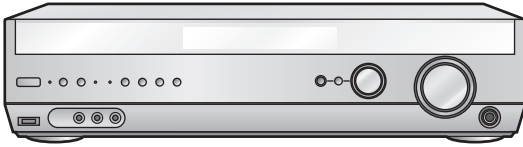


Operating Instructions AV Control Receiver

Model No. **SA-XR55**



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.

Note:
"EB" on the packaging indicates the United Kingdom.

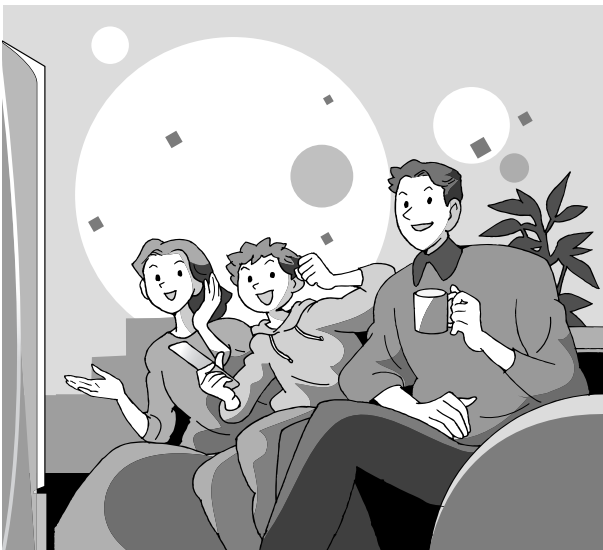


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Home Theater connections

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Basic Operations

Basic operations

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Caution for AC Mains Lead

Safety precautions

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

For your safety, please read the following text carefully.

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

A 5-ampere fuse is fitted in this plug.

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

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

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

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

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

CAUTION!

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

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

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

If in any doubt please consult a qualified electrician.

IMPORTANT

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

Blue: Neutral, Brown: Live.

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

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

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

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

THIS PLUG IS NOT WATERPROOF—KEEP DRY.

Before use

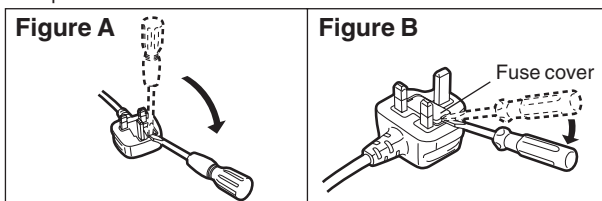
Remove the connector cover.

How to replace the fuse

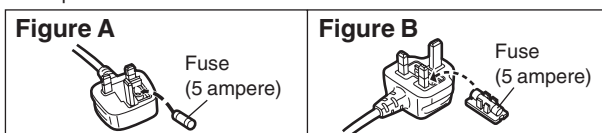
The location of the fuse differ according to the type of AC mains plug (figures A and B). Confirm the AC mains plug fitted and follow the instructions below.

Illustrations may differ from actual AC mains plug.

1. Open the fuse cover with a screwdriver.



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



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

■ Sales and Support Information

(For the United Kingdom and Republic of Ireland)

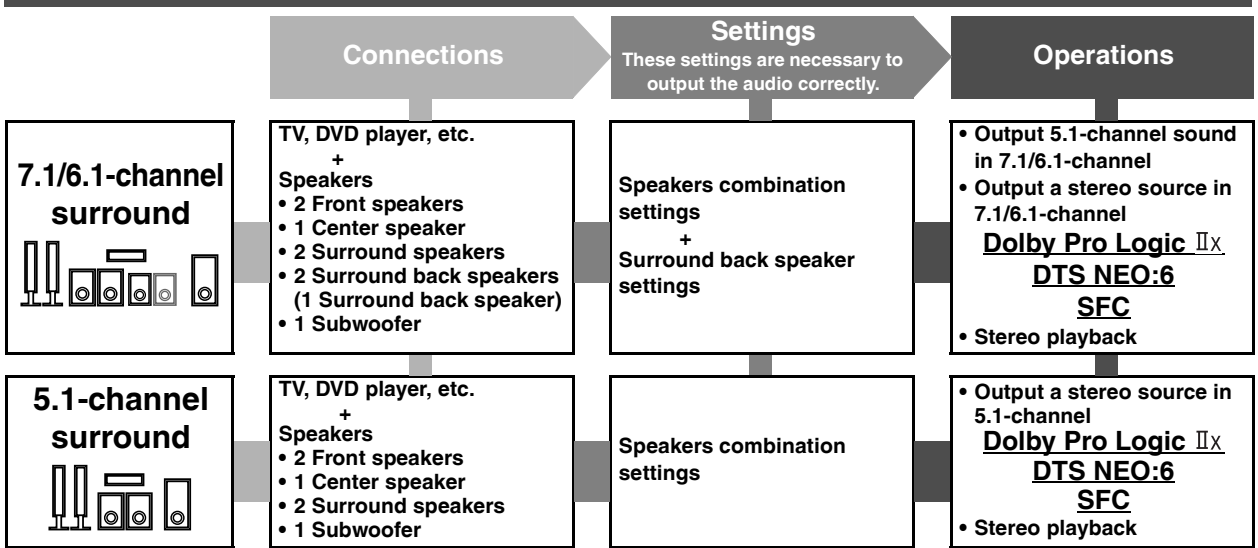
Customer Care Centre

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

Direct Sales at Panasonic UK

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

How to set up the Home Theater

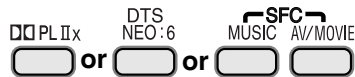


You can create your desired environment by connecting other peripheral equipment.

Listen to your television or CDs in surround sound



Turn on.



- Select Dolby Pro Logic IIx, DTS NEO:6 or SFC to listen to stereo sound from your television or CDs in surround. (Sound is output from all the speakers.)
- Depending on the speaker settings and input signal (audio signal from the disc being played), this may not be possible. (→ page 17)

Supplied accessories

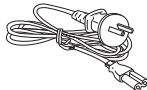


Please check and identify the supplied accessories.

- 1 AC mains lead



For the United Kingdom
(RJA0053-3X)



For Australia and New Zealand
(K2CJ2DA00010)

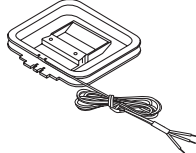


For continental Europe
(K2CQ2CA00002)

- 1 FM indoor antenna
(RSA0007-L)



- 1 AM loop antenna
(RSA0037)



- 1 Antenna plug adapter

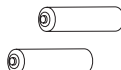


For the United Kingdom
(K1YZ02000013)



For Australia and New Zealand
(K2RC021B0002)

- 2 Batteries



- 1 Remote control
(EUR7722KN0)



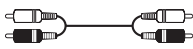

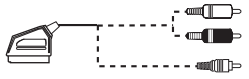


Refer to the separate booklet, "Remote Control Operation Guide", for remote control operation details.

Use the numbers indicated in parentheses when asking for replacement parts. (As of April 2005)

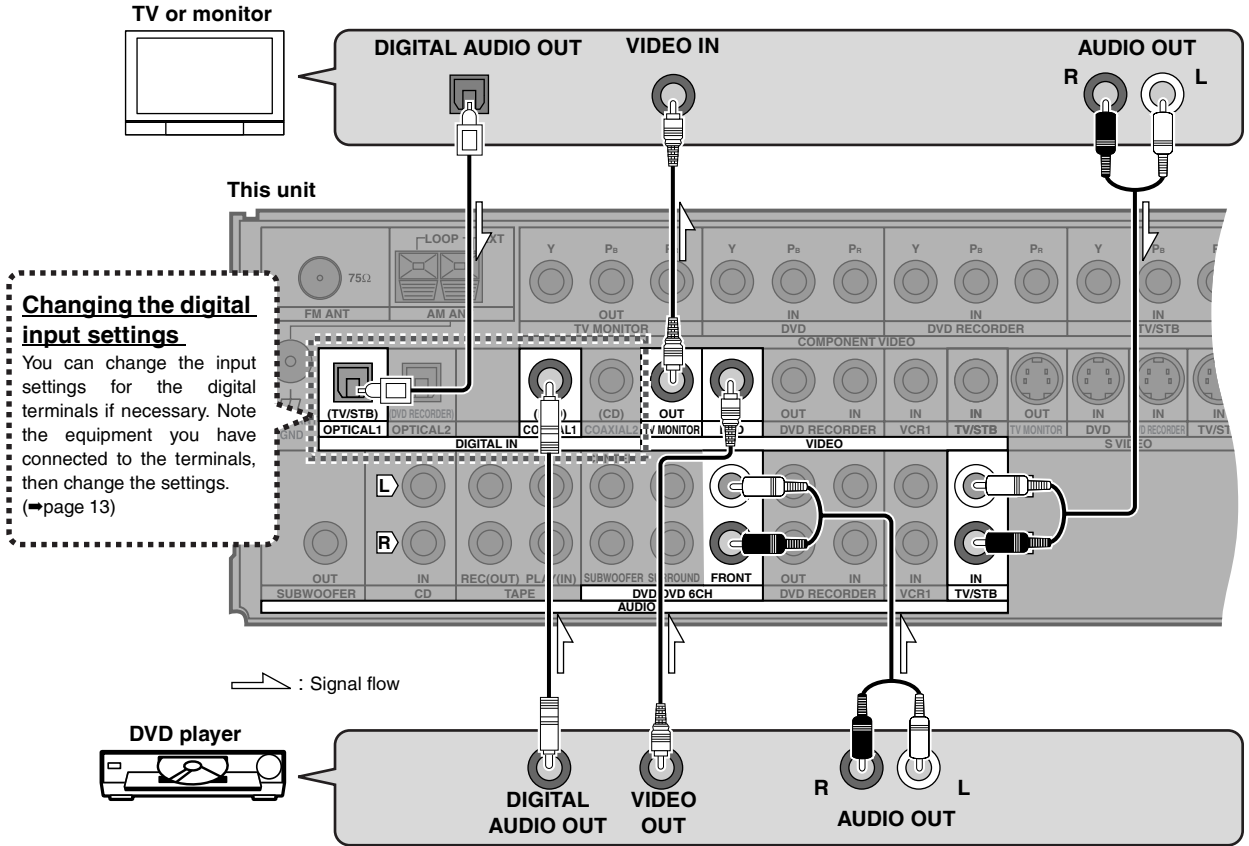
Home Theater connections – 1. TV and DVD player

Basic connection

Preparation: Turn off all components before making any connections.

Connection cable (All cables are sold separately)		
Audio cable	Video cable	Scart cable
Stereo phono cable White (L) Red (R)  You can enjoy analogue sound.	Video connection cable  Use to connect to the TV MONITOR terminals for a standard picture.	21-pin scart cable  Use when connecting equipment with a 21-pin scart terminal.
Coaxial cable  You can enjoy digital sound such as Dolby Digital, DTS and PCM. • Do not sharply bend the optical fiber cable.		
Optical fiber cable 		

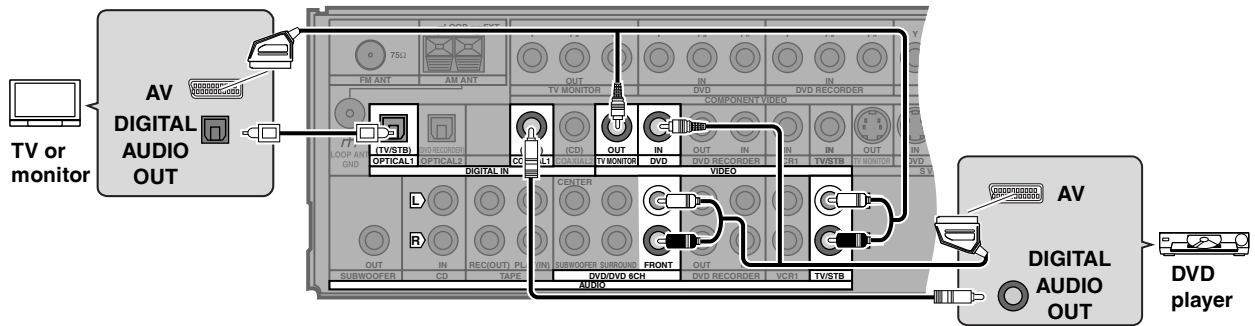
- Use an analogue connection to enjoy sources that cannot be decoded on this unit and to record analogue sources.



