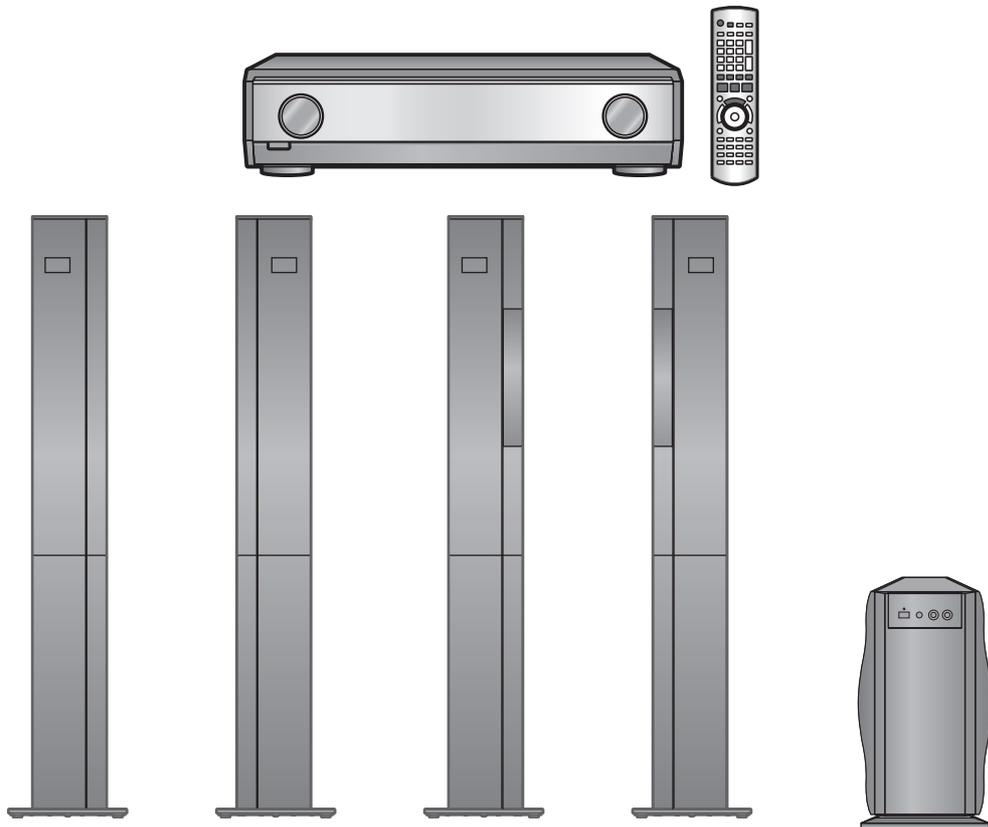


# Panasonic®

## Operating Instructions Home Theater Audio System

Model No. **SC-ELS10**



As an ENERGY STAR® Partner, Panasonic has determined that this product meets the ENERGY STAR® guidelines for energy efficiency.

### 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.

**If you have any questions, contact**  
1-800-211-PANA (7262).

**The warranty can be found on page 58.**

### ■ Configuration

AV control receiver	SA-XR707
Speaker system (SB-FS1010)	Front speaker (including center channel) L <b>SB-FC1010L × 1</b>
	Front speaker (including center channel) R <b>SB-FC1010R × 1</b>
	Surround speaker L <b>SB-HS1010L × 1</b>
	Surround speaker R <b>SB-HS1010R × 1</b>
Speaker system (SB-WA1010)	Active subwoofer <b>SB-WA1010 × 1</b>

# IMPORTANT SAFETY INSTRUCTIONS

Read these operating instructions carefully before using the unit. Follow the safety instructions on the unit and the applicable safety instructions listed below. Keep these operating instructions handy for future reference.

- 1) Read these instructions.
- 2) Keep these instructions.
- 3) Heed all warnings.
- 4) Follow all instructions.
- 5) Do not use this apparatus near water.
- 6) Clean only with dry cloth.
- 7) Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
- 8) Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- 9) Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- 10) Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- 11) Only use attachments/accessories specified by the manufacturer.
- 12) Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over. 
- 13) Unplug this apparatus during lightning storms or when unused for long periods of time.
- 14) Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

## FCC Note:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC caution: To maintain compliance with FCC regulations, shielded interface cables must be used with this equipment. Operation with non-approved equipment or unshielded cables may result in interference to radio and TV reception. Any changes or modifications not approved by the party responsible for compliance could void the user's authority to operate this equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

Responsible Party:

Panasonic Corporation of North America  
One Panasonic Way  
Secaucus, NJ 07094

Support Contact:

Panasonic Consumer Electronics Company  
Telephone No.: 1-800-211-7262



**CAUTION**

**RISK OF ELECTRIC SHOCK**

**DO NOT OPEN**



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

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

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

**WARNING:**

**TO REDUCE THE RISK OF FIRE, ELECTRIC SHOCK OR PRODUCT DAMAGE,**

- DO NOT EXPOSE THIS APPARATUS TO RAIN, MOISTURE, DRIPPING OR SPLASHING AND THAT NO OBJECTS FILLED WITH LIQUIDS, SUCH AS VASES, SHALL BE PLACED ON THE APPARATUS.
- USE ONLY THE RECOMMENDED ACCESSORIES.
- DO NOT REMOVE THE COVER (OR BACK); THERE ARE NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

**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.**

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



**Caution**

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

## For SB-WA1010

Although the AC power switch is in the "OFF" position, the unit is not completely disconnected from the mains. Remove the plug from the main electrical outlet if you will not be using the unit for an extended period of time. Place the unit so the plug can be easily removed.

