolby Digital, DTS, PCM, and analogue stereo sources.

MUSIC **(Music)**	This mode is effective on music sources.

Press [MUSIC] ⌐SFC **to select one of the following modes**

or

You can also press ◄ [−] ► [+] **to select the modes after you have pressed** [MUSIC] ⌐SFC

LIVE **(Live)**	Adds reverberation and depth that makes you feel like you were in a concert hall.
POP/ROCK **(Pop/rock)**	Suitable for pop and rock.
VOCAL **(Vocal)**	For adding gloss to vocals.
JAZZ **(Jazz)**	Adds the reverberations you would experience in an intimate jazz club.
DANCE **(Dance)**	Adds the echoes and feeling of space you would experience in a dance hall.
PARTY **(Party)**	This mode uses all available speakers so that sound is in stereo regardless of the direction you are facing, and is useful at parties where listeners are spread out.

To cancel, press [OFF]

MOVIE **(Movie)**	Use this mode when playing movies.

Press SFC⌐ [MOVIE] **to select one of the following modes**

or

You can also press ◄ [−] ► [+] **to select the modes after you have pressed** SFC⌐ [MOVIE]

DRAMA **(Drama)**	For dramas and other material where dialogue is important.
ACTION **(Action)**	For action movies and other material where impact is important.
SPORTS **(Sports)**	To make you feel like you were in the stadium.
MUSICAL **(Musical)**	Makes you feel like you are in a theater.
GAME **(Game)**	Enjoy gaming with more impact.

To cancel, press [OFF]

Adjusting SFC (Sound Field Control)

Adjusting the output level

LEVEL
Press ☐ **to select the speaker you want to adjust, then press** ◄ [−] ► [+] **to adjust the level.**

C (center), **RS** (surround right), **SBR** (surround back right), **SBL** (surround back left), (**SB** when you have connected only one surround back speaker), **LS** (surround left)
Adjustment range: **-20 dB** to **+10 dB**
Factory setting: **0 dB**

SUBW (Subwoofer)
Adjustment range: **---** (off), **MIN** (minimum), **1** to **29, MAX** (maximum)
Factory setting: **20**

Adjusting the effect level

EFFECT
Press ☐ **, then press** ◄ [−] ► [+] **to adjust the level.**
Adjustment range: **EFFECT 1** (minimum) to **EFFECT 10** (maximum)
Factory setting: **EFFECT 5**
You cannot adjust the effect level in the **"PARTY"** mode (➡ page 24).

Note

- In **"PARTY"** mode, you can only adjust the subwoofer output level (➡ page 17).
- You can only adjust speakers if you have connected them (➡ pages 13, and 14 to 17) and set them as present ("Speaker and size settings", ➡ page 27).
- You may be unable to use some of these surround effects with some sources.
- These settings are saved even if you turn the unit off.
- You cannot use SFC modes unless you have connected center or surround speakers.
- When in **"PARTY"** mode and you have connected a single surround back speaker (the left surround back speaker), there will be no sound from that speaker unless you have also connected a center speaker. Similarly, there will be no sound from your center speaker unless you have also connected a surround back speaker (the left surround back speaker).
- There may be some distortion with some input sources and modes. Reduce the effect level (➡ above), or choose another mode.

Receiver settings

Basic operations
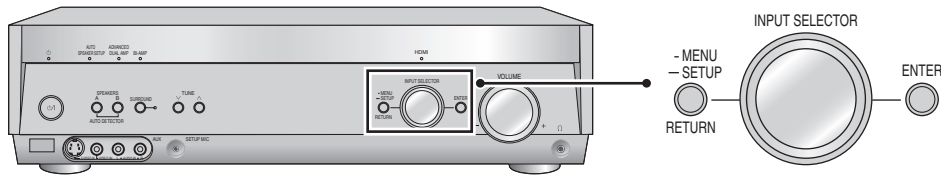
1 | **Enter the setup menu.**

Press and hold ◯ (- MENU / — SETUP / RETURN) for about 2 seconds.

2 | **Select the item you want to change.**

2a Turn (INPUT SELECTOR) to select the item.

- Refer to pages 27, 28, and 29 for each item settings.
- For *"REMOTE 1",* refer to page 37 to change the remote control code.

Press ◯ (ENTER) to confirm.

SPK SIZE ↕ *DISTANCE* ↕ *LP BI-WIRE* ↕ *FILTER FRQ* ↕ *AUTO SETUP* ↕ *DIG INPUT* → *INPUT MODE* ↕ *BI-AMP* ↕ *HDMI* ↕ *DUAL AMP* ↕ *HPCOMP* ↕ *ATTENUATOR* → *REMOTE* ↕ *IV DELAY* ↕ *RESET* ↕ *EXIT*
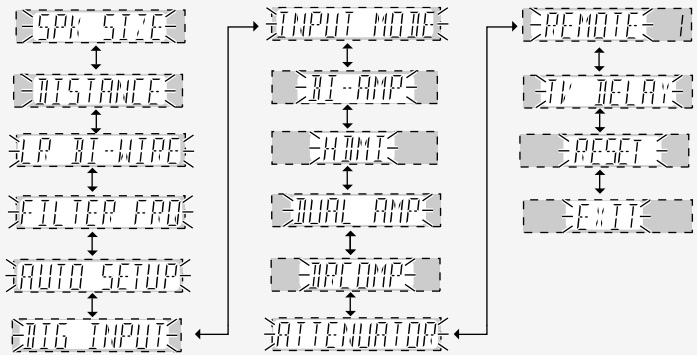
2b Turn (INPUT SELECTOR) to select a sub-item.

Press ◯ (ENTER) to confirm.

3 | **Change the setting.**

Turn (INPUT SELECTOR) to change the setting.

Press ◯ (ENTER) to confirm.

Repeat **2b** and **3** for other sub-item settings.

4 | **Exit the menu.**

Press ◯ (- MENU / — SETUP / RETURN) repeatedly until *"EXIT"* appears.

Press ◯ (ENTER) to confirm.

- The previous display reappears.
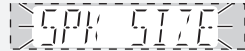- You can also turn [INPUT SELECTOR] to select *"EXIT"*.

To return to the previous display/To cancel

Press ◯ (- MENU / — SETUP / RETURN)

Speaker and size settings

- Set the speakers and their sizes.
- Different speakers play different ranges. Change the size setting to achieve a satisfactory bass.
- Only change this setting if auto speaker setup has not produced a satisfactory result.

2a Select and confirm.

`SPK SIZE`

2b Select the speaker you want to set and confirm.

`SUBW    YES`

3 Change the setting and confirm.

`SUBW    YES`

When you have set the front speakers (LR) as "LARGE"
- The subwoofer outputs bass even when you are playing analogue or PCM stereo sources.
- The sound recorded for the LFE (low frequency effect) channel is played through the subwoofer.