Changing the digital input settings

You can change the input settings for the digital terminals if necessary. Note the equipment you have connected to the terminals, then change the settings. (→page 13)

■ Connection with 21-pin scart cable (For continental Europe and the United Kingdom)


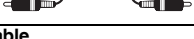



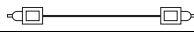


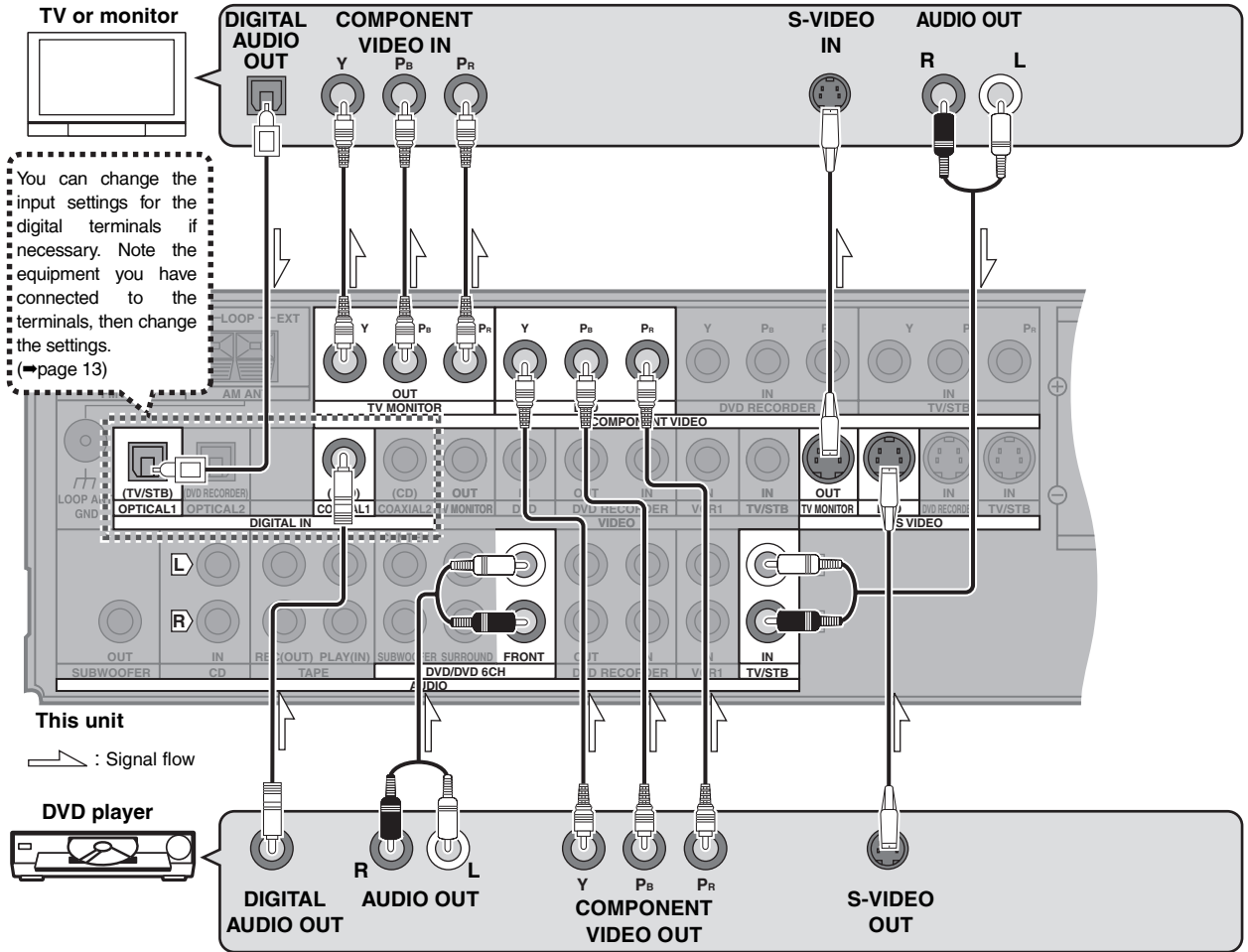
High picture quality connection

Use this connection instead of the VIDEO IN/VIDEO OUT connections on page 4. A COMPONENT VIDEO connection provides a purer picture than a S-VIDEO connection. Select a S-VIDEO or COMPONENT VIDEO connection to match the peripheral equipment.

Video input can only be output again through the same type of terminal.

Preparation: Turn off all components before making any connections.

Connection cable (All cables are sold separately)	
Audio cable	Video cable
Stereo phono cable White (L)  You can enjoy analogue sound. Red (R) 	Video connection cable  Use to connect to the TV MONITOR terminals for a standard picture. Can also be used to make a COMPONENT VIDEO connection for a higher quality picture than an S-VIDEO connection.
Coaxial cable  You can enjoy digital sound such as Dolby Digital, DTS and PCM.	S-VIDEO connection cable  You can enjoy a higher quality picture than with a video connection cable.
Optical fiber cable  Do not sharply bend the optical fiber cable.	

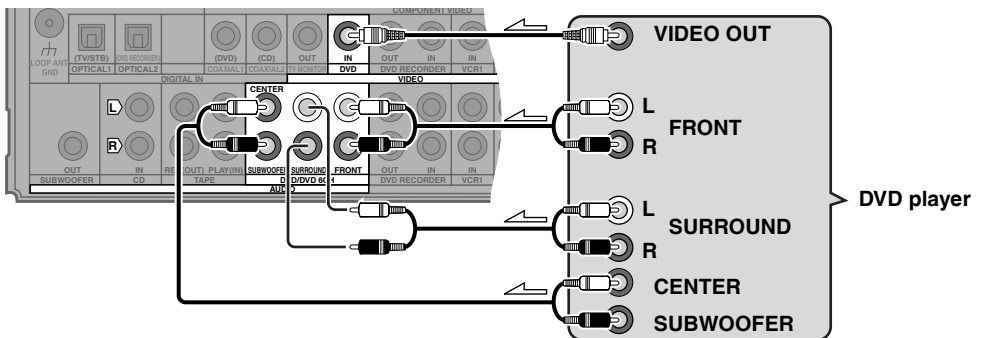


You can change the input settings for the digital terminals if necessary. Note the equipment you have connected to the terminals, then change the settings. (→page 13)

DVD ANALOG 6CH connection

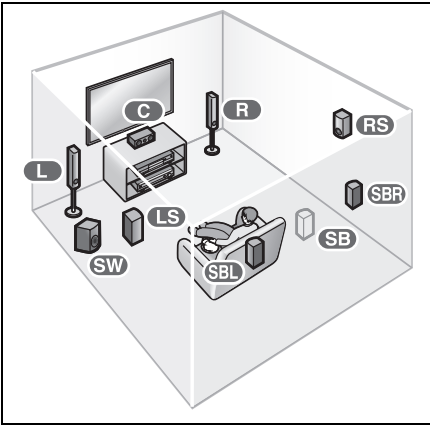
You can play high fidelity sound such as DVD-Audio. You need to make additional connections for this.

→ Refer to page 14 for "Playing DVD-Audio".





Home Theater connections – 2. Speakers



L R Front speakers (L: left/R: right)

Place on the left and right of the TV at seated ear height so that there is good coherency between the picture and sound.

C Center speaker

Place underneath or above the center of the TV. Aim the speaker at the seating area.

LS RS Surround speakers (LS: left/RS: right)

Place on the side of or slightly behind the seating area, about one meter higher than ear level.

SBL SBR (SB) Surround back speakers (SBL: left/SBR: right)

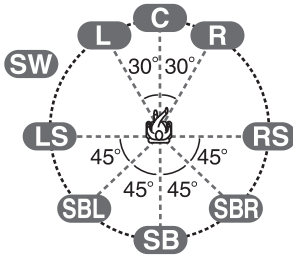
Place behind the seating area, about one meter higher than ear level.

SBL/SBR: Two surround back speakers.

SB: One surround back speaker.

SW Subwoofer

The subwoofer can be placed in any position as long as it is at a reasonable distance from the TV.





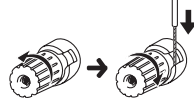
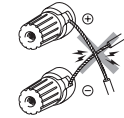

- The front, center, surround and surround back speakers should be placed at approximately the same distance from the seating position.
- The angles in the diagram are approximate.
- Set the distance of the speakers from the seating position if you cannot place them at the same distances. (→page 21)
- Speaker settings and placement should suit the number of speakers. (→page 12)

■ Placement of speakers

The number of speakers	Speakers	Placement
7	2 Front speakers (Left/Right), 1 Center speaker, 2 Surround speakers (Left/Right), 2 Surround back speakers (Left/Right)	
6	2 Front speakers (Left/Right), 1 Center speaker, 2 Surround speakers (Left/Right), 1 Surround back speaker	
	2 Front speakers (Left/Right), 2 Surround speakers (Left/Right), 2 Surround back speakers (Left/Right)	
5	2 Front speakers (Left/Right), 2 Surround speakers (Left/Right), 1 Surround back speaker	
	2 Front speakers (Left/Right), 1 Center speaker, 2 Surround speakers (Left/Right)	
4	2 Front speakers (Left/Right), 2 Surround speakers (Left/Right)	
3	2 Front speakers (Left/Right), 1 Center speaker	
2	2 Front speakers (Left/Right)	

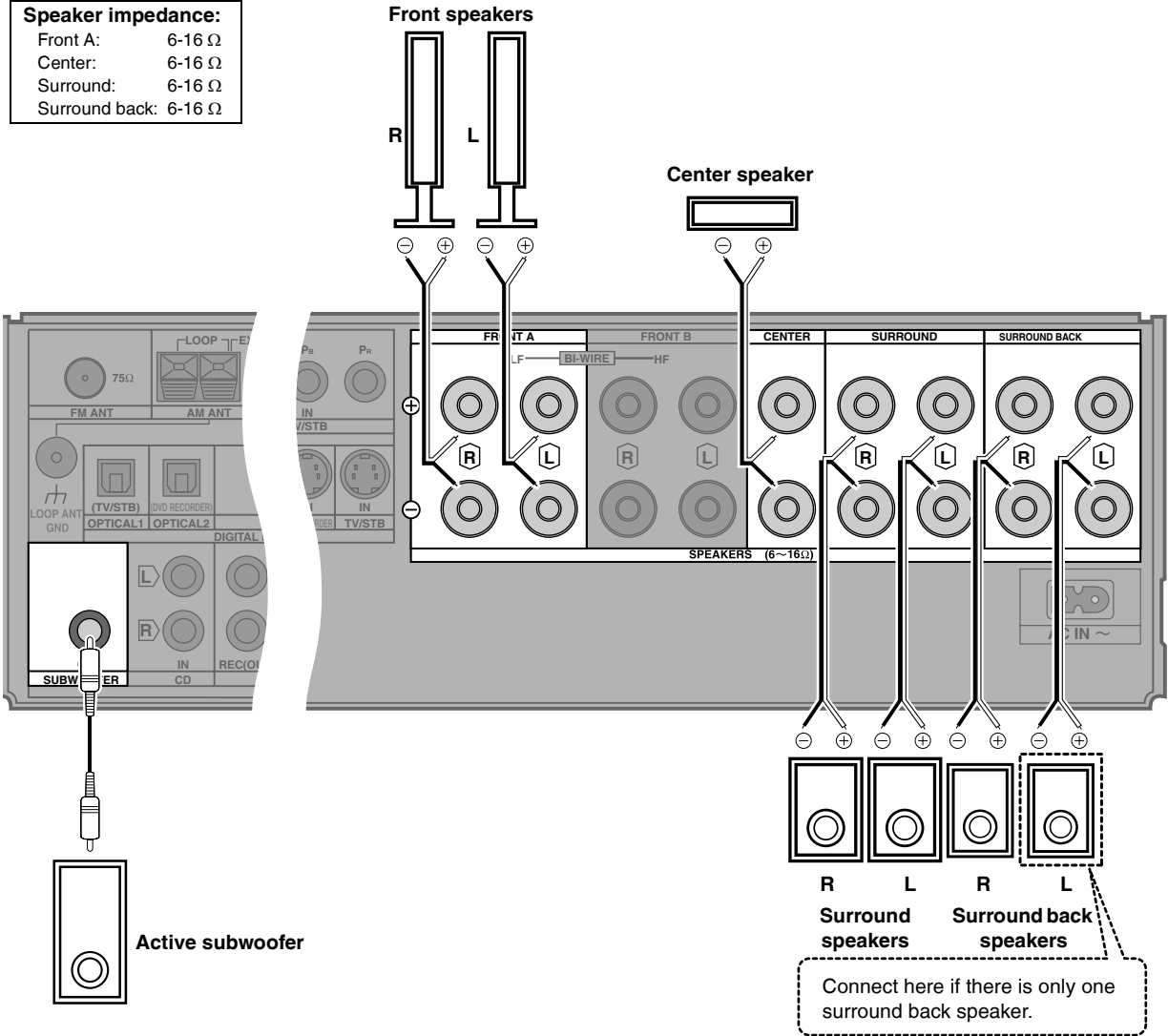
Peripheral equipment sold separately unless otherwise indicated.
To connect equipment, refer to the appropriate operating instructions.

Preparation: Turn off all components before making any connections.

Speaker cable (All cables are sold separately)			
<p>Speaker cable</p> 	<p>Twist the wire</p> 	<p>Speaker terminals</p> 	<p>Do not short-circuit</p> 
<p>Monaural connection cable</p>  <p>Connect the cables so "L", "R", "+" and "-" are correct.</p>			

Speaker impedance:

Front A:	6-16 Ω
Center:	6-16 Ω
Surround:	6-16 Ω
Surround back:	6-16 Ω



Home Theater connections – 2. Speakers

Preparation: Turn off all components before making any connections.

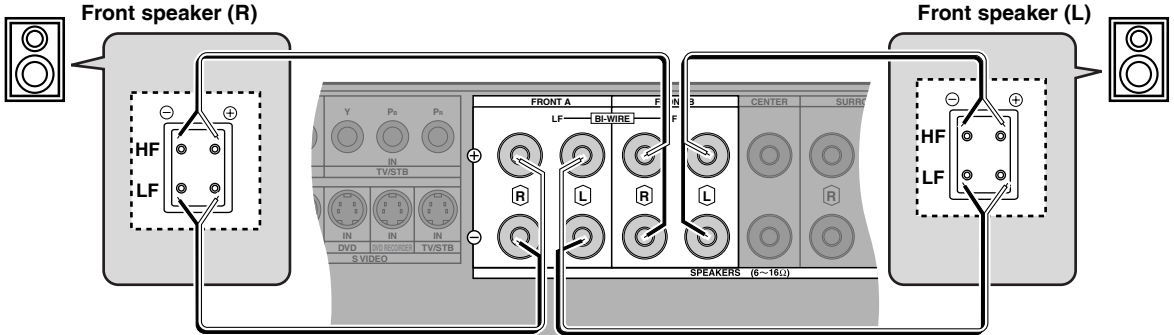
Bi-wiring connection

You can enjoy high quality sound by connecting to speakers designed for bi-wiring. BI-WIRE compatible speakers have separate terminals for the high frequency and low frequency signals.