# Table of contents

## Before use

<b>IMPORTANT SAFETY INSTRUCTIONS</b> .....	2
Now you can enjoy the acclaimed experience of "ELS Surround" for your Home Theater. ....	4

<b>Control guide</b> .....	6
<b>Supplied accessories</b> .....	7

## Preparations

### Assembly and Installation

<b>Location</b> .....	8
Location of the wall-mounted front speakers .....	8
<b>Assembling the speakers as stand types</b> .....	9
<b>Attaching a stabilizing wire</b> .....	11
<b>Wall-mounting the front and surround speakers</b> .....	12
Setting a wall-mounted speaker .....	12
<b>Connecting speakers and AC power supply cords</b> .....	13
<b>Subwoofer operation</b> .....	14
<b>Connections</b>	
Connecting a TV and a DVD recorder/DVD player using HDMI cables ..	15
<b>Connecting cables to video and audio terminals</b> (to use the TV, DVD recorder, DVD player, VCR) .....	16
<b>Connecting cables to S video and audio terminals</b> (to use the TV, DVD recorder, DVD player) .....	17
<b>Connecting cables to component and audio terminals</b> (to use the TV and DVD recorder) .....	18
<b>Other connections</b>	
To enjoy TV with surround sound .....	19

To connect a DVD recorder with built-in VCR.....	19
To enjoy analog sounds.....	20
To enjoy high-quality analog sounds using DVD-Audio discs (DVD analog 6-channel connections) .....	20
To connect the unit to a cable box or satellite receiver etc. ....	21
To connect the unit to a CD player .....	21
To connect the unit to a video camera or game player etc. ....	21
<b>Bi-wiring connections</b> .....	22
Making bi-wire setting .....	22
<b>Connecting other speakers</b>	
When connecting other speakers.....	23
Connecting surround back speakers .....	23
Setting surround back speakers .....	23
To connect a second pair of front speakers .....	23
Making surround speakers wireless with SH-FX50/SH-FX60 .....	24
Sending audio to another room with SH-FX80.....	24
<b>Connecting antennas</b> .....	25
Connecting XM Connect & Play antenna or XM Mini-Tuner and Home Dock.....	25
<b>Auto speaker setup using the setup microphone</b> ...	26

## Basic operations

<b>Enjoying the Home Theater</b> .....	28
Using SPEAKERS B.....	29
MULTI ROOM .....	29
ADVANCED DUAL AMP .....	29

BI-AMP .....	29
Playing DVD-Audio (Enjoying DVD-Audio sources through digital connections/Playing DVD ANALOG 6CH/Enjoying high quality 2-channel analog sounds) .....	29

## Operations

<b>Listening to surround sound</b>	
<b>Dolby Pro Logic IIx/NEO:6/SFC (Sound Field Control)</b> ....	30
<b>Control with HDMI (EZ Sync™ "HDAVI Control™")</b> .....	32
<b>Enjoying the Home Theater through one-touch operations</b> .....	32
<b>Remote controlling sound effects</b>	
Adjusting Dolby Pro Logic IIx's " <b>MUSIC</b> " mode.....	33
Adjusting NEO:6's " <b>MUSIC</b> " mode.....	33
Adjusting SFC (Sound Field Control) .....	33
<b>Convenient functions</b>	
Testing speaker output/Adjusting speaker volumes.....	34
Adjusting the subwoofer level .....	35
Silencing speakers temporarily.....	35
Dimming the display light (Dimmer) .....	35
Detecting speaker status automatically .....	35
<b>Sound effects/Convenient functions</b>	
<b>How to set up</b> .....	36
Adjusting the bass .....	37
Adjusting the treble .....	37
Balancing front speaker volumes.....	37
Changing the audio output (Dual program) .....	37
Adjusting the brightness of the display .....	37
Sleep timer .....	37
<b>Settings</b>	
<b>How to set up</b> .....	38
Setting speakers and their sizes.....	39
Setting distances .....	39
Setting the lowpass filter.....	39
Changing auto speaker settings (To return polarity to factory settings/ Setting the unit against automatic polarity adjustment) .....	40
Making BI-AMP settings (Canceling BI-AMP (using the triple amp mode)/ Adjusting the balance/Correcting the HF and LF difference) .....	40
Setting ADVANCED DUAL AMP off.....	40
Making MULTI ROOM setting .....	41

Changing the digital input settings .....	41
Setting input signals .....	41
Reducing standby power consumption (power saving standby mode) ...	41
Setting the unit against EZ Sync "HDAVI Control" .....	42
Listening clearly at low volume.....	42
Switching the attenuator.....	42
Adjusting audio timing to video timing.....	42
RESET (factory settings).....	42
<b>Remote controlling a TV or DVD recorder etc.</b>	
<b>Remote controlling a TV</b> .....	43
<b>Remote controlling a DVD recorder</b> .....	43
<b>Remote controlling a VCR</b> .....	44
<b>Remote controlling a DVD player</b> .....	44
<b>Remote controlling a CD player</b> .....	45
Using two or more Panasonic equipment (a mini component system, an AV amp etc.) .....	45
Entering a code to operate other equipment.....	45
<b>The radio</b>	
<b>Manual tuning</b> .....	46
<b>Preset tuning</b> .....	47
Presetting stations .....	47
Listening to preset stations .....	47
Reducing excessive noise.....	47
<b>XM® Satellite Radio</b>	
Displaying the XM Satellite Radio ID.....	48
Positioning the antenna for optimal reception .....	48
<b>Selecting XM channels by direct entry</b> .....	49
<b>Selecting XM channels by category</b> .....	49
Displaying the XM channel information .....	49
<b>Preset tuning</b> .....	50
Presetting your favorite XM channels.....	50
Selecting the preset channels .....	50
XM advisory messages .....	51
<b>Using headphones</b> .....	51