For your reference
- The "SMALL" setting allows you to set the low pass filter to suit the frequency range of your speakers. (➡ below)
- The following settings are automatic: "SUBW" (subwoofer) is set to "YES" if you set "LR" (front) to "SMALL". "LR" is set to "LARGE" if you set "SUBW" to "NO".
- "SB" (surround back) have the same size setting as "S" (surround).

SUBW: Subwoofer
LR: Front speakers
C: Center speaker
S: Surround speakers
SB: Surround back speakers

SUBW (Subwoofer)
　NO: Unconnected　**YES :** Connected (factory setting)
LR (Front), **C** (Center), **S** (Surround)
　NONE: Speakers not connected (center or surround)
　SMALL : Speakers that cannot adequately reproduce the bass range (sufficient for most speakers when using a subwoofer) (factory setting).
　LARGE: Speakers that can reproduce a full sound range, down to 20 Hz.
SB (Surround back)
　NONE: Not connected
　1-SPK: 1 connected
　2-SPK : 2 connected (factory setting)
RETURN (Returns to the main menu)

Distance

Enter the distance of the speakers from the seating position so that the sound from all the speakers (except for the subwoofer) reaches you at the same time.

2a Select and confirm.

`DISTANCE`

2b Select the speaker you want to set and confirm.

`L       3.0 m`

3 Select the distance and confirm.

`L       3.0 m`

L, R: Front speakers　　　**C:** Center speaker
LS, RS: Surround speakers　**SBL, SBR:** Surround back speakers

Adjustment range: **0.5** m to **15.0** m

Factory settings:
L, R (Front), **C** (Center)　　　　　　　　**3.0** m
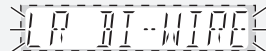**LS, RS** (Surround), **SBL, SBR** (Surround back)　**1.5** m

Note

"OVER" appears if a speaker was detected as being more than 15.0 m away during auto speaker setup.

LR BI-WIRE setting

Change this setting if you have bi-wired your front speakers (➡ page 13).

2a Select and confirm.

`LR BI-WIRE`

3 Select and confirm.

`NO`

YES: You have bi-wired your front speakers
**NO:** You have not bi-wired your front speakers

Factory setting: **NO**

Low-pass filter

- Only necessary if you have set speaker size to "SMALL" (➡ above).
- Small speakers are unable to reproduce the bass range adequately, so set the filter to match the range of your speakers so that more bass is output from the subwoofer.
- Only change this setting if auto speaker setup has not produced a satisfactory result.

2a Select and confirm.

`FILTER FRQ`
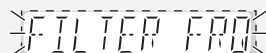
3 Select the cut-off frequency and confirm.

`100`

For your reference
The filter applies to any speakers you have set as "SMALL".

The settings are **80** Hz, **100** Hz, **120** Hz, **140** Hz, **160** Hz, **180** Hz, and **200** Hz.

Factory setting: **100**

Auto Setup
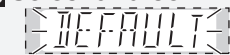
- Reset the settings done in auto speaker setup.
- Choose whether to check speaker polarity during auto speaker setup. (If polarity is reversed, a minus sign (-) appears besides the distance reading, for example, "L 3.0 -" to show that polarity has been corrected.)

Reset

2a Select and confirm.
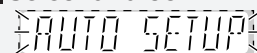
`AUTO SETUP`

2b Select and confirm.

`DEFAULT`

3 Select and confirm.

`NO`
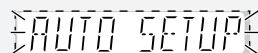
YES: Reset all auto speaker setup settings
NO: To cancel

Factory setting: **NO**

Polarity

2a Select and confirm.

`AUTO SETUP`

2b Select and confirm.

`POLARITY`

3 Select and confirm.

`CHECK NO`

CHECK NO: Do not check polarity
CHECK YES: To check polarity

Factory setting: **CHECK YES**

Receiver settings

Digital input settings

- Change these settings to suit the connections you have made to the digital input terminals (➡ pages 6, 7, 9, and 10).
- You cannot allocate more than one terminal per input. Therefore, if you change the setting for *"DVD"* to *"OPT 1"*, digital input for DVD input will be only through the OPTICAL 1 terminal.

2a Select and confirm.

`DIG INPUT`

2b Select the equipment and confirm.

`TV OPT1`

3 Change the digital input setting and confirm.

`TV OPT1`

Repeat **2b** and **3** to change other settings.

TV: Television
DVR: DVD recorder
DVD: DVD player
CD: CD player

Factory setting:
TV: *OPT1* (OPTICAL 1)
DVR: *OPT2* (OPTICAL 2)
DVD: *COAX1* (COAXIAL 1)
CD: *COAX2* (COAXIAL 2)

Input signal

- This unit automatically detects whether input is digital or analogue, but you can fix the input mode.
- Select *"AUTO"* if it isn't necessary to fix a certain signal.

2a Select and confirm.

`INPUT MODE`

2b Select the equipment and confirm.

`TV AUTO`

3 Select the setting and confirm.

`TV AUTO`

Repeat **2b** and **3** to change other settings.

PCM FIX mode
- In rare cases, the unit may have trouble recognizing the digital signals on discs. Use this mode if the beginnings of tracks are cut off when playing CDs.
- Do not use this mode if the unit can handle audio from CDs normally.
- When PCM FIX mode is on, the unit cannot process other signals. Choose another mode if PCM FIX causes noise.

TV: Television
DVR: DVD recorder
DVD: DVD player
CD: CD player

AUTO: The unit automatically detects whether input is digital or analogue. (HDMI takes priority when input is digital.)
ANALOG: Analogue input fixed
DIG: Digital input fixed
PCMFIX: PCM (from CDs) digital input fixed

Factory setting:
TV, DVR, DVD, CD: AUTO
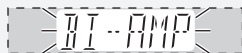
For your reference
- *"DIGITAL INPUT"* lights after fixing digital input.
- *"PCM"* lights if you select the PCM FIX mode.
- *"PCM FIX"* flashes on the display if you input any signal other than PCM after you have set the PCM FIX mode.

Bi-amp settings

- This option appears after you have set "LR BI-WIRE setting" to *"YES"* (➡ page 27).
- Adjust high frequency (HF) and low frequency (LF) balance.
- Correct HF and LF delay time.

Balance

2 Select and confirm.

`BI-AMP`

2a Select and confirm.

`BALANCE`
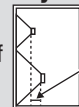
3 Adjust and confirm.

`LF ✳ HF`

Use the bar as a guide.

LF: low frequency
HF: high frequency
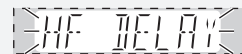
Delay time

Speaker (cross section of a speaker)   Difference

2 Select and confirm.

`BI-AMP`

2a Select and confirm.

`HF DELAY`
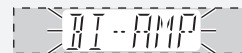
3 Adjust and confirm.