- When using a bi-wiring connection, select “**BI-WIRE**” for “Bi-wiring settings”. (→page 12)

➔Refer to page 15 for “Enjoying BI-AMP sound”.

HF: High frequency
LF: Low frequency

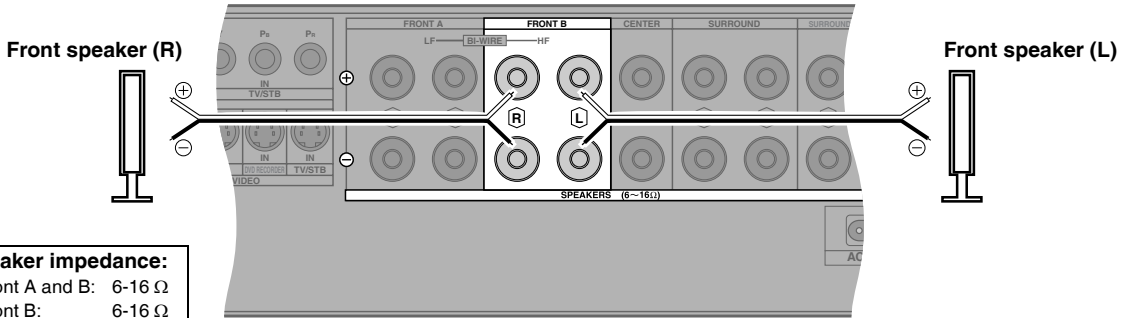


Speaker impedance:
BI-WIRE: 6-16 Ω

Using speaker terminal B

For connection to a second pair of speakers. Use the A terminals to enjoy multi-channel sound. If you select SPEAKERS B only, playback is 2-channel. When a multi-channel source is played, the sounds intended for all the speakers are played through the front left and front right speakers (2CH MIX).

➔Refer to page 14 for “Using SPEAKERS B”.

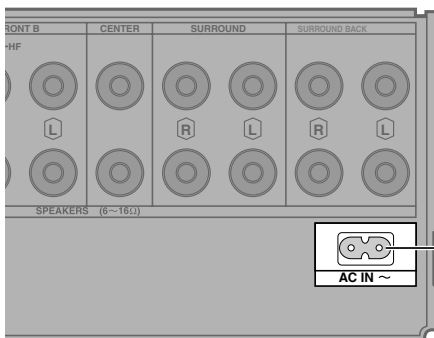


Speaker impedance:
Front A and B: 6-16 Ω
Front B: 6-16 Ω

Home Theater connections – 3. AC mains lead

FOR THE UNITED KINGDOM ONLY
READ THE CAUTION FOR THE AC MAINS LEAD ON PAGE 2 BEFORE CONNECTION.

Connect this cord after all other cables and cords are connected.



AC mains lead (included)

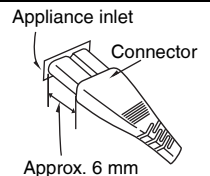
➔ **To household mains socket**

Note

- The included AC mains lead is for use with this unit only. Do not use it with other equipment.
- Do not use AC mains lead from any other type of equipment with this unit.
- 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.

Insertion of connector (Except the United Kingdom)

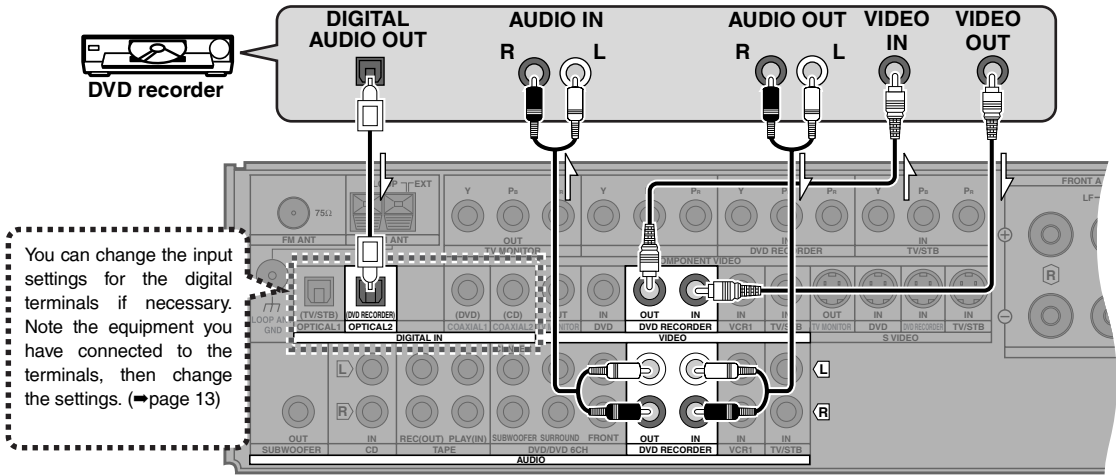
Even when the connector is perfectly inserted, depending on the type of inlet used, the front part of the connector may jut out as shown in the drawing. There is however no problem using the unit.



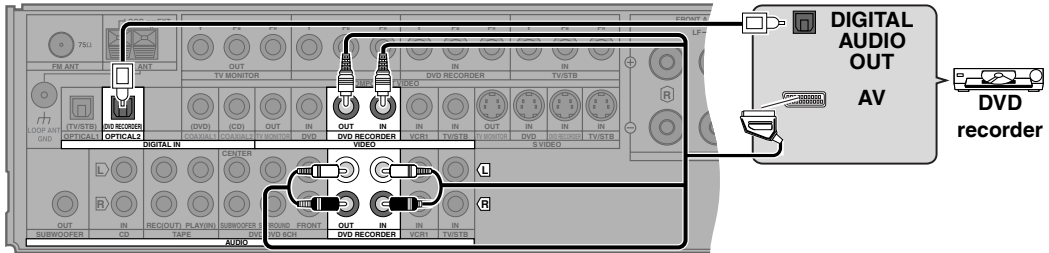
Other connections

Peripheral equipment sold separately unless otherwise indicated.
To connect equipment, refer to the appropriate operating instructions.

DVD recorder



■ Connection with 21-pin scart cable (For continental Europe and the United Kingdom)

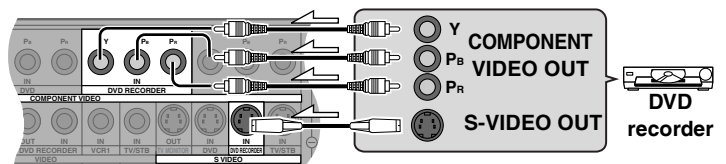


■ High picture quality connection

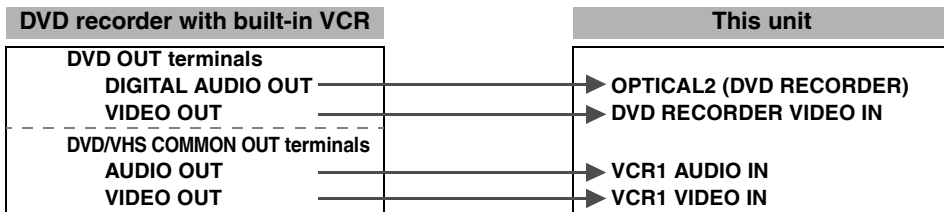
Use this connection instead of the VIDEO IN/VIDEO OUT connections (→above). A COMPONENT VIDEO connection provides a purer picture than a S-VIDEO connection.

Select a S-VIDEO or COMPONENT VIDEO connection to match the peripheral equipment.

Video input can only be output again through the same type of terminal.



■ Connection to a DVD recorder with built-in VCR

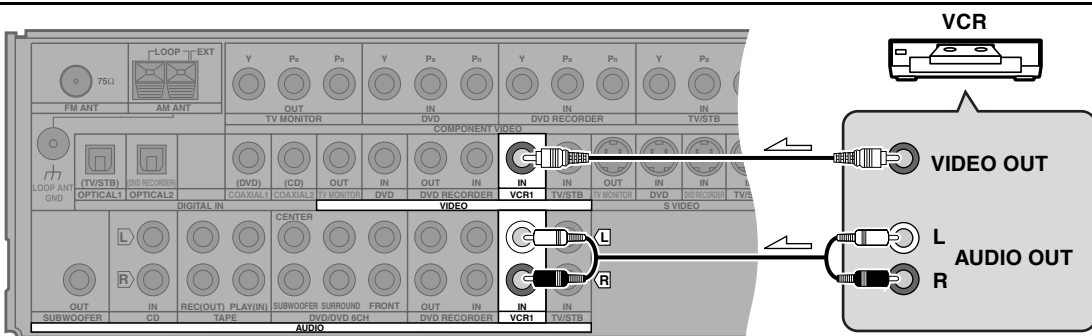


→Refer to page 14 for "Using a DVD recorder with built-in VCR".

■ Connection to equipment with DVD analogue 5.1CH OUT terminals

Connect as shown in "DVD ANALOG 6CH connection" (→page 5), replacing the DVD player with a DVD recorder. →Refer to page 14 for "Playing DVD-Audio".

VCR (Playback only)



Other connections

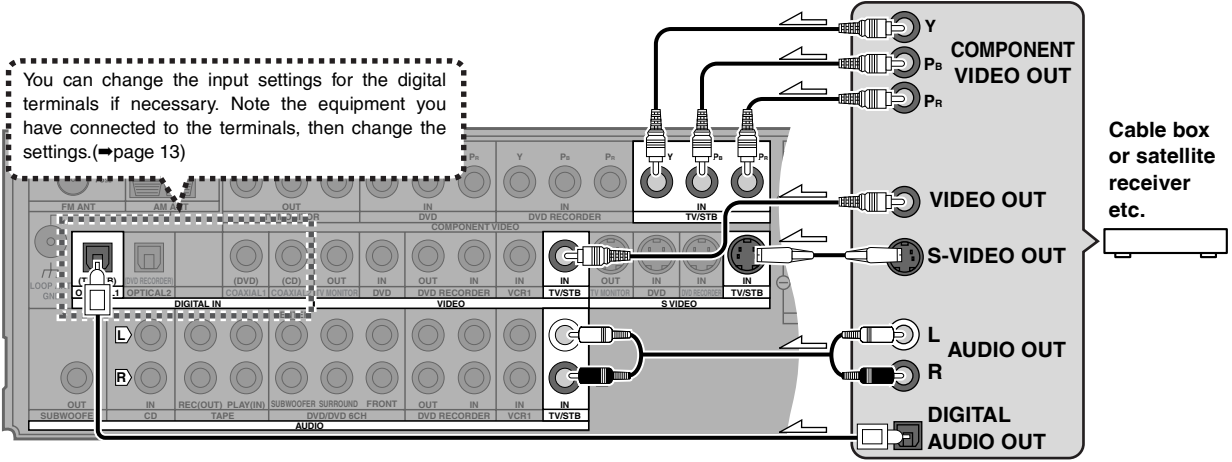
Peripheral equipment sold separately unless otherwise indicated.
To connect equipment, refer to the appropriate operating instructions.

Cable box or satellite receiver etc.

When connecting to the video terminals, connect to the VIDEO, S VIDEO or COMPONENT VIDEO terminals to match the TV's connection (→pages 4, 5). Video input can only be output again through the same type of terminal.

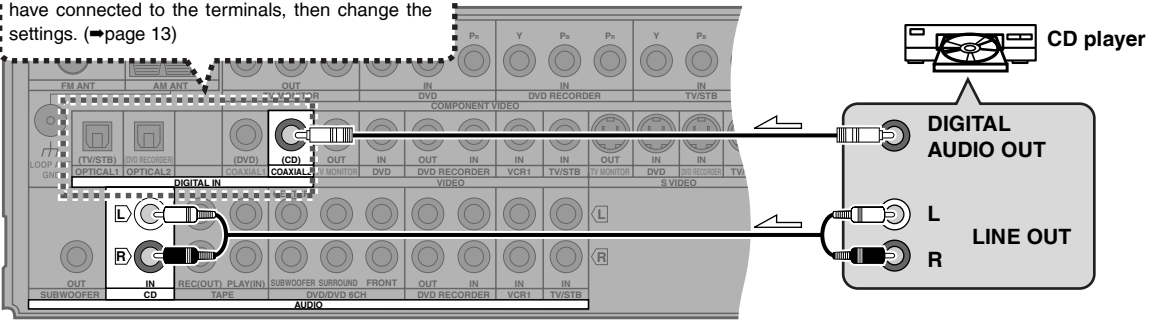
Connections ENGLISH

You can change the input settings for the digital terminals if necessary. Note the equipment you have connected to the terminals, then change the settings. (→page 13)

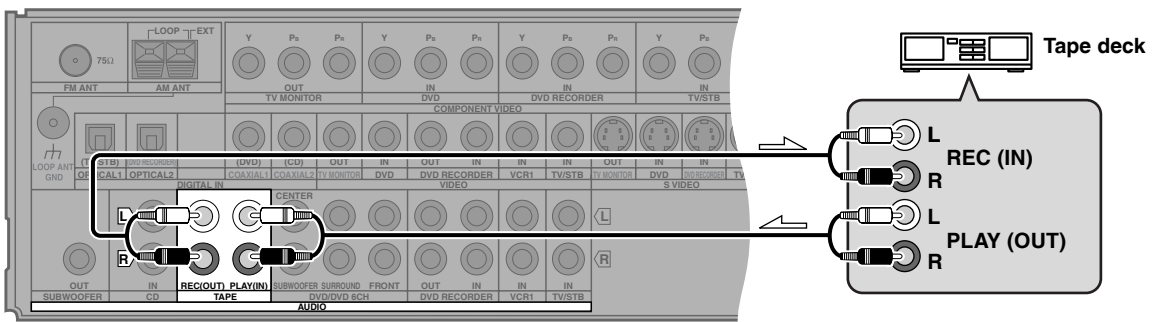


CD player

You can change the input settings for the digital terminals if necessary. Note the equipment you have connected to the terminals, then change the settings. (→page 13)