## Reference

<b>Troubleshooting guide</b> .....	52
<b>Help message</b> .....	53
About speakers.....	54
<b>Audio signals and amp mechanism</b> .....	55
<b>Specifications</b> .....	56

<b>Maintenance</b> .....	57
<b>Product Service</b> .....	57
<b>Listening caution</b> .....	57
<b>Limited Warranty</b> .....	58

# Now you can enjoy the acclaimed experience of “ELS Surround” for your Home Theater.

**System Sound quality has been refined in collaboration with Elliot Scheiner, who is an award winning music producer and recording engineer.**



## **Mr. Elliot Scheiner**

A six-time Grammy Award winner, Elliot has also been honored with an Emmy Award and several Technical Excellence and Creativity awards.

He is also recognized as one of the industry's leading engineers in the creation of discrete multi-channel audio, using six uncompressed channels, Center, 2 Front, 2 Surround and Subwoofer, to reproduce the highest level of music reproduction through DVD-Audio and DVD-Video.

He is well known for his collaboration with: the Eagles, Steely Dan, Queen, Beck, Foo Fighters and many other musicians. The “ELS Surround” is named after Elliot Scheiner's nickname in the music industry, “ELS”.

## ■ **“ELS Surround System”**

This home theater system is derived from the ELS Surround system originally designed for car audio applications and developed in collaboration between Mr. Elliot Scheiner, and Panasonic Automotive System Company of America.

The ELS Surround systems are currently available on several Acura vehicles and are recognized as some of the best performing systems available in the market.

Through the involvement of Elliot Scheiner the ELS Surround systems provide the listener with an experience very similar to what Elliot hears in the studio.

The “SC-ELS10” home theater system was created with the same approach and audio technology which has been so successful in the automotive market.

## ■ **5.1 discrete multi-channel surround sound**

Generally, “5.1 channel surround sound” means the multi-channel sound from DVD Video provided by either Dolby Digital or DTS.

In addition to providing an outstanding audio experience from stereo source material, the ELS Surround System can reproduce the uncompressed signal of DVD-Audio and the 5.1 channels of discrete multi-channel audio.

Each channel, front left and right, center, left and right surround, and subwoofer are independent and fill the listening space with rich tones, and discrete imaging. The deep bass powered from the subwoofer seamlessly integrates with the satellite speakers to produce a spacious, powerful sound.

The ELS Surround system also allows the listener to enjoy the home theater experience through other sources including DVD-Video and Blu-ray.

# Steps to enjoy the high sound quality of “ELS Surround System”

## Step 1

### Assemble and install speakers

This system incorporates a center speaker array in each of its front speakers. Using a unique system from Panasonic that reflects the principles of auditory psychology, the sound seems to come from within the TV screen, letting you enjoy sound and images with a heightened sense of integration.

## Step 2

### Connect

Connect the speakers and subwoofer to the receiver.  
(Turn the subwoofer “ON” and set the volume to near center.)  
Connect each device such as TV and DVD recorder to the receiver.  
You can enjoy DVD with excellent sound and image quality.

## Step 3

### Choose Speaker Position

The ELS Surround speakers can be used with the supplied stands on the floor or mounted on the wall. Choose from the receiver menu the position of each of the loudspeakers, either as “FLOOR” standing or “WALL” mounted. The receiver parameters then will be optimized for each speaker.

## Step 4

### Perform Auto Speaker setting

With the supplied measuring microphone, use the “Auto Speaker” setting to measure the distance to the listening position and output levels of each channel and then automatically adjust the receiver parameters.  
This creates a suitable environment to reproduce ELS Surround sound.

## Step 5

### Enjoy music or movies

You can enjoy TV and DVD with ELS Surround Sound.  
If you desire, can use Dolby Pro Logic IIx, DTS NEO:6, or the SFC to create surround sound from stereo sources.

**You can now enjoy a wonderful ELS Surround sound experience with the Panasonic SC-ELS10. Recommendations for Wall Mounted speakers**

1. The front left and right ELS loudspeakers should be at least 70 inches (5 feet, 10 inches) apart.
2. or a minimum of 10 inches from the edge of your 50 inches or larger flat panel display. This is so you experience wide stereo imaging and minimize acoustic reflections from the edge of the display.

# Control guide

## AV control receiver

For selecting input sources (⇒ page 28)

Standby indicator (Ⓞ)

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

[Ⓞ/I, POWER]

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.

For MENU operations (⇒ pages 36, 37, 47 and 50)

For SETUP operations (⇒ pages 12, 22, 38 to 42 and 45)

For switching the surround function on and off (⇒ page 28)

Lights on when ADVANCED DUAL AMP is on (⇒ page 29)

Lights on when BI-AMP is on (⇒ page 29)

Lights on during surround playback (⇒ page 28)

Lights on when the digital transceiver is in (⇒ page 24)

Lights on during MULTI ROOM playback (⇒ page 29)

Lights on during the auto speaker setup (⇒ page 26)