`DELAY 0cm`

Adjustment range: *0* to *30* cm
Adjust in 1-cm increments.
Factory setting: *0* cm

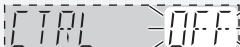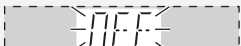|	Selecting Input	Standby selection	HDAVI Control

HDMI settings
 	
• Specify the DVD equipment you have connected to the HDMI terminal.
• To reduce standby power consumption.
• Choice for turning off the HDAVI Control (➡ page 21).
	2a Select and confirm.
	`HDMI`
	2b Select and confirm.
	`INPUT DVR`
	3 Select the equipment and confirm.
	`INPUT DVR`
	
	DVR: You have connected a DVD recorder (factory setting)
	DVD: You have connected a DVD player
		2a Select and confirm.
		`HDMI`
		2b Select and confirm.
		`STNBY OFF`
		3 Select and confirm.
		`STNBY OFF`
		
		OFF: Standby power consumption reduced (approximately 0.35 W).
		• Signals from DVD equipment cannot pass through HDMI connection to the television when the unit is in standby (➡ page 5).
		• HDAVI Control (➡ page 21) does not work when the unit is in standby.
		ON: Normal standby power consumption (factory setting)
			2a Select and confirm.
			`HDMI`
			2b Select and confirm.
			`CTRL OFF`
			3 Select and confirm.
			`CTRL OFF`
			
			OFF: HDAVI Control is OFF
			ON: HDAVI Control is ON (factory setting)

Turning the ADVANCED DUAL AMP off	**2** Select and confirm.
	`DUAL AMP`
	3 Select and confirm.
	`OFF`
		OFF: The Advance Dual Amp is off
		AUTO: The Advanced Dual Amp works when possible
		Factory setting: **AUTO**	

Clear audio at low volume
 	
Set the dynamic range (the difference between the loudest and softest sounds) compression for Dolby Digital. Use this function when you have to turn the volume down, such as late at night. It compresses the dynamic range so that you can still hear dialogue and leave the sound field unaffected.
	2 Select and confirm.
	`DRCOMP`
	3 Select a level and confirm.
	`OFF`
	
	Note
	This function depends on the disc so it may not work at times.
		OFF: Off
		STANDARD: The level recommended by the producer of the software for household viewing.
		MAX: The maximum allowable compression (recommended for night viewing)
		Factory setting: **OFF**	

Attenuating analogue input
 	
Analogue input can cause distortion and the **"OVERFLOW"** warning to appear on the display. Turn the attenuator on if this occurs.
	2 Select and confirm.
	`ATTENUATOR`
	3 Select and confirm.
	`OFF`
	Select **"OFF"** to cancel.
		OFF: Off
		ON: On
		Factory setting: **OFF**	

Delaying audio
 	
Delay audio if there appears to be a difference in timing between audio and pictures.
	2 Select and confirm.
	`TV DELAY`
	3 Select and confirm.
	`OFF`
		OFF: No delay
		ON: Audio delayed
		Factory setting: **OFF**	
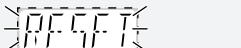
Resetting factory settings
 	
Do the necessary settings again after this.
	2 Select and confirm.
	`RESET`
	3 Select and confirm.
	`RESET NO`
	Select **"NO"** to cancel.
	
	Note
	Input switches to TUNER after you select **"YES"**. (Preset channels remain intact.)
		YES: Reset all settings to those made in the factory
		NO: Cancel
		Factory setting: **YES**	

Sound effects/Other functions

Basic operations
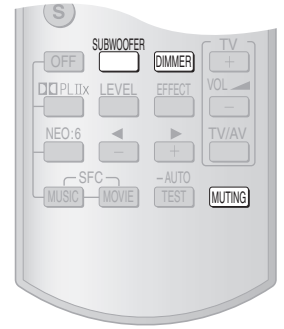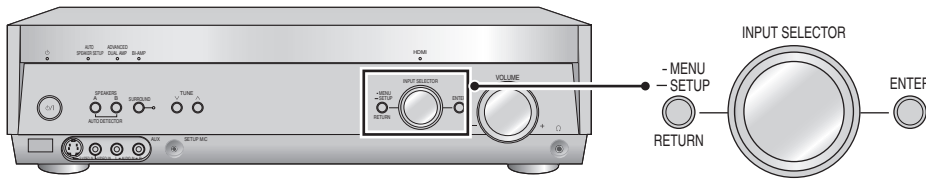
1 Enter the menu.

Press ⊙ ‑ MENU / ─ SETUP / RETURN

2 Select the item you want to change.

INPUT SELECTOR

Turn ◯ to select the item.

ENTER

Press ◯ to confirm.

TUNER → *DUAL MAIN*
↕ ↕
BASS 0 *DIMMER OFF*
↕ ↕
TREBLE 0 *SLEEP OFF*
↕ ↕
BALANCE ← *EXIT*
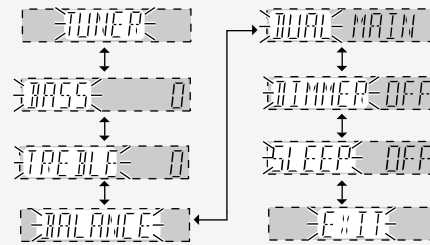
3 Change the setting.

INPUT SELECTOR

Turn ◯ to change the setting.

ENTER

Press ◯ to confirm.

4 Exit the menu.

‑ MENU / ─ SETUP / RETURN

Press ◯ repeatedly until *"EXIT"* appears.

ENTER

Press ◯ to confirm.

• The previous display reappears.
• You can also turn [INPUT SELECTOR] to select *"EXIT"*.

To return to the previous display/To cancel

‑ MENU / ─ SETUP / RETURN

Press ◯

Sound effects

Adjusting the bass

2 **Select and confirm.**

`BASS        0`

3 **Adjust and confirm.**

`BASS       0`

Adjustment range: **-10** dB to **+10** dB
Factory setting: **0** dB

Adjusting the treble

2 **Select and confirm.**

`TREBLE    0`

3 **Adjust and confirm.**

`TREBLE    0`

Adjustment range: **-10** dB to **+10** dB
Factory setting: **0** dB

Adjusting front speaker balance

2 **Select and confirm.**

`BALANCE`

3 **Adjust and confirm.**

`L   *   R`

Use the bar as a guide.

L: Front left
R: Front right

Note

You cannot adjust the balance when the **"PARTY"** SFC mode is on (➡ page 24).

Adjusting the subwoofer level

Adjust the subwoofer level while listening to a source for a more or lesser bass.

SUBWOOFER
Press ☐ **to select a level.**

`SUBW 10`

- Factory setting: **SUBW 20**
- There is no output from the subwoofer if you select **"---"**.

Adjustment range: **---** (off), **MIN** (minimum), **5, 10, 15, 20, 25, MAX** (maximum)

Note

- Sound can be distorted if you raise the volume while subwoofer level is high. Reduce subwoofer level if this occurs.
- You can also make fine adjustments to subwoofer level ("Speaker output and level", ➡ page 17).

Other functions

Selecting audio channels

You can switch between the main and secondary audio soundtracks of Dolby Digital or DTS sources.