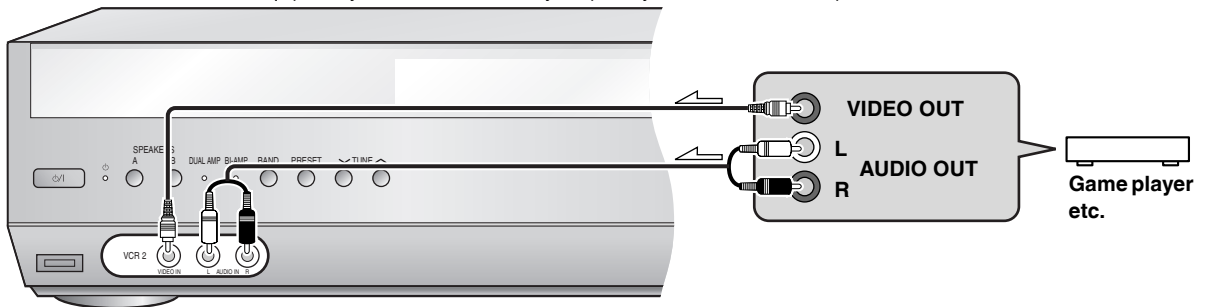


Tape deck

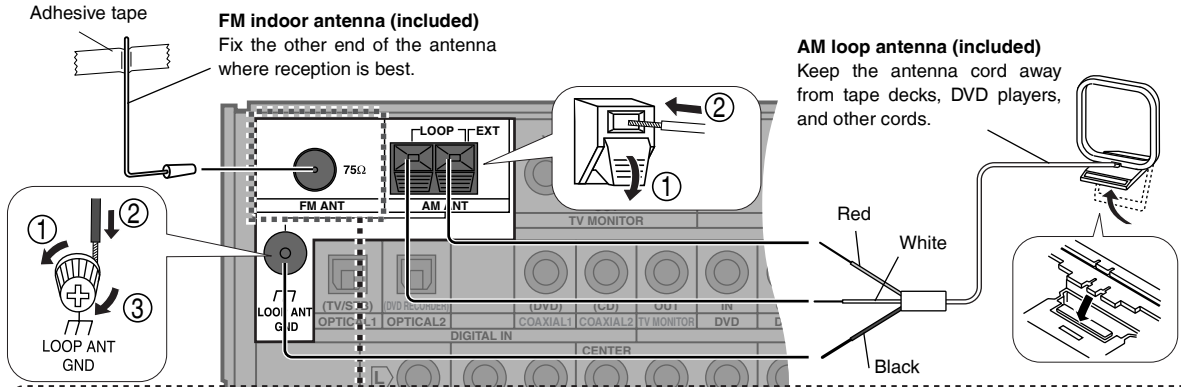


Game player etc.

These terminals are convenient for equipment you want to connect only temporarily. Select "VCR 2" for input.

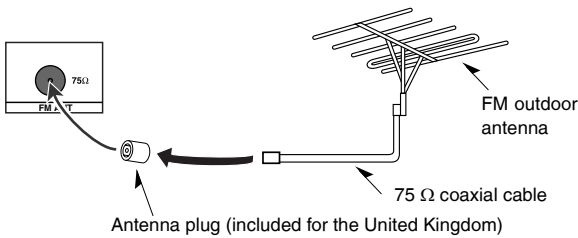


Antennas



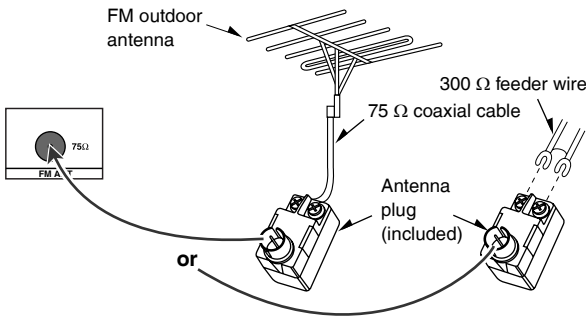
FM outdoor antenna (not included)

- Disconnect the FM indoor antenna.
 - The antenna should be installed by a competent technician.
- (For continental Europe and the United Kingdom)**



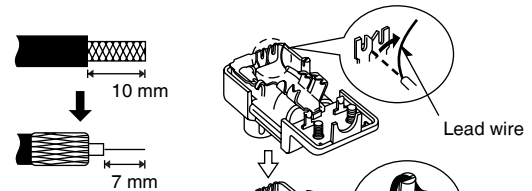
(For Australia and New Zealand)

Two types of wire commonly used for connection from the antenna are 300 Ω parallel feeder wire and 75 Ω coaxial cable. For best resistance to interference, use 75 Ω coaxial cable.

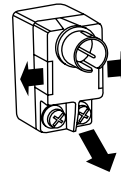


To connect a 75 Ω coaxial cable

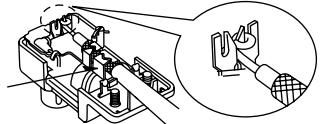
- 1 Remove a piece of the outer vinyl insulator.
- 2 Carefully pull the tabs apart to remove the cover.
- 3 Remove the lead wire and clamp it with the plastic bar.



- 2 Carefully pull the tabs apart to remove the cover.



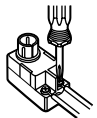
- 4 Install the coaxial cable. Clamp the cable conductor, and wind it on so that it does not contact anything else.



- 5 Attach the cover.

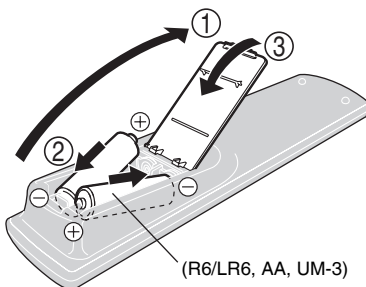
To connect a 300 Ω feeder wire

Loosen the screws, connect the wires, and tighten the screws to secure the connection.



The remote control

Batteries

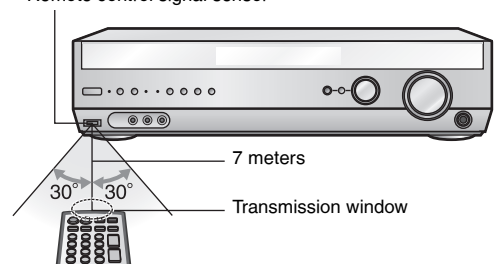


- Insert so the poles (+ and -) match those in the remote control.
- Do not use rechargeable type batteries.

Use

Aim at the sensor, avoiding obstacles, at a maximum range of 7 m directly in front of the unit.

Remote control signal sensor



- Keep the transmission window and the unit's sensor free from dust.
- Operation can be affected by strong light sources, such as direct sunlight, and the glass doors on cabinets.

Receiver settings – Basic

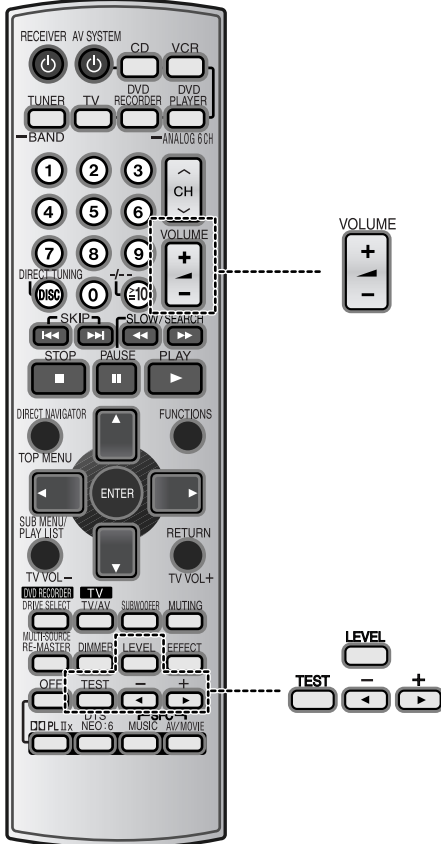
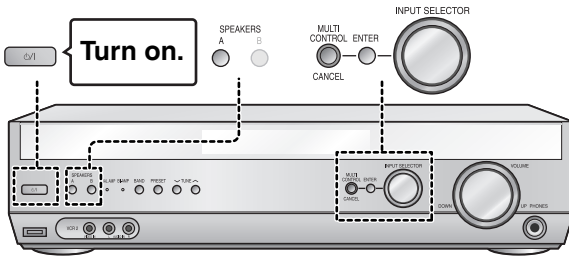
Change the settings to tailor your equipment to the environment in which you are using it.

- Before making any changes, read the following descriptions of the settings and refer to the instructions for the speakers and equipment.

Basic operations with the MULTI CONTROL

Turn to change. → Press to enter.

■ To return to the previous setting/To cancel Press.



Use the MULTI CONTROL menus to change the settings. (→left "Basic operations with the MULTI CONTROL")

1 Enter the MULTI CONTROL.

↓

Select "**SETUP 1**" ("BASIC SETUP" scrolls once) and press [ENTER].

Select the settings to change. (→below, page 13)

Speakers combination settings

Set the speaker combination connected to this unit. The speaker combination has to be set in order for the sound to be output properly.

2 Select "SPKR SET" (SPEAKER SET) and press [ENTER].

3 Select if you have connected a subwoofer or not and press [ENTER].

SUBW NO: You have not connected one.
SUBW YES: You have connected one.

4 Select the speaker combination connected to this unit and press [ENTER].

L C R S SB: All speakers connected
L _ R S SB: No center speaker
L C R S _ _: No surround back speakers
L _ R S _ _: No center and surround back speakers
L C R _ _ _: No surround and surround back speakers
L _ R _ _ _: Only front speakers

5 → Select another setting
→ Finish setting
Press [MULTI CONTROL, CANCEL] 2 times to select "EXIT" and press [ENTER].

Bi-wiring settings

Select this when you connect bi-wire compatible front speakers. (→page 8)

2 Select "FRNT L/R" (FRONT L/R) and press [ENTER].

3 Select "BI-WIRE" and press [ENTER].

NORMAL: Normal speakers
BI-WIRE: Bi-wire compatible speakers

4 → Select another setting
→ Finish setting
Press [MULTI CONTROL, CANCEL] 2 times to select "EXIT" and press [ENTER].

Surround back speaker settings

This is displayed when you connected surround back speakers in "Speakers combination settings" (→above).

Select this to set the number of surround back speakers.

2 Select "SB SPKR" (SURROUND BACK SPEAKER) and press [ENTER].

3 Select the number of speakers and press [ENTER].

1 SPKR: If you connect one surround back speaker.
2 SPKRS: If you connect two surround back speakers.

4 → Select another setting
→ Finish setting
Press [MULTI CONTROL, CANCEL] 2 times to select "EXIT" and press [ENTER].

- Any changes to settings remain as set even if the power is turned off.
- For more detailed information on settings refer to "Receiver settings – Advanced" on page 21.
- Page 25 "Multi control menus and factory settings".

Settings – Test



Changing the digital input terminals

Change these settings to suit the connections you have made to the optical (OPT) and coaxial (COAX) digital input terminals. (→pages 4, 5, 9 and 10)

You can only allocate one piece of equipment per terminal.

- 2** Select “*D-INPUT*” (DIGITAL INPUT) and press [ENTER].
- 3** Select the input position and press [ENTER].

TV/STB, DVR, DVD, CD

- 4** Change the setting and press [ENTER].

OPT 1, OPT 2, COAX 1, COAX 2

Repeat steps 3 and 4 to set other input positions.

- 5** → Select another setting

Press [MULTI CONTROL, CANCEL] several times to return to step 2 in the operations across and select another setting.

→ Finish setting
Press [MULTI CONTROL, CANCEL] several times to select “EXIT” and press [ENTER].

Input signal settings

This unit automatically detects whether input is digital or analogue, but you can fix the input mode. Select “*AUTO*” when it is not necessary to fix the signal.

- 2** Select “*IN MODE*” (INPUT MODE) and press [ENTER].
- 3** Select the input position and press [ENTER].

TV/STB, DVR, DVD, CD

- 4** Change the setting and press [ENTER].

AUTO: Automatically detects the input signal and plays. (In “ <i>AUTO</i> ”, the unit distinguishes the digital signals then the analogue signals.)
ANALOG: Fixes the input signal to analogue and plays.
DIGITAL: Fixes the input signal to digital and plays.
PCM FIX: Fixes the input signal to PCM and plays.

Repeat steps 3 and 4 to set other input positions.

- 5** → Select another setting

Press [MULTI CONTROL, CANCEL] several times to return to step 2 in the operations across and select another setting.

→ Finish setting
Press [MULTI CONTROL, CANCEL] several times to select “EXIT” and press [ENTER].

Note regarding PCM FIX mode
In rare cases, the unit may have trouble recognizing the digital signals on discs. With the PCM signals on CDs, this may cause the beginning of a track to be cut off. Engage the PCM FIX mode if this occurs.

When PCM FIX mode is on, the unit cannot process other signals. This may cause noise to be output. Select another mode in this case.

- This setting is not necessary when playback is normal.
- When an input position is set to PCM FIX, and the input signals are not from a PCM source, “*PCM FIX*” flashes on the display.

Check that sound is output from the connected speakers.