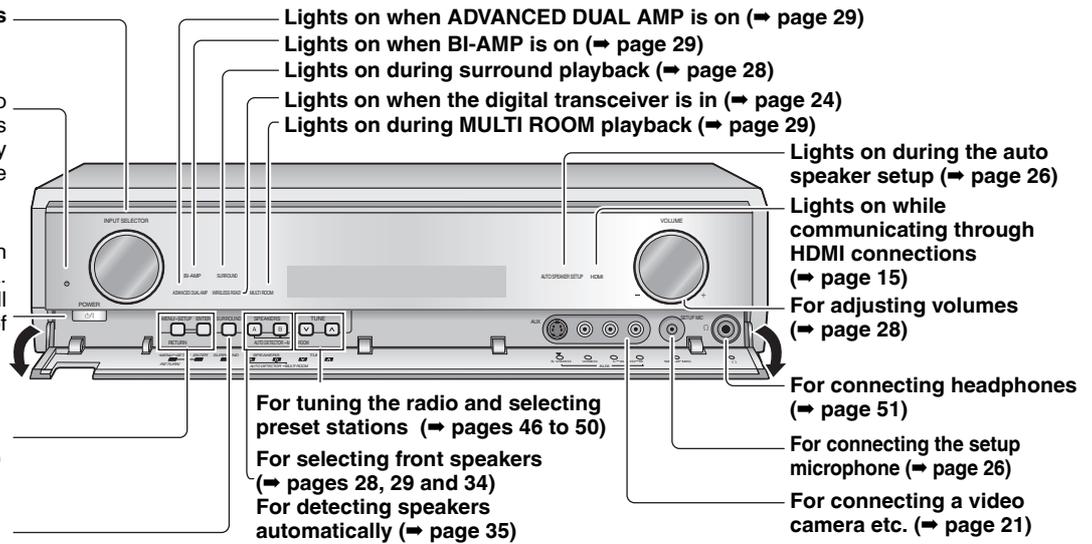
Lights on while communicating through HDMI connections (⇒ page 15)

For adjusting volumes (⇒ page 28)

For connecting headphones (⇒ page 51)

For connecting the setup microphone (⇒ page 26)

For connecting a video camera etc. (⇒ page 21)



## Display

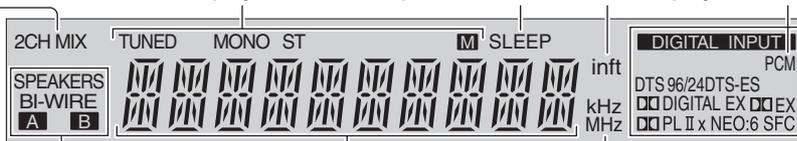
Lights on when 2-channel mix is functioning

Radio display

Sleep timer indicator

Unit display

Lights on when PCM FIX is selected



Displays front speakers in use

General display

Frequency unit indicators

Input signals (digital audio) (⇒ page 55)

## Remote control

Power button

For selecting tuner/ For switching FM, AM or XM (⇒ pages 46, 48 and 49)

For inputting channels TV (⇒ page 43) DVD recorder (⇒ page 43) VCR (⇒ page 44)

For selecting a track or chapter DVD recorder (⇒ page 43) DVD player (⇒ page 44)

For selecting a track CD player (⇒ page 45)

For inputting the station frequency/ For selecting a channel TUNER (⇒ pages 46 to 50)

For dimming the display light (⇒ page 35)

For adjusting the subwoofer level (⇒ page 35)

For listening to surround sounds (⇒ pages 30, 31 and 33)

For switching an input source on and off/ Source switching/ Switching remote control modes (⇒ pages 43 to 45)

For playing DVD-Audio sources on 6 channels (⇒ page 29)

For selecting a channel TV (⇒ page 43) DVD recorder (⇒ page 43) VCR (⇒ page 44) TUNER (⇒ pages 47 and 50)

For adjusting volumes (⇒ pages 32 and 34)

For operating other equipment (⇒ pages 32 and 43 to 45)

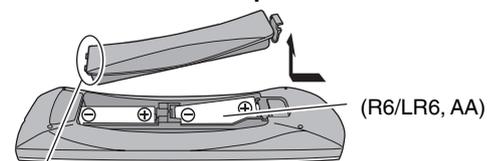
For silencing speakers temporarily (⇒ page 35)

For auto speaker setup using the setup microphone (⇒ page 26)/ For confirming speaker output (⇒ page 34)/ For adjusting speaker volumes (⇒ page 34)



## Batteries

Press on the tab to open.

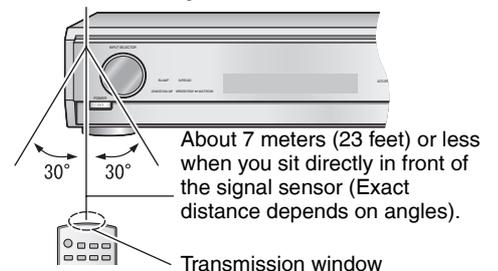


Place this side in before the other side when you close.

- Insert so the poles (⊕ and ⊖) match those in the remote control.
- Do not use rechargeable type batteries.
- Do not heat or expose to flame.

## Use

Remote control signal sensor



About 7 meters (23 feet) or less when you sit directly in front of the signal sensor (Exact distance depends on angles).

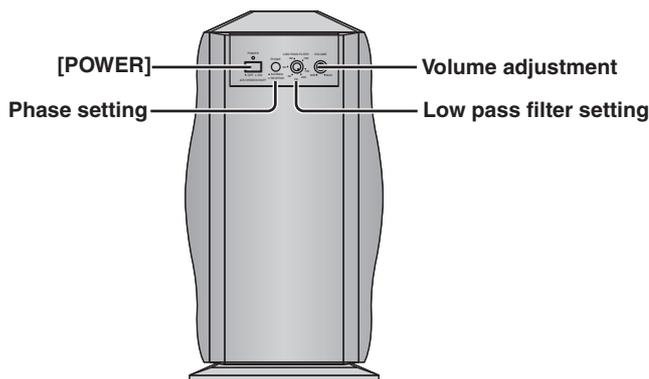
## Caution

- Do not place an object between the signal sensor and the remote control.
- Do not place the signal sensor under direct sunlight or the strong light of an inverter fluorescent lamp.
- Keep the transmission window and the unit's sensor free from dust.