"DUAL PRG" appears on the display when the unit is receiving a signal with dual audio channels.

2 **Select and confirm.**

`DUAL MAIN`

3 **Select the audio track and confirm.**

`DUAL MAIN`

MAIN: Main audio channel (factory setting)
SAP: Second audio program
M+S: Main and second channel

Adjusting the dimness of the display

Dim the display for better viewing in a darkened room.

2 **Select and confirm.**

`DIMMER OFF`

3 **Select a level and confirm.**

`DIMMER   3`

- To return to the normal brightness, select **"DIMMER OFF"**.

- -

Press DIMMER

- The display dims to the level you have selected.
- Press again to cancel.
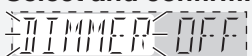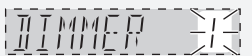
Adjustment range:
DIMMER 1 (bright) to **DIMMER 3** (dim)
Factory setting: **OFF**

Sleep timer

- The sleep timer turns the unit off after a set time.
- It does not control any other components.

2 **Select and confirm.**

`SLEEP OFF`

3 **Select the time and confirm.**

`SLEEP    90`

Times available: **30, 60, 90, 120** (minutes)
Factory setting: **OFF**

- **"SLEEP"** lights when the timer is set.
- **To check the setting:**
  Select **"SLEEP"** again in Step 2.
- **To change a setting:**
  Repeat the procedure from the beginning.

Muting

Press MUTING
"MUTING IS ON" scrolls across the display while output is muted.
Press again to cancel.
Muting also cancels when you adjust the volume or switch the unit to standby.

`MUTING IS ON`

The radio

Basic operations

INPUT SELECTOR

Turn to select.

ENTER

Press to confirm.

- MENU
—SETUP

RETURN

To return to the previous menu/To cancel

Manual tuning

On the remote control (Direct tuning)

Input the frequency of the station.

1 **Select *"TUNER"*.**

TUNER

Press ☐

−BAND

2 **Select *"FM"* or *"AM"*.**

TUNER

Press and hold ☐ **for 2 seconds.**

−BAND

3 **Press** ⌈DISC⌉

DIRECT TUNING

4 **Press the numbered buttons to enter the frequency.**

1 2 3
4 5 6
Press 7 8 9
0

e.g. to select 107.90 MHz, press [1] → [0] → [7] → [9] → [0]
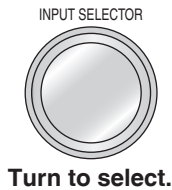- If you do not press a button while the cursor is flashing, the display returns to the frequency being received.
- If the frequency has not been input correctly, *"ERROR"* will be displayed.

On the main unit

1 **Select *"TUNER FM"* or *"TUNER AM"*.**

INPUT SELECTOR

Turn

2 **Tune to the station.**

TUNE

Press ◯ ◯

Automatic tuning
Press and hold [TUNE ∨ or ∧] until the frequency starts scrolling to start automatic tuning. (Tuning stops when a station is found or when there is interference.)

- *"TUNED"* lights when a station is tuned.
- *"ST"* lights when a stereo FM broadcast is tuned.

Improving reception
DVD recorders and DVD players can interfere with radio reception. Turn the DVD recorder and the DVD player off or move it further away from the AM loop antenna if this occurs.

To change the AM frequency step

If the correct AM frequency cannot be tuned in, change the frequency step to suit your area.
Preparation: Press [-MENU, –SETUP, RETURN] to enter the menu.
1. Select *"TUNER"* and confirm.
2. Select *"AM STEP"* and confirm.
3. Select *"AM STEP 9 kHz"* or *"AM STEP 10 kHz"* and confirm.
4. Press [-MENU, –SETUP, RETURN] twice to select *"EXIT"* and press [ENTER].

Preset tuning

Preset channels to make selection simpler.
Even if the AC mains lead is disconnected from the household mains socket, the stations remain in the memory for approximately two weeks.

Presetting stations

■ Auto presetting

The FM stations the unit can receive are preset in channels 1 to 30. The AM stations the unit can receive are preset in channels 21 to 30 (FM stations are replaced if any were preset in these channels).

1. **Tune to the frequency where you want to begin (➡ page 32).**
   Tune to FM 87.50 MHz or AM 522 kHz (9 kHz steps), AM 530 kHz (10 kHz steps) to start from the lowest frequency.
2. **Enter the menu**
   Press ◯ (- MENU, – SETUP, RETURN)
3. **Select** *"TUNER"* **and confirm.**
4. **Select** *"AUTO MEMO"* **and confirm.**
5. **Select** *"START"* **and press [ENTER].**
   Select *"CANCEL"* to cancel.
   • During automatic presetting, the memory indicator (🅜) flashes and the frequency scrolls. The memory indicator and channel numbers are displayed for a second when a station is preset.
   • The last station to be preset is played when presetting finishes.
   • Stations may not preset correctly if broadcasts are too strong or weak. Preset manually if this is the case.

■ Manual presetting

Preset the stations one at a time.

1. **Tune to the station (➡ page 32).**
2. **Enter the menu.**
   Press ◯ (- MENU, – SETUP, RETURN)
3. **Select** *"TUNER"* **and confirm.**
4. **Select** *"MEMORY"* **and confirm.**
5. **Select a channel number and press [ENTER].**
   "STORED" is displayed.
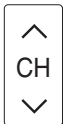   • To preset other channels, repeat from step 1.
6. **Press [-MENU, –SETUP, RETURN] twice to select** *"EXIT"* **and press [ENTER].**
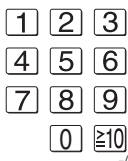
You can also preset FM stations in the MONO mode (➡ below).

Selecting channels

■ On the remote control
• **Select the channel.**
   ∧ CH ∨
• **Press the numbered buttons to select the channel.**
   [1] [2] [3]
   [4] [5] [6]
   [7] [8] [9]
   [0] [≧10] ₋/₋₋

To select a two digit number
e.g. 21: [≧10, -/--] → [2] → [1]

■ On the main unit
1. **Enter the menu.**
   Press ◯ (- MENU, – SETUP, RETURN)
2. **Select** *"TUNER"* **and confirm.**
3. **Select** *"TUNE MODE"* **and confirm.**
4. **Select** *"PRESET"* **and confirm.**
5. **Press [-MENU, –SETUP, RETURN] twice to select** *"EXIT"* **and press [ENTER].**
6. **Select the channel.**
   Press ◯ ◯ (∨ TUNE ∧)
   • Press and hold to change channels faster.

Select *"MANUAL"* **in step 4 to tune manually again (➡ page 32).**

Reducing excessive noise (on the main unit)

Preparation: Press [-MENU, –SETUP, RETURN] to enter the menu.