- Adjust so output level from each speaker is balanced with the output level from the front speakers.

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

- 1** Turn **SPEAKERS A** on.

SPEAKERS A B	— SPEAKERS — A
--------------------	-------------------

—When using a BI-WIRE connection—

— SPEAKERS — A B BI-WIRE

- If you select SPEAKERS B only, the test signal will not be output.

- 2** Check the test signal output.

A test signal is output from one speaker at a time for two seconds in the following order.



- Speakers set as “-” (not connected) in “Speakers combination settings” (→page 12) are skipped.

If there is no output from a connected speaker, Stop the test signal (step 6) and check the connections (→pages 6 to 8) and settings (→page 12, left) again.

- 3** Adjust the main volume.

VOLUME + -	VOL -50dB --(off), -79 (MIN) 0 dB (MAX)
------------------	--

- 4** Select the speaker channel.

LEVEL	C → RS SBR SBL SB SW ← LS
-------	---------------------------------------

- 5** Adjust the level.
 - Adjust center, surround and surround back output to the same apparent level as the front speakers.

- +	C +4dB	C, RS, SBR, SBL, (SB), LS: -10 (MIN) +10 dB (MAX) Factory settings: 0 dB
- +	SW 10	SW: MIN, 1 19, MAX Factory setting: 10

- Approximately two seconds after adjusting the level, a test signal is again output from each speaker in order.

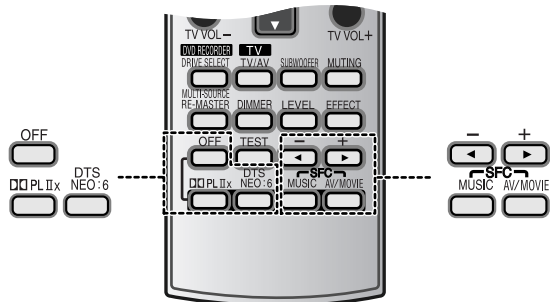
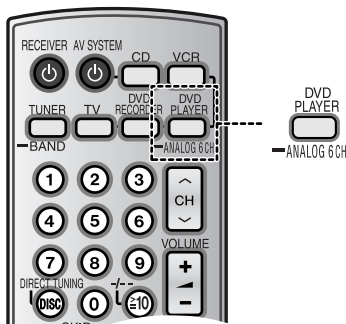
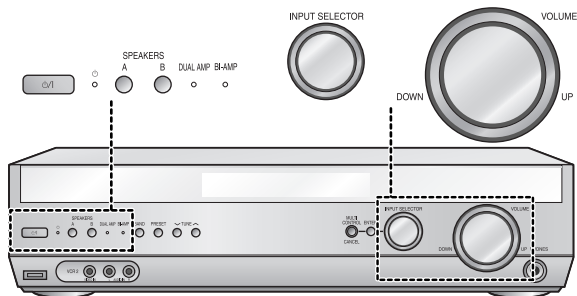
Repeat steps 4 and 5 to adjust the level of each speaker.

- 6** Stop the test signal.

TEST

Basic operations

Playback



1 Turn on.



2 Turn SPEAKERS A on.

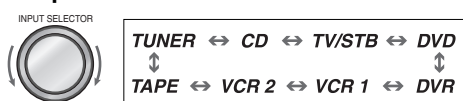


–When using a BI-WIRE connection–



• If you use a BI-WIRE connection for the front speakers, select “BI-WIRE” in “Bi-wiring settings”. (→page 12)

3 Select input.



- If “DVR” is selected, “DVD RECORDER” scrolls once on the display.
- If you watch a DVD etc., change to video input on the television.

■ Using a DVD recorder with built-in VCR

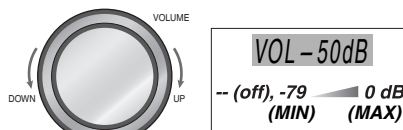
To play a DVD: Select “DVR”

To play a video cassette: Select “VCR 1”

4 Start play of the source.

- The unit sets the sound mode (stereo or multi-channel) to suit the input signal.
- Select the desired surround effects. (→page 15)

5 Adjust the volume.



• When you finish listening

Be sure to reduce the volume and press [⏻] to turn the unit to standby.

Various kinds of playback

■ Playing DVD-Audio

Playing DVD ANALOG 6CH

You can enjoy high quality sound with DVD-Audio.

→Refer to page 5 for “DVD ANALOG 6CH connection”.

Preparation:

- Turn SPEAKERS on.
DVD ANALOG 6CH only works when either SPEAKERS A or BI-WIRE is on.
- Set the selector to “DVD”. (→above)
- When you connect to a DVD recorder, playback is not possible if “DVR” is selected for input. Select “DVD”.

Press and hold until “DVD 6CH” is displayed.

To cancel, press and hold until “DVD” is displayed.

- Speaker settings (→pages 12, 21) are ineffective. Change the settings on the DVD player if necessary.

Enjoying high quality 2-channel sound

You can enjoy high quality stereo sound with 192 kHz 2-channel DVD-Audio.

1. Cancel the “DVD 6CH” setting. (→above)
2. Set the input signal to “ANALOG” in “Input signal settings”. (→page 13)

■ Using SPEAKERS B

→Refer to page 8 for connecting SPEAKERS B.



Sound is output from the speaker connected to the FRONT B terminals on this unit.

To turn off the sound from the speaker connected to the A terminals, press [SPEAKERS A] and cancel [A].

If you select SPEAKERS B only:

- Playback is in stereo (2-channel).
- When a multi-channel source is played with digital connections, “2CH MIX” is displayed and the sounds intended for all the speakers are played through the front speakers.

When DVD ANALOG 6CH is selected, the sound from the front 2 channels is output. If you select SPEAKERS B only, the following are set automatically irrespective of settings selected in speaker settings (→pages 12, 21).

- Speaker size: LARGE
- Subwoofer: NO
(Bass is output from the front speakers.)

■ Using headphones



–When using a BI-WIRE connection–



Press to turn all the speakers off. Reduce the volume and connect the headphones. The sound from the headphones automatically becomes 2CH MIX.

When DVD ANALOG 6CH is selected, the sound from the front 2 channels is output.


Using Surround effects

Adding surround effects.


- This unit does not automatically recognize the Dolby Digital Surround EX signal. The surround back channel is added by using Dolby Pro Logic IIx.
 - Dolby Pro Logic IIx, DTS NEO:6 and SFC modes remain in effect until you change them.
 - You cannot select Dolby Pro Logic IIx, DTS NEO:6 and SFC at the same time.
 - If you make any settings in "Speakers combination settings", "Surround back speaker settings" or "Speaker settings" (⇒pages 12, 21) when using surround effects, the surround effects are cancelled.
- ⇒Refer to page 17 for information about limitations on using surround effects.


Using Dolby Pro Logic IIx

Enjoy stereo (2-channel) sources through multiple channels. (If you have not connected surround back speakers, play is in Dolby Pro Logic II (⇒page 12 "Speakers combination settings").) You can also enjoy Dolby Digital 5.1-channel and DTS 5.1-channel sources in 7.1(6.1)-channel.

Select. 	MOVIE: Use this mode when playing movies.
	MUSIC: Use this mode when playing music.
	GAME: Enjoy games with greater audio impact.


- You can only use "GAME" mode when the input signal is 2-channel stereo.
- When "1 SPKR" is selected in "Surround back speaker settings" (⇒page 12) and there is a Dolby Digital 5.1-channel, DTS 5.1-channel, or Dolby Digital Surround EX sources–


Select. 	DOLBY EX: Use this mode when playing movies.
	MUSIC: Use this mode when playing music.


- To cancel  ■ You can make further adjustments to the effect of "MUSIC" mode. (⇒page 18)

Using DTS NEO:6

Use DTS NEO:6 to play 2-channel sources through multi-channels. (If all speakers are set to "LARGE" in "Speaker settings" (⇒page 21), there is no output from the subwoofer.) You can also enjoy Dolby Digital 5.1-channel and DTS 5.1-channel sources in 6.1-channel.


Select. 	CINEMA: Use this mode when playing movies.
	MUSIC: Use this mode when playing music.

- To cancel  ■ You can make further adjustments to the effect of "MUSIC" mode. (⇒page 18)

When the digital input  indicator lights with Dolby Digital 2-channel and DTS 2-channel sources, you can only use "CINEMA" mode. When it does not light, you can only use "MUSIC" mode. (⇒page 16 "Display indicators")

Other playback functions

■ DUAL AMP function

Enjoy a higher quality sound during stereo (2-channel) playback by playing the sound through the amplifiers used for multi-channel sound sources. 


DUAL AMP does not work in the following cases.

- When all the speakers are turned off
- During multi-channel playback
- When you are using Dolby Pro Logic IIx, DTS NEO:6 or SFC (⇒above)

When the DUAL AMP function does not work, the DUAL AMP lamp goes out.

■ Enjoying BI-AMP sound

(When the front speakers are BI-WIRE compatible)

The BI-AMP function uses separate amplifiers for the high frequency and low frequency sounds to the BI-WIRE speakers during playback. This produces a higher quality sound. 

This function works when using a BI-WIRE connection and input is analogue (excluding DVD 6CH) or a 2-channel PCM signal.

⇒Refer to page 8 for connecting BI-WIRE speakers.

- Select "BI-WIRE" for "Bi-wiring settings". (⇒page 12)



For your reference



When playing video sources connected to DVD RECORDER.


The picture remains on the screen even if you select, "TUNER", "CD" or "TAPE".

Using the Sound Field Control (SFC)

Enjoy an enhanced sound experience with greater presence and spread by using these SFC modes with Dolby Digital, DTS, PCM or analogue stereo sources. Choose from the following modes.

Select. 	LIVE:	Imparts the reflection and spread of a large concert hall.
	POP/ROCK:	Best suited for dynamic sound such as pop and rock music.
	VOCAL:	Best suited to enhance vocals.
	JAZZ:	Recreates natural sound ambience and direction.
	DANCE:	Enjoy a dance hall like audio effect.
Select. 	DRAMA:	Best suited for dialogues in drama movies.
	ACTION:	Best suited for action movies with impact.
	SPORTS:	Enjoy a feeling like being at a live sporting event.
	MUSICAL:	Enjoy a feeling like being at a live musical performance.
	GAME:	Enjoy games with greater audio impact.

- After pressing [MUSIC] or [AV/MOVIE], the mode changes even if you press  .

- To cancel  ■ You can make further adjustments to these effects. (⇒page 18)

For your reference

Depending on the combination of input source and SFC mode, sound may be distorted. In this case, decrease the SFC speaker level or effect (⇒page 18). Try another SFC mode (⇒above).

Digital signals that can be played on this unit

■ Dolby Digital, including Dolby Digital Surround EX

DVD etc.

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

■ DTS including DTS-ES or DTS 96/24

DVD etc.

This digital surround system was developed by DTS (Digital Theater Systems, Inc.). DTS-ES adds a surround back channel to the traditional 5.1-channel format of DTS. This creates a sound with greater presence. DTS 96/24 provides 96 kHz sound at up to 24 bits. The 96 kHz/24 bit high frequency sounds are played through multiple channels.

■ PCM signal

CD, DVD-Audio etc.

This unit's DIGITAL IN COAXIAL1 terminal can play up to 192 kHz and the other DIGITAL IN terminals can play up to 96 kHz.

■ It cannot decode:

- Other digital signals, such as MPEG
- Dolby Digital RF signals from a laser disc player

Control guide

ENGLISH

Operations

Main unit

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.

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.

[SPEAKERS, A, B]

For selecting speakers A or B. Turning the speakers off automatically engages the STEREO/2CH MIX mode (when listening through headphones, for example).

[DUAL AMP]

Lights when the DUAL AMP function is activated.

[BI-AMP]

Lights when the BI-AMP function is activated.

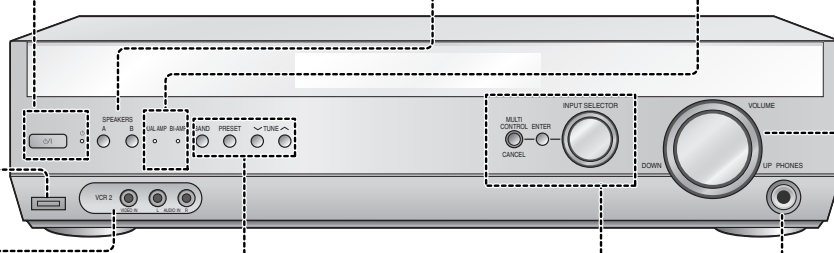
[VOLUME]

Volume control.

Remote control signal sensor

[VCR 2]

For a game player, etc.



[BAND]

For switching between FM and AM.

[PRESET]

Press to allow preset station selection with [∇ TUNE ▲].

[∇ TUNE ▲]

For tuning the radio and selecting preset stations.

Press and hold until the frequency starts scrolling to start automatic tuning. Tuning stops when a station is found.

[MULTI CONTROL, CANCEL]

Press to enter Multi control or cancel.

[ENTER]

Enters setting in Multi control.

[INPUT SELECTOR]

For selecting input.

Selects each setting in Multi control.

[PHONES]

Headphone jack.

Plug type: 6.3 mm stereo

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

Turn the speakers off when using the headphones.

Display indicators

[RE-MASTER]

Lights when the multi-source re-master function is on.

[MULTI CONTROL]

When you press the [MULTI CONTROL, CANCEL] button and enter the settings the indicator lights.

[SLEEP]

Sleep timer indicator.

[TUNED]

A station is tuned.

[ST]

A stereo FM broadcast is tuned.

[MONO]

Lights when using the monaural mode.

[M]

Flashes during automatic presetting.