When you set the unit in a cabinet

The remote controlling range may decrease depending on the thickness or colors of glass cabinet doors.

## Subwoofer



# Supplied accessories

 Please check and identify the supplied accessories.  
Use numbers indicated in parentheses when asking for replacement parts.  
(Product numbers correct as of April 2007. These may be subject to change.)  
**To order accessories, refer to "Accessory Purchases" on page 58.**

### Speaker System (SB-FS1010)

- Stand base mounting screws (XSB4+20FJK) ..... 8  

- Stand mounting screws (RXQ1497) ..... 4  

- Stand base (Front L, Surround R) (RYQ0607B-K) ..... 2  

- Stand base (Front R, Surround L) (RYQ0607C-K) ..... 2  

- Speaker stands (RYQ0609A-K) ..... 4  

- Spacers (RKA0191-K) ..... 16  

- Banana plugs (red) (RJR0242-1) ..... 6  

- Banana plugs (black) (RJR0242-2) ..... 6  

- Nylon clamp (RMR1503-K) ..... 6  

- Screw for nylon clamp (XTW3+10JFJK) ..... 6  


### Speaker System (SB-WA1010)

- AC power supply cords (K2CB2CB00018) ..... 1  

- Monaural connection cable (5 m) (16.4 ft.)  
(RJLV1P002B50) ..... 1  

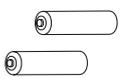

### AV Control Receiver (SA-XR707)

- AC power supply cord (K2CB2CB00018) ..... 1  

- Setup microphone (L0CBAB000123) ..... 1  

- FM indoor antenna (RSA0006-L1) ..... 1  

- AM loop antenna (RSA0037) ..... 1  

- Batteries ..... 2  

- Remote control (EUR7662YR0) ..... 1  


### Note

In case of difficulty in connecting to speakers, use the supplied Banana plugs.

## Speaker cables

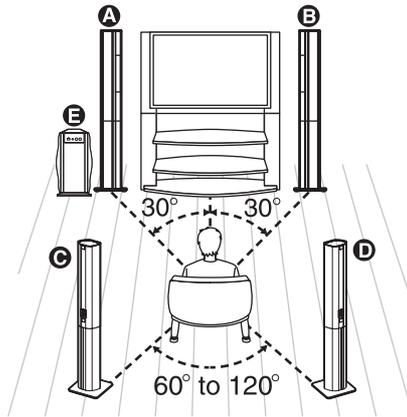
This unit does not come with speaker cables. Have the following speaker cables ready before proceeding with installation. Please buy suitable length of cables according to the setting conditions.  
Rough indication:

- Speaker cables (approx. 4 m) (13.1 ft.) x 4
- Speaker cables (approx. 10 m) (32.8 ft.) x 2

# Assembly and Installation

## Location

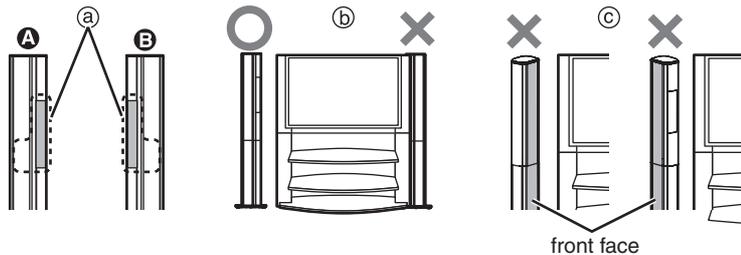
The front and surround speakers should be placed at approximately the same distance from the listening position. The angles in the diagram are approximate.



### Front speakers (including center channel)

(A left: **SB-FC1010L**, B right: **SB-FC1010R**)

- Put the front speakers on either side of the television. This system incorporates a center speaker in each of its front speakers. (A)
- It may be hard for the intended effect to be achieved under some listening and viewing conditions and with some of the playback sources.
- The effect will not be satisfactorily yielded if the left front speaker is installed on the right and the right front speaker on the left.
- The sound quality will not be satisfactorily yielded if the center speakers are hidden from the listener's view. (B)
- Do not position the front speakers so that they face outward or overly inward. Place them so that they are facing more or less straight ahead. (C)



### Surround speakers

(C left: **SB-HS1010L**, D right: **SB-HS1010R**)

- Put the surround speakers to the side of or slightly behind the seating area.
- An angle of 60° to 90° is recommended to enjoy music.

### Active subwoofer (E: **SB-WA1010**)

- Place it at least 50 mm (2") from the wall as it has a bass reflex port in the rear.
- Depending on speaker location, the low-range frequency characteristics will vary. When placed in the corner of a room, the volume will increase accordingly.

○○○ **Note** ○○○

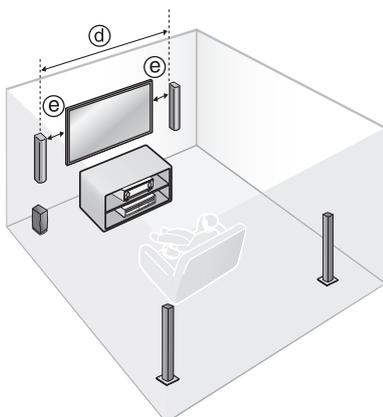
Do not attach the subwoofer to walls or ceilings.