■ During FM stereo reception
You can improve FM reception by switching reception to monaural.
1. **Select** *"TUNER"* **and confirm.**
2. **Select** *"FM MODE"* **and confirm.**
3. **Select** *"MONO"* **and confirm.**
   • *"MONO"* lights.
   • To return to normal reception, select *"AUTO"*.
4. **Press [-MENU, –SETUP, RETURN] twice to select** *"EXIT"* **and press [ENTER].**

■ During AM reception
When there is a lot of noise interference with an AM broadcast, try switching to this mode.
1. **Select** *"TUNER"* **and confirm.**
2. **Select** *"BEAT PROOF"* **and confirm.**
3. **Select** *"MODE 1"* **or** *"MODE 2"* **and confirm.**
4. **Press [-MENU, –SETUP, RETURN] twice to select** *"EXIT"* **and press [ENTER].**

RDS broadcasts

Basic operations

INPUT SELECTOR

ENTER

−MENU
−SETUP

RETURN

Turn to select. | **Press to confirm.** | **To return to the previous menu/To cancel**

PTY displays

NEWS	News
AFFAIRS	Current affairs
INFO	Information
SPORT	Sport
EDUCATE	Education
DRAMA	Drama
CULTURE	Culture
SCIENCE	Science
VARIED	Varied
POP M	Pop music
ROCK M	Rock music
M. O. R. M	Middle-of-the-road Music
LIGHT M	Light classical
CLASSICS	Serious classical
OTHER M	Other music
WEATHER	Weather information
FINANCE	Finance
CHILDREN	Children
SOCIAL A	Social affairs
RELIGION	Religion
PHONE IN	Phone in
TRAVEL	Travel
LEISURE	Leisure
JAZZ	Jazz music
COUNTRY	Country music
NATIONAL	National music
OLDIES	Oldies
FOLK M	Folk music
DOCUMENT	Documentary
TEST	Test broadcast
ALARM	Emergency announcement

Changing the display

This unit can display the text data transmitted by the radio data system (RDS) available in some areas.
" RDS " lights while RDS signals are being received.
RDS displays may not be available if reception is poor.
1. **Press [-MENU, –SETUP, RETURN] to enter the menu.**
2. **Select** *"TUNER"* **and confirm.**
3. **Select** *"RDS DISP"* **and confirm.**
4. **Select the display mode and confirm.**

   FREQUENCY: Frequency display
   PS DISP: Program service, the station name
   PTY DISP: Program type

5. **Press [-MENU, –SETUP, RETURN] twice to select** *"EXIT"* **and press [ENTER].**

Using the remote control with other equipment

This remote control can operate Panasonic televisions, DVD recorders, DVD players, VCRs, and CD players. Note that this remote control cannot operate some equipment. For details about the operations, refer to your equipment's operating instructions.
You may need to enter a code to operate some equipment (➡ page 37).

Point the remote control at the equipment you want to operate.

Television

To switch the unit's input to *"TV"*/**To switch the remote control to the TV operation mode**	TV Do this before trying to operate the television.
To switch the television on or off	AV SYSTEM ⏻
To switch the television's input mode	TV/AV
To adjust the television's volume	TV + VOL −
Select the channel	To change channels sequentially CH ∧∨ To select a channel directly 1 2 3 4 5 6 7 8 9 0 ≥10 -/--

Using the remote control with other equipment

Point the remote control at the equipment you want to operate.

DVD recorder/DVD player

To switch the unit's input to *"DVR"* or *"DVD"*/To switch the remote control to the DVD recorder or DVD player operation mode	RECORDER DVD — Do this before trying to operate the DVD recorder.	PLAYER DVD —ANALOG 6CH — Do this before trying to operate the DVD player.

To switch the DVD recorder/DVD player on or off	AV SYSTEM	To confirm selection of an item	ENTER
To skip a track or chapter	◄◄ ►►I —SKIP—	For selecting tracks and chapters directly	1 2 3 / 4 5 6 / 7 8 9 / 0 ≥10 -/-- You may have to then press [ENTER] on some models.
To search through the disc	◄◄ ►► —SLOW/SEARCH—		
Slow-motion	PAUSE II / ◄◄ ►► —SLOW/SEARCH—	To pause	PAUSE II
To start play	PLAY ►	Frame-by-frame	PAUSE II ▼ (dial)
To show the direct navigator or top menu	TOP MENU DIRECT NAVIGATOR		
To show sub menus	SUB MENU S	To skip ahead 30 seconds (For DVD recorder only)	MANUAL SKIP
To show the FUNCTIONS window (while stopped)	FUNCTIONS	To switch the DVD recorder's drive (HDD, disc, and SD) (For DVD recorder only)	DRIVE SELECT
To return to the previous screen	RETURN	Select the channel (For DVD recorder only)	To change channels sequentially ∧ CH ∨ — To select a channel directly 1 2 3 / 4 5 6 / 7 8 9 / 0 ≥10 -/--
To navigate through menus	(navigation pad) Use these buttons to select items after pressing [DIRECT NAVIGATOR, TOP MENU], [S, SUB MENU], or [FUNCTIONS].		
To specify a disc (5-disc changer only) (For DVD player only)	DISC DIRECT TUNING ▼ 1 2 3 / 4 5	To stop play	STOP ■

Note

[FUNCTIONS] activates display functions on some of the Panasonic DVD players.

Before using this remote control with a Panasonic DVD recorder

You may need to change the **code** in the remote control to match the remote control **mode** of the DVD recorder.

Preparation: Check the remote control mode of your DVD recorder. Read its operating instructions for details.

1. Press [DVD RECORDER].
2. While pressing [ENTER], press and hold [1], [2], or [3] for about 2 seconds.
- The remote control code switches to 1, 2, or 3, depending on which numbered button you pressed.
- The factory setting is *"1"*.

- -

If you are unable to switch the drives on the DVD recorder
The DVD recorder is not responding to the signal from the remote control.
Do the following to change the signal, then try switching drives again.

1. Press [DVD RECORDER].
2. While pressing [ENTER], press and hold [8] for about 2 seconds.
To restore the original signal:
In step 2, while pressing [ENTER], press and hold [9] for about 2 seconds.

Using the remote control with other equipment

Point the remote control at the equipment you want to operate.

VCR

To switch the unit's input to *"VCR"*/To switch the remote control to the VCR operation mode	VCR Do this before trying to operate the VCR.
To switch the VCR on or off	AV SYSTEM ⏻
To start play	PLAY ▶
Fast-forward/rewind	◀◀ ▶▶ ⎣SLOW/SEARCH⎦
To pause	PAUSE ⏸
Select the channel	To change channels sequentially ⌃ CH ⌄ To select a channel directly 1 2 3 4 5 6 7 8 9 0 ≥10 –/––
To stop play	STOP ■

CD player

To switch the unit's input to *"CD"*/To switch the remote control to the CD player operation mode	CD Do this before trying to operate the CD player.
To switch the CD player on or off	AV SYSTEM ⏻
To start play	PLAY ▶
To skip a track	◀◀ ▶▶ ⎣SKIP⎦
To search through the disc	◀◀ ▶▶ ⎣SLOW/SEARCH⎦
To pause	PAUSE ⏸
To specify a disc (3- or 5-disc changer)	DISC DIRECT TUNING ▾ 1 2 3 4 5
To start play from a specified disc [MEGA CD changer] (holds more than 50 discs)	DISC DIRECT TUNING ▾ 1 2 3 4 5 6 7 8 9 0 ▾ PLAY ▶
To select a track directly	1 2 3 4 5 6 7 8 9 0 ≥10 –/––
To stop play	STOP ■

Changing the remote control code

Change the code if you find the remote control unintentionally also controls other Panasonic equipment.
Do the following to set the remote control code and this unit's remote control mode to the same one.