[RDS, PS, PTY]

(For continental Europe and the United Kingdom)

RDS: Lights while RDS signals are being received.

PS, PTY: Indicates the current RDS display mode.

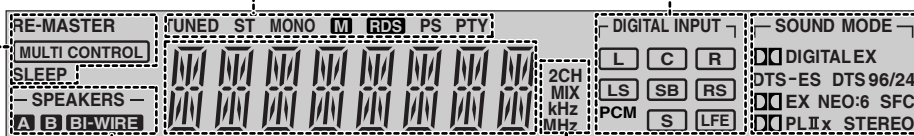
[DIGITAL INPUT]

- The channels contained in the digital input signal light.
- No sound is output from a channel if the speaker is set to “_” (not connected) in “Speakers combination settings” (→page 12) even if the channel indicator lights.

L: Front left channel **C**: Center channel
R: Front right channel **LS**: Surround left channel
SB: Surround back channel **RS**: Surround right channel
S: If the surround channel is monaural
LFE (Low Frequency Effects): Deep-bass effect

[PCM]

Lights when the PCM FIX mode is set.



[SPEAKERS A, B, BI-WIRE]

Speaker indicators.

- A**: Sound is output from speakers connected to the front A, surround, and center terminals.
- B**: Sound is output only from speakers connected to the front B terminals.
- A, B**: Sound is output from speakers connected to the front A, B, surround, and center terminals.
- A, B, BI-WIRE**: Sound is output from speakers connected by Bi-wiring.

General display

Shows the input mode, radio frequency, and other general information.

[2CH MIX]

Lights when playing a multi-channel source in 2CH MIX mode.

[kHz, MHz]

Frequency unit indicators.
kHz: AM or PCM sampling frequency
MHz: FM

[SOUND MODE]

The following light to indicate the source's input signal (multi-channel digital signal) and the decoding format used. (→below)

SOUND MODE

- DIGITAL**: Dolby Digital decoder is being used.
- DIGITAL EX**: Dolby Digital Surround EX decoder (Dolby Pro Logic IIx decoder) is being used when the input signal is Dolby Digital 5.1-channel or Dolby Digital Surround EX.
- EX**: Dolby Digital Surround EX decoder (Dolby Pro Logic IIx decoder) is being used when the input signal is DTS.
- DTS-ES**: DTS-ES discrete or matrix decoder is being used.
- DTS**: DTS decoder is being used.
- DTS 96/24**: DTS 96/24 decoder is being used.
- STEREO**: 2-channel stereo decoder is being used.

- PL IIx**: Dolby Pro Logic IIx decoder is being used.
- PL II**: Dolby Pro Logic II decoder is being used.
- NEO:6**: DTS NEO:6 matrix decoder is being used.
- SFC**: SFC matrix function is being used.

- DIGITAL EX** and **EX** are displayed only when “1 SPKR” is selected in “Surround back speaker settings”. (→page 12)
- PL II** is displayed when using Dolby Pro Logic IIx with stereo (2-channel) sources and “SB” is set to “_” in “Speakers combination settings”. (→page 12)

Remote control

Buttons not explained on this page are used only to operate other equipment.

➔ Refer to the separate booklet, "Remote Control Operation Guide", for remote control operation details.

[⏻, RECEIVER]
Standby/on button.

[CD, VCR, TUNER –BAND, TV, DVD RECORDER, DVD PLAYER –ANALOG 6CH]
Input mode and remote control mode buttons.

[1, 2, 3, 4, 5, 6, 7, 8, 9, 0]
To enter radio frequencies and channels.
[DISC, DIRECT TUNING]
To enable selection of radio stations by frequency.
[≥ 10, –/– –]
To enter two digit channels.

[^, CH, v]
For selecting preset radio channels.

[+, –, VOLUME]
To adjust the volume.

[MULTI-SOURCE RE-MASTER]
For selecting a re-master mode.

[SUBWOOFER]
For selecting subwoofer level.

[DIMMER]
For dimming the unit's display.

[MUTING]
To mute the volume.

[DOLBY IIx]
Select MOVIE (DOLBY EX), MUSIC or GAME when Dolby Pro Logic IIx mode or Dolby Pro Logic II mode is on.
[DTS NEO:6]
For selecting a DTS NEO:6 mode: CINEMA or MUSIC.
[SFC, MUSIC]
For selecting a SFC mode: LIVE, POP/ROCK, VOCAL, JAZZ or DANCE.
[SFC, AV/MOVIE]
For selecting a SFC mode: DRAMA, ACTION, SPORTS, MUSICAL or GAME.
[OFF]
To cancel surround effects.

[TEST]
To start the speaker test signal.
[LEVEL]
To adjust speaker level.
[EFFECT]
To adjust Dolby Pro Logic IIx, DTS NEO:6 or SFC effects.
[◀, –, ▶, +]
First select EFFECT, LEVEL or SFC and then press [◀, –] or [▶, +] to complete the setting.

Limitations on using surround effects (➔page 15)

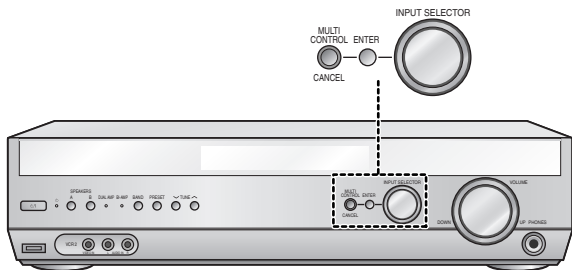
Depending on the speaker settings and input signal (audio signal recorded on the disc etc.), some surround effects cannot be used.

Speaker settings	Input signal	Surround effects that cannot be used
Only front L/R	All	<ul style="list-style-type: none"> Dolby Pro Logic IIx SFC DTS NEO:6
Front L/R + Center	Multi-channel	<ul style="list-style-type: none"> Dolby Pro Logic IIx SFC DTS NEO:6
Front L/R + Center	2-channel	<ul style="list-style-type: none"> GAME mode (Dolby Pro Logic IIx)
No surround back	Multi-channel	<ul style="list-style-type: none"> Dolby Pro Logic IIx DTS NEO:6
Input signal () are display indicators ➔page 16) <ul style="list-style-type: none"> 1-channel ([C]) Surround sound is monaural ([S]) Excluding 2-channel sources DTS-ES 		Surround effects that cannot be used <ul style="list-style-type: none"> Dolby Pro Logic IIx SFC DTS NEO:6
<ul style="list-style-type: none"> 3-channel ([L] [C] [R]) PCM with a sampling frequency exceeding 96 kHz DTS 96/24-ES 		<ul style="list-style-type: none"> Dolby Pro Logic IIx DTS NEO:6
		<ul style="list-style-type: none"> Dolby Pro Logic IIx DTS NEO:6

Sound quality/Sound field/Convenient functions

ENGLISH

Operations



Adjusting the level of each surround effect

→ Refer to page 15 for information about surround effects.

Using Dolby Pro Logic IIx

PL IIx You can adjust the effect of "MUSIC" with "DIMEN" (Dimension Control), "C-WDTH" (Center Width Control) and "PANORAMA". (Only when the input signal is 2-channel.)

DIMEN (Dimension Control)

You can make up for differences in the output level of the front and surround speakers. You can choose a level between **-3** and **+3** - Increase the level to move sound to the front speakers, decrease to move it to the surround speakers.

Select. EFFECT → **Adjust.** - +

DIMEN 0 -3 3
Factory setting: 0

C-WDTH (Center Width Control)

This adjustment helps you realize a more natural sound image when listening to music. Move sound out into the front speakers to improve the overall front image, or add sound to the center speaker to fix the center image. You can choose a level between **0** (the center speaker is dominant) and **7** (center sound is spread out).

Select. EFFECT → **Adjust.** - +

C-WDTH 3 0 7
Factory setting: 3

PANORAMA

Sound is spread out more so you feel like you are surrounded by music.

Select. EFFECT → **Select.** - +

PANORAMA **ON**
OFF : Factory setting

Using DTS NEO:6

DTS NEO:6 You can adjust the effect of "MUSIC" with the center image control.

C-IMG (Center Image Control)

This adjustment helps you realize a more natural sound image when listening to music. Move sound out into the front speakers to improve the overall front image, or add sound to the center speaker to fix the center image. You can choose a level between **0** (the center speaker is dominant) and **5** (center sound is spread out).

Select. EFFECT → **Adjust.** - +

C-IMG 2 0 5
Factory setting: 2

Using the Sound Field Control (SFC)

SFC MUSIC AV/MOVIE You can adjust the sound field by adjusting the level of the speakers and effect. These adjustments can be made for each SFC mode.

To adjust the speaker level

Select. LEVEL → **Adjust.** - +

C, RS, SBR, SBL, (SB), LS: -10 +10 dB
Factory settings: 0 dB

SW: --- (off), MIN, 1 19, MAX
Factory setting: 10

• Speakers set as "-" (not connected) in "Speakers combination settings" are skipped. (→page 12)

To adjust SFC effect

Select. EFFECT → **Adjust.** - +

EFFECT 1 **EFFECT 10**
Factory setting: 5

Basic operations with the MULTI CONTROL



- To return to the previous setting/To cancel Press.
- To select another settings Press several times to return to step 2 in the operations across and select another setting.
- To finish settings Press several times to select "EXIT" and press [ENTER].

→Page 25 "Multi control menus and factory settings".

Use the MULTI CONTROL menus to change the settings.

(→page 18 "Basic operations with the MULTI CONTROL")



- 1 Enter the MULTI CONTROL.
Select the settings to change. (→below, right)

Adjusting the tone

You can adjust the level of the bass and treble.

- 2 Select "TONE" and press [ENTER].

- 3 Select "BASS" or "TREBLE" and press [ENTER].

BASS,
TREBLE

- 4 Adjust the level and press [ENTER].

-10 ▲ +10 dB
(MIN) (MAX)

- 5 → Select another setting
→ Finish setting

Adjusting the volume balance

You can adjust the balance of the front speakers.

- 2 Select "BALANCE" and press [ENTER].

- 3 Adjust the balance and press [ENTER].

L ◯ R

• The bar shows the standard balance.

- 4 → Select another setting
→ Finish setting

Adjusting the brightness of the display

Dim the display for better viewing in a darkened room.

Choose a level between 1 (bright) and 3 (dim).

- 2 Select "DIMMER" and press [ENTER].

- 3 Select "ON" and press [ENTER].

• Select "OFF" to cancel.

OFF, ON

- 4 Select the level and press [ENTER].

LEVEL 1,
LEVEL 2,
LEVEL 3

- 5 → Select another setting
→ Finish setting

• When you operate the main unit or remote control, this is temporarily cancelled.

Sleep timer

The sleep timer can turn the unit off after a set time.

It does not control any other components.

- 2 Select "SLEEP" and press [ENTER].

- 3 Select the time and press [ENTER].

When this is set, "SLEEP" appears on the display.

• To cancel, select "OFF".

OFF, 30,
60, 90, 120
(in minutes)

- 4 → Select another setting
→ Finish setting

• To check the setting:

After setting the time, you can check the remaining time using step 2.

• To change a setting:

Repeat the procedure from the beginning.

Changing the audio output (Dual program)

When the input signal is Dolby Digital, DTS and "DUAL" appears in the display, the audio to be output is set.

- 2 Select "OPTION" and press [ENTER].

- 3 Select "DUAL PRG" (DUAL PROGRAM) and press [ENTER].

- 4 Select the audio and press [ENTER].

MAIN:	Main audio output
SAP:	Sub channel audio output
MAIN+SAP:	Main and sub channel audio output

- 5 → Select another setting

→ Finish setting

• The setting remains in effect even if the power is turned off.

Listening comfortably at low volume

Change this setting to listen to software recorded with Dolby Digital at low volume (such as late at night) maintaining audio clarity. It reduces the peak level in loud scenes without affecting the sound field.

- 2 Select "OPTION" and press [ENTER].

- 3 Select "DR COMP" (DYNAMIC RANGE COMPRESSION) and press [ENTER].

- 4 Select the level and press [ENTER].

OFF:	The software is played with the original dynamic range.
STANDARD:	The level recommended by the producer of the software for household viewing.
MAX:	The maximum allowable compression (recommended for night viewing).

- 5 → Select another setting

→ Finish setting

A/D attenuator

Turn the A/D attenuator on if "OVERFLOW" lights frequently when using 2-channel analogue input or DVD ANALOG 6CH input.

- 2 Select "OPTION" and press [ENTER].

- 3 Select "A/D ATT" (A/D ATTENUATOR) and press [ENTER].

- 4 Select "ON" and press [ENTER].

• To cancel, select "OFF".

OFF,
ON

- 5 → Select another setting

→ Finish setting

The RESET function

The operation settings for the unit will be initialized to the settings made at the time of shipment.

However, any preset radio stations will not be erased.

- 2 Select "OPTION" and press [ENTER].

- 3 Select "RESET" and press [ENTER].

- 4 Select "YES" and press [ENTER].

• To cancel, select "NO".

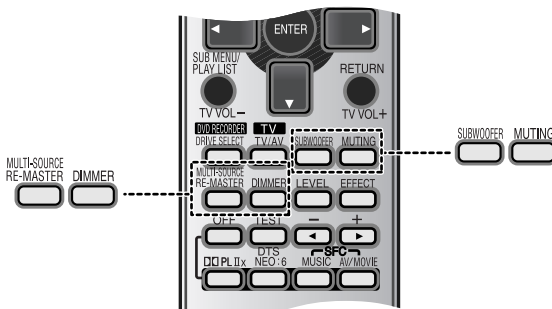
• When you select "YES", the input source becomes "TUNER" (Preset Channel 1).