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

- Place them on a flat, level secure surface. Use spacers or similar items to stop them from rocking.
- Placing speakers too close to walls, and corners can result in excessive bass.
- Cover walls and windows with a thick curtain.
- Do not place anything on top of the subwoofer.

Keep your speakers at least 10mm (13/32") away from the system for proper ventilation.

## Location of the wall-mounted front speakers



### Recommendations for Wall Mounted speakers

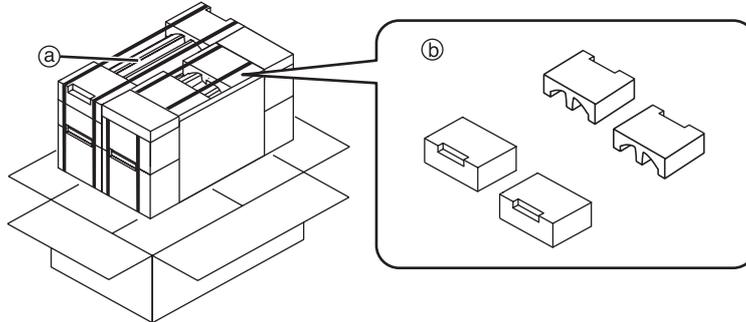
- ⓓ The front left and right ELS loudspeakers should be at least 1.8 m (70 inches/5 feet, 10 inches) apart.
- ⓔ or a minimum of 254 mm (10 inches) from the edge of your 1.3 m (50 inches) or larger flat panel display. This is so you experience wide stereo imaging and minimize acoustic reflections from the edge of the display.

○○○ **Note** ○○○

Do not place the wall-mounted speakers higher than your ear position.

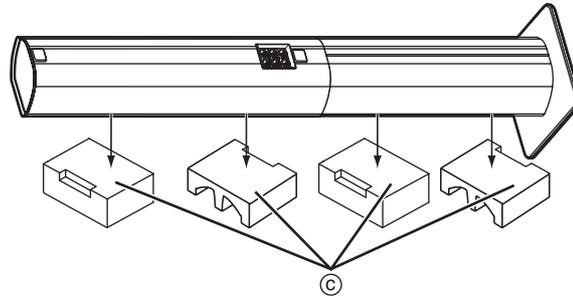
- Do not apply an unreasonable force to the net at the front of the speaker unit. You cannot remove the front net.
- You can carry out assembly work stably by placing the cushions in the packing case beneath the speaker. Place the speaker unit with the net side facing downward.
- Be sure to spread a cloth, for example, on the floor to protect it from damage.
- After each task, tighten the screws securely.

### ■ Cushions used



- Ⓐ Speaker units.
- Ⓑ Use the four cushions at the very top of the SB-FS1010.

### ■ Method of setting cushions



- Ⓒ Place these surfaces face up.

## Assembling the speakers as stand types

### 1 Fit the stand bases onto the front speaker R and surround speaker L stands.

① Align the two projections in the front speaker R and surround speaker L stands Ⓐ (included) with the two holes in the front R (or surround speaker L) stand base Ⓒ (included), and fit together.

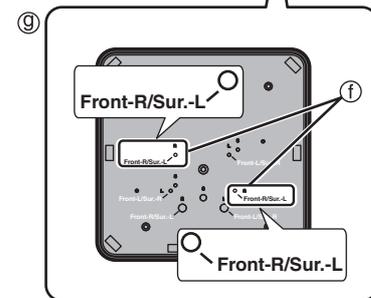
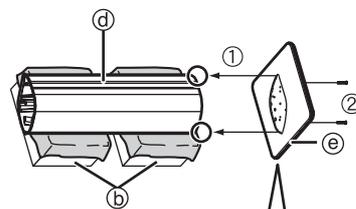
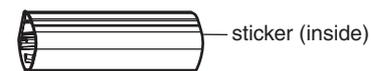
- The packing bags for the stand bases and the packing bags for the speakers are held in place by tape of the same color. Assemble the bases and speakers with the same color tape.
- The sticker "Attach the stand base on this side." is put on the inner side of the stand base attaching side.

② Attach the stand base using the two stand base mounting screws (included).

Use the two screw holes marked "Front-R/Sur.-L" to attach the base. Ⓕ

- Align the positions of the holes marked "Front-R/Sur.-L" with the positions of the screw holes in the stand.
- When assembling the front speaker L and surround speaker R, use the screw holes marked "Front-L/Sur.-R" and fit.
- Tighten the screws alternately, and finally tighten them hard.

③ Reverse side of stand base

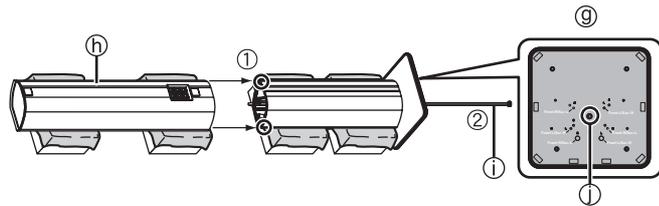


Continued on the next page

# Assembly and Installation

## 2 Fit the stand onto the front speaker R (or surround speaker L).

- ① Align the two projections in the assembled stand with the two holes in the front speaker R (h) (or surround speaker L), and fit together.
- ② Attach the stand using the stand mounting screw (i) (included).  
Use the center screw hole to fit the stand on to the speaker. (j)



## 3 Connect the speaker cables (not included) to the terminals.

Before connection, pass the speaker cables through the hole marked "Front-R/Sur.-L" in the back of the stand base. (k)

(Use the hole marked "Front-L/Sur.-R" for the front speaker L and surround speaker R.)