INPUT SELECTOR
- MENU
— SETUP
ENTER
RETURN

Basic operations

INPUT SELECTOR
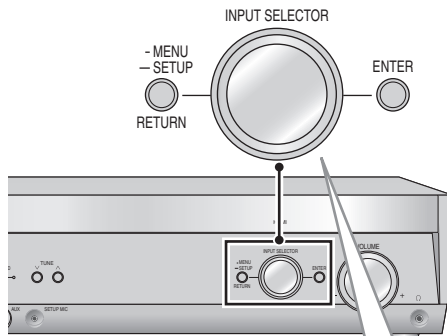
Turn to select.

ENTER

Press to confirm.

- MENU
— SETUP
RETURN

To return to the previous menu/to cancel

Change the main unit's mode

1. Enter the SETUP menu.

- MENU
— SETUP

Press and hold ⚪ for about 2 seconds.
RETURN

2. Select and press [ENTER].

`REMOTE 1`

3. Select and press [ENTER].

`REMOTE 2`

4. Press [-MENU, –SETUP, RETURN] twice to select "EXIT" and press [ENTER].

Change the remote control's code

TUNER

5. Press ⬜
—BAND

6. While pressing (ENTER), press and hold 2 for about 2 seconds.

To restore the code to "1"
• On the main unit: In step 3, select "1".
• On the remote control: In step 6, while pressing [ENTER], press and hold [1] for about 2 seconds.

Enter a code to operate some equipment

This remote control can operate Panasonic and Technics audio-visual equipment that have remote control sensors. You may need to change the remote control code.
It can also operate some other brands of televisions, video cassette recorders, and DVD players. Check the table for the brand and enter the code as follows.

Changing the codes

TV   VCR   DVD player

[TV]   [VCR]   PLAYER
[DVD]
—ANALOG 6CH

Press and hold the button corresponding to the equipment.

The remote control outputs the on/off signal.
If the code is correct, the equipment turns on or off.
If it doesn't, try entering another code.

①②③
④⑤⑥
⑦⑧⑨
⓪

Enter the first digit.

①②③
④⑤⑥
⑦⑧⑨
⓪

Enter the second digit.

• Note that this remote control cannot operate some equipment and that it may not be able to perform some operations.
• Re-enter the codes after you change the batteries.

Code table

	TV	VCR	DVD player
PANASONIC	01/29/30/31	01/29/30	01
AKAI	07/11/28/36/37	06/08/16/17/19/37	–
ALBA	05/11/12	02/06/23	–
BAIRD	–	08/10/37	–
BAUR	32	–	–
BLAUPUNKT	28/36	01/26/29/30/33	–
BRANDT	26/41	–	–
BUSH	02/05/10/11/12/32/38	02/09/23	–
DAEWOO	11/12/32	15	–
DENON	–	–	01/17
DUAL	32	–	–
FERGUSON	11/12	31	02
FINLUX	11/12/22/23/24/25/40	–	–
FISHER	37	05/07/10/11/12	–
FUNAI	02/38	–	–
GOLDSTAR	11/12	–	–
GOLDSTAR/LG	–	03/04/36/37	–
GOODMANS	11/12/25/32	02/03/18/23/27/33	–
GO-VIDEO	–	–	12
GRUNDIG	28/36	02/23/26/28/32/33	–
HCM	–	02/23	–
HITACHI	01/09/26/41	13/14	11
ICE	21/39	–	–
INNO HIT	34	–	–
ITT	–	08/10/11/37	–
ITT/NOKIA	05/07/37	18/27/37	–
JVC	18	20/21	09
KENDO	40	08/09/37	–
KENWOOD	–	–	15
LOEWE	14/33	03/32	–
LOEWE OPTA	32	–	–
LUXOR	37	08/10/11/17/19/37	–
MATSUI	02/05/06/07/10/11/12/25/37/38	03/05/09	–
METZ	–	01	–
MITSUBISHI	14/19/28/36	17/19/21/32	06

	TV	VCR	DVD player
NEC	–	04/21/36/37	–
NOKIA	05/07/37	08/10/11/18/22/27/37	–
NORDMENDE	26/41	20/21	02
OCEANIC	27/35	–	–
OKANO	–	06	–
ORION	02/03/05/10/11/12/38	05/09	–
PHILIPS	11/12/13/15	22/32/33/34/35	04/16
PHONOLA	11/12	32	–
PIONEER	–	–	03
POLKAUDIO	–	–	16
RADIOLA	11/12	–	–
RAITE	–	–	13
RCA	–	–	02
RFT	–	33	–
ROADSTAR	39	02/03/18/23/27	–
SABA	26/41	21	02
SALORA	07/37	08/11/17/19/37	–
SAMPO	–	–	14
SAMSUNG	11/12/15/21/25/34/39	15/16/18/27	10
SANYO	07/17/25/37	07/10/11	–
SCHAUB LORENZ	–	10	–
SCHNEIDER	11/12	02/03/18/23/27/32	–
SEG	39/40	02/18/23/27	–
SELECO	11/24	–	–
SHARP	17/20	22	08
SIEMENS	11/12/17/28/36	03/10/11/32	–
SINUDYNE	02/05/11/12/22/24/38/40	–	–
SONY	16	24/25/26	05
TECHNICS	–	–	01
THOMSON	05/26/41	21	02
THORN	06/08/11/12/14/16/25/32	10	–
TOSHIBA	03/04/06/08	15/17/19/32	04
UNIVERSUM	39	03/08/32/37	–
WHITE WESTIN HOUSE	11/12/22/40	–	–
YAMAHA	–	–	01
ZENITH	–	–	07/12

Specifications (DIN 45 500)

■ AMPLIFIER SECTION

Power output (at AC 230 to 240 V)

DIN 1 kHz (T.H.D. 1 %)	2 x 100 W (6 Ω)
20 Hz to 20 kHz continuous power output	
both channel driven	2 x 80 W (6 Ω)

Total harmonic distortion

rated power at 20 Hz to 20 kHz	0.09 % (6 Ω)

Power bandwidth

both channel driven, -3 dB	4 Hz to 88 kHz (6 Ω, 0.9 %)

Power output each channel driven (at AC 230 to 240 V)