NO,
YES

Sound quality/Sound field/Convenient functions

ENGLISH

Operations

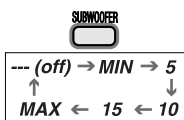


Adjusting the subwoofer level

You can adjust the volume of the subwoofer while listening to a source.

Sound can be distorted if you raise the volume while the subwoofer level is high. Reduce the subwoofer level if this occurs.

Select.



- You can make fine settings by pressing [TEST] then adjusting the output level. (→page 13)
- You cannot adjust the subwoofer level if "DVD ANALOG 6CH" is selected.
- Select "SW ---" to stop output.

Factory setting: SW 10

Muting

To mute the volume.



- "MUTING IS ON" scrolls on the display while the volume is muted.

- Muting is cancelled when the power is turned off.

■ **To cancel: Press again**

Multi-source re-master

This original feature boosts the frequencies of the higher harmonics that are lost during recording due to compression.

You can enjoy a full, more natural sound with this.

Select.



- EFFECT 1:** For fast tracks (pop and rock)
- EFFECT 2:** For tracks with a variety of tempos (jazz)
- EFFECT 3:** For slow tracks (classical)
- EFFECT 4:** For compressed audio signals
- OFF:** The re-master processing is off (factory setting)

- Dolby Pro Logic Ix, DTS NEO:6 and SFC are cancelled when using multi-source re-master.
- If you make any settings in "Speakers combination settings", "Surround back speaker settings" or "Speaker settings" (→pages 12, 21) when using multi-source re-master, multi-source re-master is cancelled.

Multi-source re-master cannot be used in the following cases.

- When input signal is DTS 96/24, PCM with sampling frequencies of 192, 176.4, 96 or 88.2 kHz.

Dimmer

Dim the display for better viewing in a darkened room.

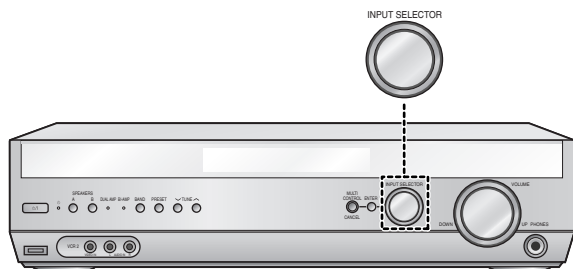


■ **To cancel: Press again**

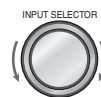
- Refer to page 19 for adjusting the brightness of the display.

Making a recording

You can record to a tape deck connected to TAPE REC (OUT) or a DVD recorder connected to DVD RECORDER OUT. See the recording unit's operating instructions for details on how to prepare it for recording.



1 Select the source to be recorded.



2 Begin recording.

Follow your recording unit's operating instructions.

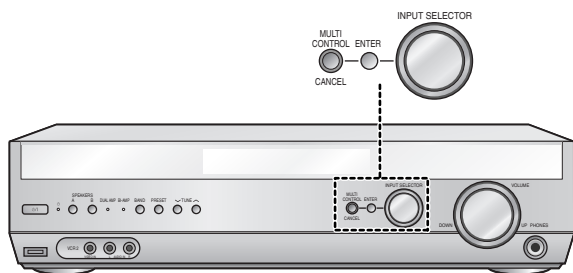
3 Start the source to be recorded.

Follow your equipment's operating instructions.

Note

- You cannot record a source connected through a digital terminal.
- When recording from a TV/STB, DVR, CD or DVD ensure the source is connected through the corresponding analogue terminals and "ANALOG" input is selected. (→pages 4, 5, 9, 10 and 13)
- With a tape deck, you can record any analogue source except TAPE.
- With a DVD recorder, you can record any analogue source except DVR.
- When you select DVD ANALOG 6CH mode, only sound from the front left and right channels is recorded.

Receiver settings – Advanced



Basic operations with the MULTI CONTROL

INPUT SELECTOR
Turn to change. → **ENTER** Press to enter.

MULTI CONTROL
CANCEL

- To return to the previous setting/To cancel Press.
- To select another settings Press several times to return to step 2 in the operations across and select another setting.
- To finish settings Press several times to select “EXIT” and press [ENTER].

- Any changes to settings remain as set even if the power is turned off.
- Page 25 “MULTI control menus and factory settings”.

Use the MULTI CONTROL menus to change the settings.



1 Enter the MULTI CONTROL.
↓
Select “**SETUP 2**” (“ADVANCE SETUP” scrolls once) and press [ENTER].
Select the settings to change. (→below, right)

Speaker settings

Set the size so that the speakers can adequately reproduce the bass range.

2 Select “**SPEAKERS**” and press [ENTER].

3 Select the speaker and press [ENTER].
SUB-WFR, FRONT, CENTER, SURROUND, SUR BACK

4 Change the setting and press [ENTER].
SUB-WFR: NO, YES FRONT: SMALL, LARGE
CENTER/SURROUND: NONE, SMALL, LARGE
SUR BACK: NONE, 1 SPKR, 2 SPKRS

NONE: For speakers you haven't connected (center, surround or surround back).
SMALL: For speakers that cannot adequately reproduce the bass range. This setting is sufficient for most speakers if you are using a subwoofer.
LARGE: For speakers that can reproduce a full sound range, particularly the bass range below 80 Hz.
1 SPKR: If you connect one surround back speaker.
2 SPKRS: If you connect two surround back speakers.
For the subwoofer (SUB-WFR), select “YES” if you have connected one, or “NO” if you have not.

Repeat steps 3 and 4 for each speaker channel.

5 → Select another setting
→ Finish setting

The following are set automatically.

- When you set “FRONT” to “SMALL”, “SUB-WFR” is set to “YES”.
- When you set “SUB-WFR” to “NO”, “FRONT” is set to “LARGE”.

Distance setting

By setting the distance between the speaker's position (except the subwoofer) and the listener's seating position, the sound delay time is automatically adjusted so that sound reaches the listener at the same time.

2 Select “**DISTANCE**” and press [ENTER].

3 Select the speaker and press [ENTER].
FRONT, CENTER, SURROUND, SUR BACK

4 Set the distance and press [ENTER].
You can select differences at 0.1-meter intervals.
1.0 (MIN) 10.0 m (MAX)

5 → Select another setting
→ Finish setting

Filter setting

If the Front speakers are set to “SMALL”, make this setting. Change the cut-off if the bass from the front speakers is unsatisfactory so that this bass is output through the subwoofer.

2 Select “**FILTER**” and press [ENTER].

3 Select the bass filter frequency and press [ENTER].
80, 100, 150, 200 (Hz)

- This setting is effective for all speakers set to “SMALL” in “Speaker settings”.

4 → Select another setting
→ Finish setting

Bi-amp setting

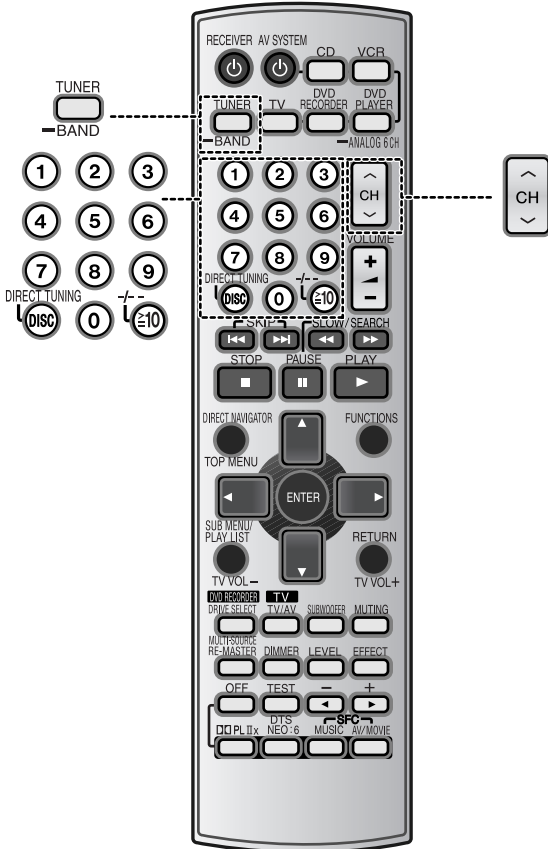
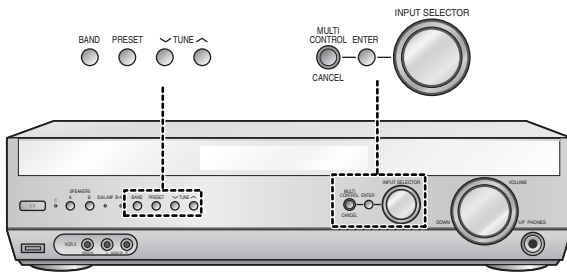
This is displayed when you set “BI-WIRE” in “Bi-wiring settings”. Select this when you connect bi-wire compatible front speakers. You can adjust HF (high frequency) and LF (low frequency) output balance from the bi-wired speakers. You can also adjust the sound delay time to offset the difference in HF and LF output directions.

2 Select “**BI-AMP**” and press [ENTER].

Adjusting the balance	Correcting the HF and LF difference
3 Select “ BALANCE ” and press [ENTER].	3 Select “ HF PHASE ” and press [ENTER].
4 Adjust the balance and press [ENTER]. L 0 H • The bar shows the standard balance.	4 Set the difference and press [ENTER]. 0 mm 0 (MIN) 300 mm (MAX) You can select differences at 10 mm intervals.




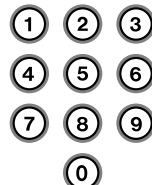
5 → Select another setting
→ Finish setting

The radio



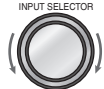


Manual Tuning

On the remote control (Direct tuning)

- 1 Select "TUNER".

- 2 Select "FM" or "AM".

 Press and hold for 2 seconds.
- 3 Press [DISC, DIRECT TUNING].

- 4 Enter the station frequency.

 e.g. 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".

- 2 Select "FM" or "AM".

- 3 Tune to the station.




- **Automatic tuning**
 Hold down [TUNE ∨ or ∧] until the frequency begins to scroll. Tuning stops when a station is found. (Tuning may stop if there is interference.)


AM allocation

If the correct AM frequency cannot be tuned in, change the frequency step to suit your area.

1. Press [MULTI CONTROL, CANCEL].
2. Select "TUNER" and press [ENTER].
3. Select "AM ALLOC" (AM ALLOCATION) and press [ENTER].
4. Select "9 kHz" or "10 kHz" and press [ENTER].
5. Press [MULTI CONTROL, CANCEL] 2 times to select "EXIT" and press [ENTER].

Basic operations with the MULTI CONTROL

 Turn to change. →  Press to enter.

 **To return to the previous setting/To cancel Press.**

→ Page 25 "Multi control menus and factory settings".



For your reference

Improving reception

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

Preset tuning

Presetting stations

■ Auto presetting

- 1 Set the channel reception to FM 87.50 MHz or AM 522 kHz (9 kHz steps), AM 530 kHz (10 kHz steps).

Preset channels that are automatically assigned by this unit are:

FM: 1 to 30

AM: 21 to 30

Preset the FM stations first. If the AM stations are preset before the FM stations, they will be erased when the FM stations are preset.

- 2  Enter the MULTI CONTROL. (→page 22 “Basic operations with the MULTI CONTROL”)

- 3 Select “**TUNER**” and press [ENTER].

- 4 Select “**AUTO MEM**” (AUTO MEMORY) and press [ENTER].


- 5 Select “**START**” and press [ENTER].

START,
CANCEL

 - Select “**CANCEL**” to cancel.
 - During automatic presetting, the memory indicator (**M**) 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 displayed when presetting finishes.
 - Frequencies may not preset correctly when broadcast waves are too strong or too weak. In such cases, carry out presetting manually.

■ Manual presetting

- 1 Tune to the station you want to preset. (→page 22)

- 2  Enter the MULTI CONTROL. (→page 22 “Basic operations with the MULTI CONTROL”)

- 3 Select “**TUNER**” and press [ENTER].

- 4 Select “**MEMORY**” and press [ENTER].

- 5 Select a channel number and press [ENTER]. “**STORED**” is displayed.
 - To continue presetting, press [TUNE ∨ or ∧] to tune another station from step 1.

- 6 Press [MULTI CONTROL, CANCEL] 2 times to select “**EXIT**” and press [ENTER].
 - Even if the AC mains lead is disconnected from the household AC mains socket, the stations remain in the memory for approximately two weeks.
 - FM stations can also be preset in the MONO mode. (→below)

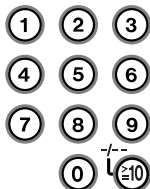
Listening to preset stations

■ On the remote control

- Select the channel



- Press the numbered buttons to select the channel



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

■ On the main unit

- 1 Press.



- 2 Select the channel.




After 5 seconds, the display will change from the channel number to the frequency.

- Hold down the button to change channels faster.

Reducing excessive noise

Select if noise is excessive during radio reception.

Preparation:  Enter the MULTI CONTROL. (→Page 22 “Basic operations with the MULTI CONTROL”)

■ During FM stereo reception

You can improve FM reception by switching reception to monaural.

1. Select “**TUNER**” and press [ENTER].
2. Select “**FM MODE**” and press [ENTER].
3. Select “**MONO**” and press [ENTER].

AUTO,
MONO

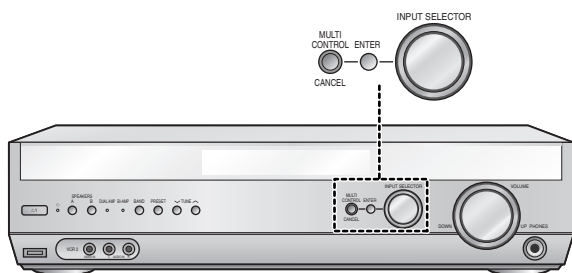
 - Select “**AUTO**” to cancel.
4. Press [MULTI CONTROL, CANCEL] 2 times to select “**EXIT**” and press [ENTER].