The speaker cables must have a thickness of 3.0 mm (1/8") or less to fit into the cable groove (→ page 11 step 4).

### Center speaker cables (l) (approx. 4 m (13.1 ft.))

(-) cable (o):

Connect this to the "CENTER" black negative (-) terminal.

(+) cable (p):

Connect this to the "CENTER" red positive (+) terminal.

### Front speaker cables (m) (approx. 4 m (13.1 ft.))

(-) cable (q):

Connect this to the "LF" black negative (-) terminal.

(+) cable (r):

Connect this to the "HF" red positive (+) terminal.

• Do not remove the shorting bars. (s)

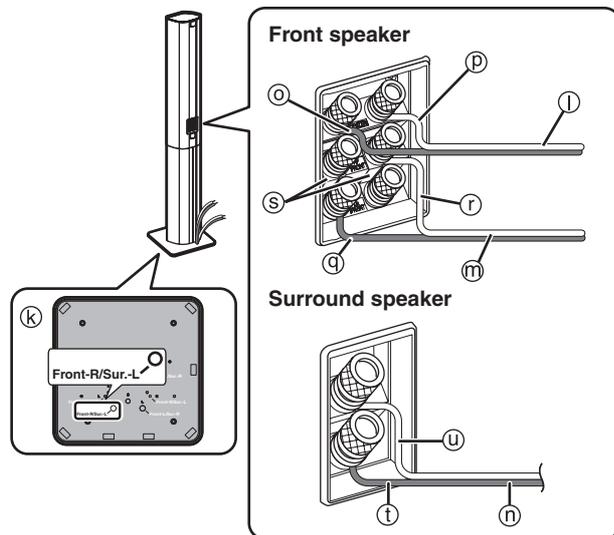
### Surround speaker cables (n) (approx. 10 m (32.8 ft.))

(-) cable (t):

Connect this to the black negative (-) terminal.

(+) cable (u):

Connect this to the red positive (+) terminal.



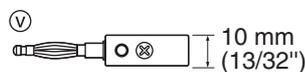
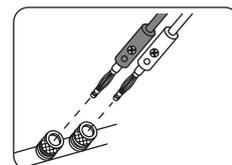
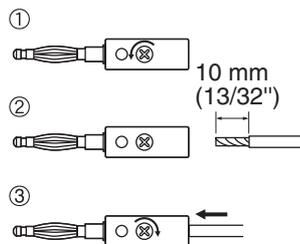
### How to connect speaker cables

- ① Remove the vinyl covering the tips of speaker cables by twisting it off.
- ② Turn the thumb nut in the loosening direction until the hole in the terminal becomes visible.
- ③ Insert the conductor into the hole, and tighten the thumb nut.



### If using banana plugs (4 mm plugs)

- ① Loosen the screws of the banana plugs (included).
- ② Remove the vinyl covering the tips of speaker cables about 10 mm (13/32") by twisting it off. Twist the conductors of the speaker cable.
- ③ Insert the speaker cables all the way, then firmly tighten the screws.
  - Tighten the thumb nuts of the terminals all the way, and connect the plugs.
  - When using commercially available banana plugs, use banana plugs that have an overall diameter of 10 mm (13/32") or less. (v)
  - Do not use the banana plugs when the speakers are to be mounted on a wall.



### Note

Never short-circuit positive (+) and negative (-) speaker wires.

# 4

## Fix the speaker cables.

Press the speaker cables into the cable groove provided in the stand.

The speaker cables must have a thickness of 3.0 mm (1/8") or less to fit into the cable groove.

Ⓜ Cable groove

**When using speaker cables that are thicker than 3.0 mm (1/8"), attach nylon clampers to the speakers and use them to fix the cables.**

Example:

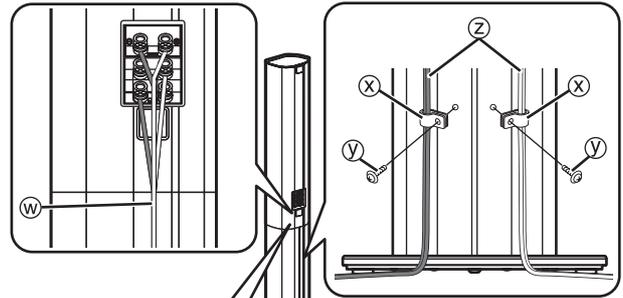
ⓧ Nylon clamp (included)

Ⓨ Screw for nylon clamp (included)

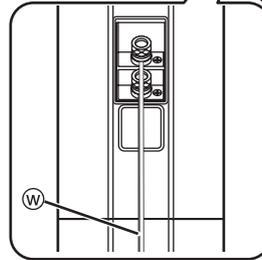
Ⓩ Speaker cables

**Repeat steps 1 to 4 and assemble the front speaker L and surround speaker R.**

Front speaker



Surround speaker



## Attaching a stabilizing wire

Example:

Ⓐ Remove the cover

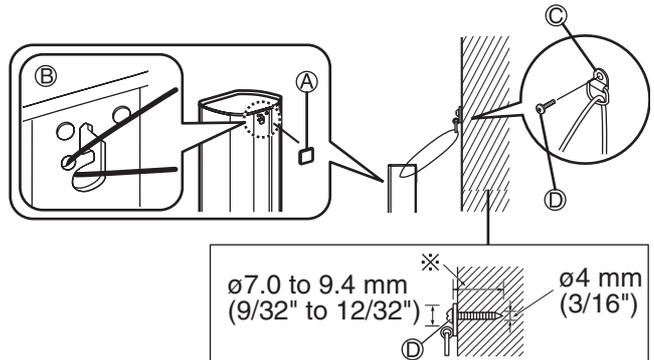
Ⓑ Wire (not included)

Ⓒ Ring (not included)

Ⓓ Screw (not included)

The wall on which the speakers are to be mounted and the screws Ⓓ (not included) used for installing the speakers must be strong enough to support a weight of at least 65 kg (143 lb.). Consult the contractor in charge of the work.