DIN 1 kHz (T.H.D. 1 %)	
Front (L/R)	100 W (6 Ω)
Center	100 W (6 Ω)
Surround (L/R)	100 W (6 Ω)
Surround Back (L/R)	100 W (6 Ω)

Load impedance

Front (L/R)	
A or B	6 Ω to 16 Ω
A and B	6 Ω to 16 Ω
BI-WIRE	6 Ω to 16 Ω
Center	6 Ω to 16 Ω
Surround (L/R)	6 Ω to 16 Ω
Surround Back (L/R)	6 Ω to 16 Ω

Frequency response

CD, DVD, DVD Recorder, VCR, TV/STB, AUX	4 Hz to 88 kHz, ±3 dB
DVD 6CH	4 Hz to 44 kHz, ±3 dB

Input sensitivity and impedance

CD, DVD/DVD 6CH, DVD Recorder, VCR, TV/STB, AUX	200 mV/22 kΩ

S/N at rated power (6 Ω)

CD, TV/STB, DVD, DVD Recorder (Digital input)	90 dB (IHF, A: 103 dB)

Tone controls

BASS	50 Hz, +10 dB to -10 dB
TREBLE	20 kHz, +10 dB to -10 dB
Channel balance (250 Hz to 6.3 kHz)	±1 dB
Channel separation	55 dB
Subwoofer frequency response (-6 dB)	7 Hz to 200 Hz

Digital input	(OPTICAL)	2
	(COAXIAL)	2

HDMI (Version 1.2a)	Input	1
	Output	1

■ FM TUNER SECTION

Frequency range	87.50 MHz to 108.00 MHz
Sensitivity	
S/N 30 dB	1.5 μV/75 Ω
S/N 26 dB	1.3 μV/75 Ω
S/N 20 dB	1.2 μV/75 Ω
IHF usable sensitivity (IHF '58)	1.5 μV/75 Ω
IHF 46 dB stereo quieting sensitivity	22 μV/75 Ω

Total harmonic distortion	
MONO	0.2 %
STEREO	0.3 %
S/N	
MONO	60 dB
STEREO	58 dB
Frequency response	20 Hz to 15 kHz, +1 dB, -2 dB
Alternate channel selectivity	±400 kHz, 65 dB
Capture ratio	1.5 dB
Image rejection at 98 MHz	40 dB
IF rejection at 98 MHz	70 dB
Spurious response rejection at 98 MHz	70 dB
AM suppression	50 dB
Stereo separation	40 dB
Carrier leak	19 kHz, -30 dB
	38 kHz, -50 dB
Channel balance (250 Hz to 6.3 kHz)	±1.5 dB
Limiting point	1.2 μV
Bandwidth	
IF amplifier	180 kHz
FM demodulator	1000 kHz
Antenna terminal	75 Ω (unbalanced)

■ AM TUNER SECTION

Frequency range	522 kHz to 1611 kHz (9 kHz steps)
	530 kHz to 1620 kHz (10 kHz steps)
Sensitivity	20 μV, 330 μV/m
Selectivity (at 999 kHz)	55 dB
IF rejection (at 999 kHz)	50 dB

■ VIDEO SECTION

Output voltage at 1 V input (unbalanced)	1± 0.1 Vp-p
Maximum input voltage	1.5 Vp-p
Input/output impedance	75 Ω (unbalanced)
S-Video	
Input	DVD, DVD Recorder, TV/STB
Output	TV MONITOR
Component Video	
Input	DVD Recorder, TV/STB
Output	TV MONITOR

■ GENERAL

Power supply	AC 230 to 240 V, 50 Hz
Power consumption	140 W
Dimensions (W x H x D)	430 mm x 107.5 mm x 390 mm
Mass	4.7 kg

Power consumption in standby mode:	**0.9 W**
Power consumption in HDMI off mode:	**0.35 W**

Notes:
1. Specifications are subject to change without notice.
2. Mass and dimensions are approximate.
3. Total harmonic distortion is measured by the digital spectrum analyzer.

Help messages

Message	Causes and solutions
CANCEL MUTING FUNCTION	Muting is on. Press [MUTING] on the remote control to cancel (➡ page 31).
MUSIC MODE ONLY	You are trying to use a feature that is available only in *"MUSIC"* mode. Change the mode to *"MUSIC"* (➡ pages 22 to 23).
NO CENTER AND SURROUND SPEAKERS	Center and surround speakers are not connected, or they are set as absent. Connect the speakers (➡ page 13) or change their setting to present (➡ page 27).
NO SURROUND AND SURROUND BACK SPEAKERS	Surround and surround back speakers are not connected, or they are set as absent. Connect the speakers (➡ page 13) or change their setting to present (➡ page 27).
NO SURROUND BACK SPEAKER	Surround back speakers are not connected, or they are set as absent. Connect the speakers (➡ page 13) or change their setting to present (➡ page 27).
NOT POSSIBLE FOR DTS-ES SOURCE	You are trying to use an effect unavailable with DTS-ES sources.
NOT POSSIBLE FOR DVD AUDIO SOURCE	You are trying to use an effect unavailable with DVD-Audio sources.
NOT POSSIBLE FOR DVD 6CH INPUT	You are trying to use an effect unavailable with DVD analogue 6-channel input.
NOT POSSIBLE FOR THIS INPUT SOURCE	You are trying to use an effect unavailable with the current input source.
PCM FIX (flashing)	You have set the *"PCM FIX"* mode. Cancel this mode (➡ page 28).
SELECT SPEAKER A	SPEAKERS A is off. Press [SPEAKERS A] to turn on *"SPEAKERS A"* (➡ page 18).
SPEAKERS ARE OFF	SPEAKERS A and SPEAKERS B are off. Select one of the speakers (➡ page 18).

Troubleshooting guide

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

■ Common problems

		Pages
No power.	• Ensure the AC mains lead is connected.	11
No sound. Sound is distorted.	• Turn the volume up. • Check connections to speakers and other equipment. • Turn on the speakers. • Select the correct source. • Change DIG INPUT setting to suit the type of connection you have made. • Check that the digital signals can be decoded by this unit. • Turn the muting off. • Turn PCM FIX off. • Recording of some DVD-Audio may not be possible due to copyright protection.	18 5 to 13 18 18 28 19 31 28 -

Sound stops. *"OVERLOAD"* appears on the display for about a second, and the unit turns off.	• Determine and correct the cause, then turn the unit on.
	  Causes include:
	  - Shorting (bare wires touching) of positive and negative speaker wires.
	  - Using speakers with an impedance lower than that rated for this unit.
	  - Straining of the speakers through excessive volume or power.
	  - Using the unit in a hot environment without proper ventilation.
	  Consult your dealer if the problem occurs again after switching the unit on.
		-
		13
		-
		-