■ During AM reception


When there is a lot of noise interference with an AM broadcast, try switching to this mode.


1. Select “**OPTION**” and press [ENTER].
2. Select “**B PROOF**” (BEAT PROOF) and press [ENTER].
3. Select “**MODE A**” or “**MODE B**” and press [ENTER].
4. Press [MULTI CONTROL, CANCEL] 2 times to select “**EXIT**” and press [ENTER].


RDS broadcasts (For continental Europe and the United Kingdom)



Basic operations with the MULTI CONTROL


Turn to change.


Press to enter.


To return to the previous setting/To cancel Press.

→ Page 25 “Multi control menus and factory settings”.

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

Change 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**  **Enter the MULTI CONTROL.**
- 2** **Select “TUNER” and press [ENTER].**
- 3** **Select “DISPLAY” and press [ENTER].**
- 4** **Select the display mode and press [ENTER].**

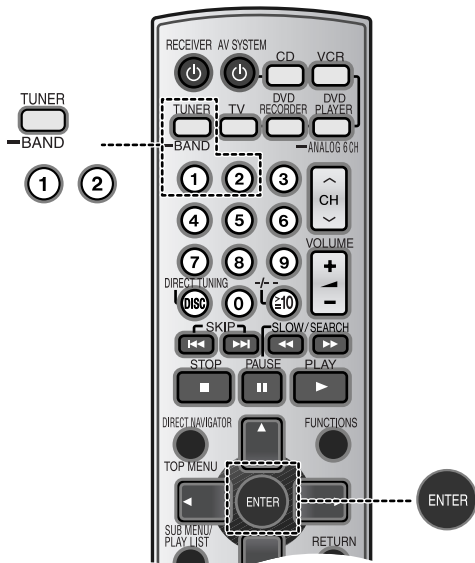
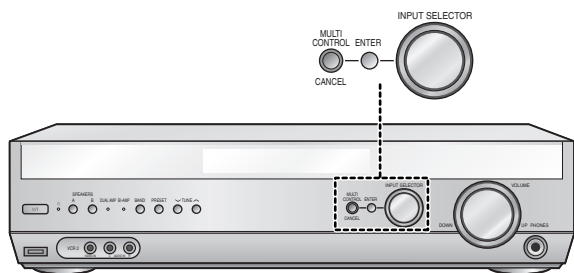
FREQ: *Frequency display*
RDS PS: *Program service, the station name*
RDS PTY: *Program type*
- 5** **→ Finish setting**
 Press [MULTI CONTROL, CANCEL] 2 times to select “EXIT” and press [ENTER].

For your reference

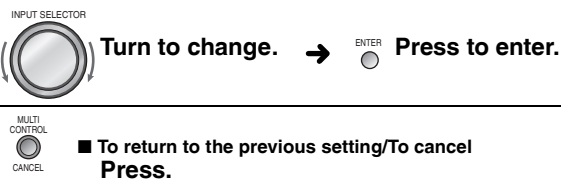
This unit does not have the emergency broadcast system (EBS) that automatically tunes into emergency broadcasts.

Remote control mode

Other products may respond to this unit's remote control. If this happens, change the remote control mode.
Change the remote control mode on the main unit and the remote control.



Basic operations with the MULTI CONTROL



–On the main unit–

1 Enter the MULTI CONTROL.



2 Select “**SETUP 2**” (“**ADVANCE SETUP**” scrolls once) and press [ENTER].

3 Select “**REMOTE**” and press [ENTER].

4 Select “**REM2**” and press [ENTER].

REM1,
REM2

5 Press [MULTI CONTROL, CANCEL] 2 times to select “**EXIT**” and press [ENTER].

–On the remote control–

6 Press [TUNER –BAND].



7 Press and hold both at the same time for 2 seconds.



■ To return to REM1

1. Select “**REM1**” in step 4.
2. Press and hold both [ENTER] and [1] at the same time for 2 seconds in step 7.

Multi control menus and factory settings

Main menu	Sub menu (factory settings)		Pages
TUNER ※1	FM MODE ※2	AUTO	23
	MEMORY	CH 1	
	AUTO MEM	START	
	DISPLAY	RDS PS	24
	AM ALLOC ※3	9 kHz	22
TONE	BASS	0 dB	19
	TREBLE		
BALANCE	L Y R		19
DIMMER	OFF		
SLEEP	ON LEVEL 2		
OPTION	OFF		23
	DUAL PRG	MAIN	
	DR COMP	OFF	
	A/D ATT	OFF	19
	B PROOF ※3	MODE A	
	RESET	YES	

Main menu	Sub menu (factory settings)		Pages	
SETUP 1 (BASIC SETUP)	SPKR SET	SUBW NO	12	
		SUBW YES		LCR S SB
	FRNT L/R	NORMAL		
	SB SPKR	2 SPKRS		
	D-INPUT	TV/STB	OPT 1	13
DVR		OPT 2		
DVD		COAX 1		
CD		COAX 2		
IN MODE	TV/STB	AUTO	13	
	DVR			
	DVD			
	CD			
SETUP 2 (ADVANCE SETUP)	SUB-WFR	YES	21	
	SPEAKERS	FRONT		SMALL
		CENTER		
		SURROUND		
		SUR BACK		2 SPKRS
	DISTANCE	FRONT		3.0 m
		CENTER		
SURROUND				
	SUR BACK	1.5 m		
FILTER	100			
BI-AMP ※4	BALANCE	L Y H		
	HF PHASE	0 mm		
REMOTE	REM1		above	
EXIT	⇒Exit the Multi control		–	

※ 1 During FM/AM reception only ※ 2 During FM reception only
 ※ 3 During AM reception only ※ 4 When BI-WIRE is selected only

Specifications (DIN 45 500)

■ AMPLIFIER SECTION

Power output (at AC 230-240 V)	
DIN 1 kHz (T.H.D. 1 %)	2 x 100 W (6 Ω)
20 Hz-20 kHz continuous power output both channels driven	
	2 x 80 W (6 Ω)
Total harmonic distortion	
rated power at 20 Hz-20 kHz	0.09 % (6 Ω)
Power bandwidth	
both channels driven, -3 dB	4 Hz-88 kHz (6 Ω, 0.9 %)
Power output each channel driven (at AC 230-240 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	6-16 Ω
A and B	6-16 Ω
BI-WIRE	6-16 Ω
Center	6-16 Ω
Surround (L/R)	6-16 Ω
Surround Back (L/R)	6-16 Ω
Frequency response	
CD, TAPE, TV, DVD, DVD RECORDER, VCR1, VCR2	4 Hz-88 kHz, ±3 dB
DVD 6CH	4 Hz-44 kHz, ±3 dB
Input sensitivity and impedance	
CD, TAPE, TV, DVD/DVD 6CH, DVD RECORDER, VCR1, VCR2	200 mV/22 kΩ
S/N at rated power (6 Ω)	
CD, TV, DVD, DVD RECORDER (DIGITAL INPUT)	90 dB (IHF, A: 103 dB)
Tone controls	
BASS	50 Hz, +10 to -10 dB
TREBLE	20 kHz, +10 to -10 dB
Output voltage	
TAPE, DVD RECORDER	200 mV
Channel balance (250 Hz-6.3 kHz)	±1 dB
Channel separation	55 dB
Subwoofer frequency response (-6 dB)	7 Hz-200 Hz

Digital input	(OPTICAL)	2
	(COAXIAL)	2

■ FM TUNER SECTION

Frequency range	87.50-108.00 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-15 kHz	+1 dB, -2 dB
Alternate channel selectivity	
±400 kHz	65 dB
Capture ratio	
Image rejection at 98 MHz	1.5 dB
IF rejection at 98 MHz	40 dB
Spurious response rejection at 98 MHz	70 dB
AM suppression	
Stereo separation	50 dB
Carrier leak	
1 kHz	40 dB
Carrier leak	
19 kHz	-30 dB
38 kHz	-50 dB
Channel balance (250 Hz-6.3 kHz)	
Limiting point	±1.5 dB
Bandwidth	1.2 μV
IF amplifier	180 kHz
FM demodulator	1000 kHz
Antenna terminal	75 Ω (unbalanced)

■ AM TUNER SECTION

Frequency range	522-1611 kHz (9 kHz steps) 530-1620 kHz (10 kHz steps)
Sensitivity	
Selectivity (at 999 kHz)	20 μV, 330 μV/m
IF rejection (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	TV, DVD, DVD RECORDER
Output	TV MONITOR
Component Video Input	TV, DVD, DVD RECORDER
Output	TV MONITOR

■ GENERAL

Power supply	AC 230-240 V, 50 Hz
Power consumption	135 W
Dimensions (W x H x D)	430 mm x 107.5 mm x 394 mm
Mass	4.6 kg

Power consumption in standby mode:	0.3 W
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Notes:

- Specifications are subject to change without notice. Mass and dimensions are approximate.
- Total harmonic distortion is measured by the digital spectrum analyzer.

Maintenance

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.

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

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.

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

THIS 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.

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-stikkkontakten, og støpslet må være lett tilgjengelig hvis det skulle oppstå problemer.

SUOMI**VAROITUS!**

- ÄLÄ ASENNATA TAI LAITTA TÄTÄ LAITETTA KABINETTITYYPPISEEN KIRJAKAAPPIIN TAI MUUHUN SULJETTUUN TILAAAN, JOTTA TUULETUS ONNISTUISI. VARMISTA, ETTÄ VERHO TAI MIKÄÄN MUU MATERIAALI EI HUONONNA TUULETUSTA, JOTTA VÄLTETTÄISIIN YLIKUUMENEMISESTA JOHTUVA SÄHKÖISKU- TAI TULIPALOVAARA.
- ÄLÄ PEITÄ LAITTEEN TUULETUSAUUKOJA 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, KOSTEUEDELLE, 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.

Troubleshooting guide

Before requesting service, make the below checks.

If you can't fix the unit as described or if something not listed here occurs, contact your dealer.

■ Common problems

		Pages
No power.	<ul style="list-style-type: none"> Ensure the AC mains lead is connected. 	8
No sound. Sound is distorted.	<ul style="list-style-type: none"> Turn the volume up. Check connections to speakers and other equipment. Turn on the speakers. Select the correct source. Change D-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. 	14 4 to 11 14 14 13 15 20 13 -
Sound stops. "OVERLOAD" appears on the display for about a second and the unit turns off.	<ul style="list-style-type: none"> Determine and correct the cause, then turn the unit on. <p>Causes include:</p> <ul style="list-style-type: none"> - 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. <p>Consult your dealer if the problem occurs again after switching the unit on.</p>	7 7, 8, 26 - -
"F76" appears on the display and the unit turns off.	<ul style="list-style-type: none"> Turn the unit off, disconnect the AC mains lead, and consult your dealer. 	-
"F70" appears on the display.	<ul style="list-style-type: none"> Turn the unit off, disconnect the AC mains lead, and consult your dealer. 	-
"U12" appears on the display.	<ul style="list-style-type: none"> Match the "Remote control mode" on the main unit and the remote control. 	25
Display is dim.	<ul style="list-style-type: none"> Cancel "DIMMER". 	19, 20
Clicking sound heard during play.	<ul style="list-style-type: none"> Depending on the input signal when playing DVD etc., the DUAL AMP function changes automatically. A clicking sound is heard when it changes. This does not mean a problem with the unit. 	15

■ Sound effects

		Pages
Sound is not heard from the center, surround or subwoofer speakers.	<ul style="list-style-type: none"> Ensure the speaker settings for your speakers are correct. The source may be stereo. Turn Dolby Pro Logic IIx, DTS NEO:6 or SFC on. If the FRONT speakers are set to LARGE: <ul style="list-style-type: none"> - When you play an analogue or PCM source in stereo, sound is output from the subwoofer. However when you play a Dolby Digital or DTS 2-channel source in stereo, only the LFE (low frequency effects channel) signal from the source is output from the subwoofer. 	12, 21 15 21
Sound is not heard from the surround back speaker.	<ul style="list-style-type: none"> Ensure the speaker settings for your speakers are correct. Turn Dolby Pro Logic IIx, DTS NEO:6 or SFC on. 	12, 21 15
Cannot use Dolby Pro Logic IIx, DTS NEO:6 or SFC.	<ul style="list-style-type: none"> Turn DVD ANALOG 6CH off. You cannot use Dolby Pro Logic IIx, DTS NEO:6 or SFC when input is PCM with sampling frequencies of 192 or 176.4 (COAXIAL1). 	14 -
There is no DTS audio output. There is audio output, but the DTS decoder indicator is not lit.	<ul style="list-style-type: none"> 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).	<ul style="list-style-type: none"> Depending on the input source, sound may be distorted if you increase the SFC speaker level or effect. If this happens, decrease the SFC speaker level or effect. 	18

■ Radio

		Pages
The radio cannot be tuned in or there is a lot of noise and interference.	<ul style="list-style-type: none"> 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 players, and satellite receivers. Separate the antenna from other cables, cords, and appliances. 	11 11 19 - -
There is a lot of noise when listening to AM.	<ul style="list-style-type: none"> Try changing the BEAT PROOF mode. 	23
The correct AM frequency cannot be tuned in.	<ul style="list-style-type: none"> Change the frequency step to suit your area when AM is selected. 	22

■ Remote control

		Pages
The remote control doesn't work.	<ul style="list-style-type: none"> Replace the batteries if they are worn. 	11
Other products respond to the remote control.	<ul style="list-style-type: none"> Change this unit's remote control mode to "REM2". 	25