Analogue input becomes distorted and the message *"OVERFLOW"* appears on the display during playback.	• Switch the attenuator on.	29
"F76" appears on the display and the unit turns off.	• Turn the unit off, disconnect the AC mains lead, and consult your dealer.	-
"F70" appears on the display.	• Turn the unit off, disconnect the AC mains lead, and consult your dealer.	-
"REMOTE 2" or *"REMOTE 1"* appears on the display.	• Match the codes on the main unit and the remote control.	37
Display is dim.	• Cancel *"DIMMER"*.	31
Clicking sound is heard during play.	• Depending on the input signal when playing DVD etc., the ADVANCED DUAL AMP function changes automatically. A clicking sound is heard when it changes. This does not mean a problem with the unit. ➡You can also set the unit against automatic advanced dual amp operations.	- 29

■ Surround effects

		Pages
Sound is not heard from the center, surround or subwoofer speakers.	• Ensure the speaker settings for your speakers are correct. • Confirm Dolby Pro LogicIIx, NEO:6, or SFC settings, and select an adequate mode. • Switch SURROUND on when you play 2-channel stereo sources.	14 to 17, 27 22 to 25 18
Sound is not heard from the surround back speaker.	• Ensure the speaker settings for your speakers are correct. • Switch SURROUND on.	14 to 17, 27 18
Cannot switch SURROUND on. (Dolby Pro LogicIIx, NEO:6, and SFC are unavailable.)	• Check if the center speaker, surround speakers, and surround back speakers are connected properly. • Switch SPEAKERS A on. • You cannot use the SURROUND effect when the input source contains PCM signals with sampling frequencies of 192 kHz. • Cancel DVD analogue 6-channel playback. • You cannot use the effect when the input source contains dual audio signals in Dolby Digital or DTS formats.	13 18 - 20 -
There is no DTS audio output. There is audio output, but the DTS decoder indicator is not lit.	• Set the DTS Digital Audio Output setting on the DVD player or DVD recorder to "Bitstream".	-
Sound is distorted when using the Sound Field Control (SFC).	• Depending on the input source, sound may be distorted if you increase the SFC effect level. If this happens, decrease the SFC effect level.	25

■ Radio

|		Pages
The radio cannot be tuned in or there is a lot of noise and interference.	• Connect the appropriate antenna. (You may need an outdoor antenna or one with more elements.) • Adjust the position of the FM or AM antenna. • Reduce the treble. • Turn off nearby televisions, video decks, DVD recorder, DVD player, and satellite receivers. • Separate the antenna from other cables, cords, and appliances.	11 11 31 - -
There is a lot of noise when listening to AM.	• Try changing the BEAT PROOF mode.	33
The correct AM frequency cannot be tuned in.	• Change the frequency step to suit your area when AM is selected.	32

■ HDMI

		Pages

When using an HDMI connection, the first few seconds of sound is cut off.	• Should you be playing a chapter on a DVD:
	  - Change the audio output setting on the DVD player or DVD recorder from "Bitstream" to "PCM".
	    (6.1-channel sources will however be played as 5.1-channel.)
	  - Select *"PCMFIX"* as instructed in "Input signals" when you play 2-channel sources.
		-
		
		28

"U 70-1-1" appears on the display.	• The equipment connected by the HDMI cable is not compatible with the unit's copyright protection technology.	-
"U 70-1-2" appears on the display.	• The unit has received a signal for a picture format that is incompatible with the HDMI connection. Check the settings of the connected equipment.	-

"U 70- 3" appears on the display.	• Should anything unusual happen using an HDMI connection:
	  Consult your dealer if the sign remains on the display after these steps.
	  - Turn the connected equipment off and on again.
	  - Pull out the HDMI cable then reinsert it.
	  - Reduce the amount of equipment connected in series to the HDMI terminal if exceeding 2 units.
		-
		
		5, 21
		-

The unit does not work properly.	• The unit does not work properly when wrong cords are in HDMI input and output terminals. Turn the unit off, unplug the AC mains lead, and make connections again.	5, 21
HDAVI Control does not function properly.	• Connect the unit to your TV (VIERA) using the HDMI cable, switch the TV on, unplug the unit's AC mains lead, and insert it into a household mains socket again.	-

■ Remote control

		Pages
The remote control does not work.	• Replace the batteries if they are worn.	3
Other products respond to the remote control.	• Change this unit's remote control code to *"REMOTE 2"*.	37

Supplied accessories
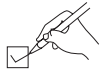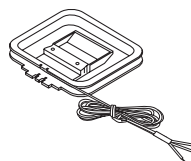
Please check and identify the supplied accessories.
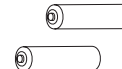
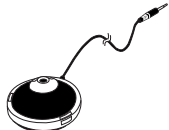☑ **1 AC mains lead**

☐ **1 FM indoor antenna**

☐ **1 AM loop antenna**

☐ **2 Batteries**

☐ **1 Remote control**

(EUR7662YN0)

☐ **Calibration microphone**

Use numbers indicated in parentheses when asking for replacement parts.

-If you see this symbol-

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

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

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

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

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

For business users in the European Union

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

Information on Disposal in other Countries outside the European Union

This symbol is only valid in the European Union.

If you wish to discard this product, please contact your local authorities or dealer and ask for the correct method of disposal.

NORSK

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.**

ADVARSEL:

FOR Å REDUSERE FAREN FOR BRANN, ELEKTRISK STØT ELLER SKADER PÅ PRODUKTET, MÅ DETTE APPARATET IKKE UTSETTES FOR REGN, FUKTIGHET, VANNDRÅPER ELLER VANNSPRUT. DET MÅ HELLER IKKE PLASSERES GJENSTANDER FYLT MED VANN, SLIK SOM BLOMSTERVASER, OPPÅ APPARATET.

DETTE APPARATET ER BEREGNET TIL BRUK UNDER MODERATE KLIMAFORHOLD.

Utstyret bør plasseres i nærheten av AC-stikkontakten, og støpslet må være lett tilgjengelig hvis det skulle oppstå problemer.

SUOMI

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.**

VAROITUS:

TULIPALO-, SÄHKÖISKUVAARAN TAI TUOTETTA KOHTAAVAN MUUN VAHINGON VÄHENTÄMISEKSI EI LAITETTA SAA ALTISTAA SATEELLE, KOSTEUDELLE, VESIPISAROILLE TAI ROISKEELLE, EIKÄ NESTETTÄ SISÄLTÄVIÄ ESINEITÄ, KUTEN ESIMERKIKSI MALJAKOITA, SAA ASETTAA LAITTEEN PÄÄLLE.

TÄMÄ LAITE ON TARKOITETTU KÄYTETTÄVÄKSI LEUDOSSA ILMASTOSSA.

Laite tulee asettaa lähelle verkkopistorasiaa ja pistokkeen täytyy olla sellaisessa asennossa, että siihen on helppo tarttua ongelman sattuessa.

Maintenance

If the surfaces are dirty

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

Matsushita Electric Industrial Co., Ltd.

Web Site: http://panasonic.net

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