※ A screw which is at least 35 mm (1-13/32") long is used when installing the speaker on a wooden post or pillar. In all other cases, use a screw which is strong enough to support a weight of at least 65 kg (143 lb.).



# Assembly and Installation

## Wall-mounting the front and surround speakers

Do not attempt to attach these speakers to walls using methods other than those described in this manual.

- After each task, tighten the screws securely.
- Keep the removed parts carefully aside.

### 1 Connect the speaker cables (not included) to the terminals.

Refer to step 3 on page 10.

• If the speakers are to be wall-mounted, the stands and stand bases need not be fitted onto the speaker units.

**When mounting the speakers on a wall, use speaker cables that have a thickness of 3.8 mm (5/32") or less.**

• When using speaker cables that have multiple coverings, remove the outer coverings (leave the innermost covering) so that the cable thickness is 3.8 mm (5/32") or less for a length of 200 mm (7-7/8") from the connection end.

### 2 Adhere the spacers and mount the speakers on the wall.

① Remove the covers **a** from the back of the speakers.

② Adhere the spacers **b** in the four locations.

- Align the spacers with the bottom of the holes used for wall mounting, and adhere.

③ Mount the speakers on the wall.

Ⓒ When the screws are in this position, the speaker may drop off.

Ⓓ Fit the speaker securely so the screws are in this position.

Ⓔ Screw (not included)

Arrange the speaker cables in such a way that they will not touch the holes used for wall mounting. Ⓕ

The wall on which the speakers are to be mounted and the screws **e** (not included) used for installing the speakers must be strong enough to support a weight of at least 30 kg (66 lb.).

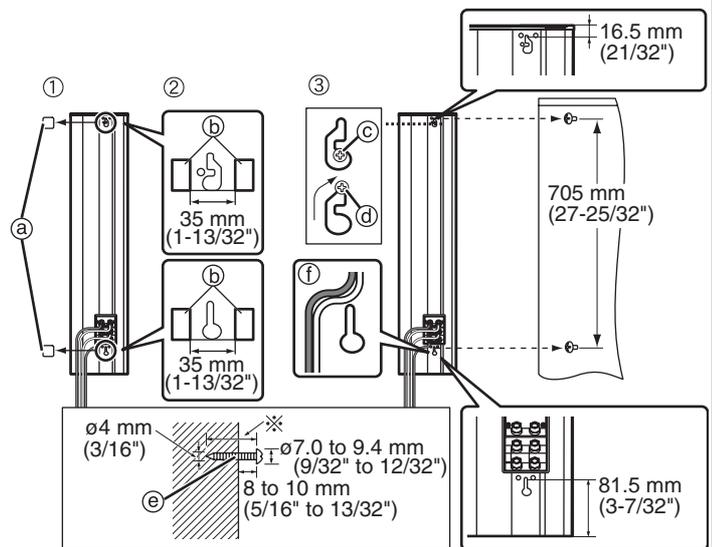
Consult the contractor in charge of the work.

※ A screw which is at least 35 mm (1-13/32") long is used when installing the speaker on a wooden post or pillar. In all other cases, use a screw which is strong enough to support a weight of at least 30 kg (66 lb.).

**Assembling a wall-mounted speaker system as a stand type**

① Return the speaker to the original condition by carrying out the opposite procedure to the above.

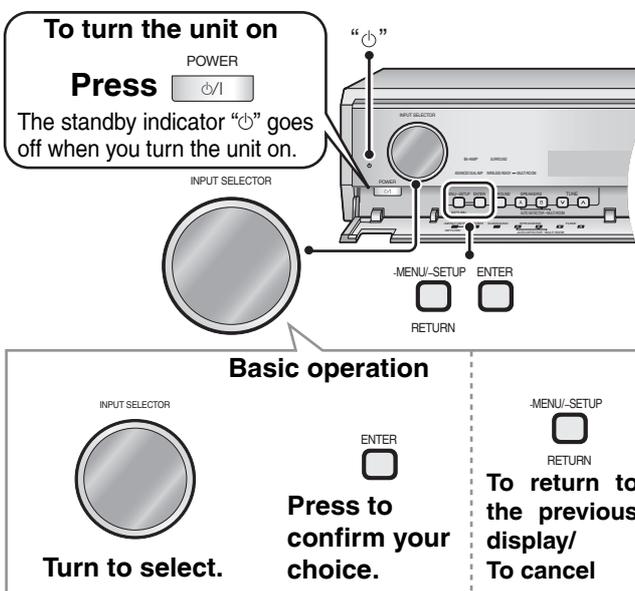
② Assemble the speaker as a stand type. (⇒ pages 9 to 11)



- When the speaker is wall-mounted, be sure to set "Setting a wall-mounted speaker" (⇒ below) to "WALL" before performing the auto speaker setup (⇒ pages 26 and 27). Otherwise, the auto speaker setup cannot correctly adjust the audio to ELS surround characteristic.

## Setting a wall-mounted speaker

Make this setting after connecting speakers and AC power supply cords. (⇒ page 13)



1 Press and hold [-MENU/-SETUP, RETURN] for about 2 seconds to enter the SETUP.

2 Select and confirm the choice.

SPK POS

3 Select a speaker for setting and confirm the choice.

LR FLOOR

LR : Front speakers C : Center speaker

S : Surround speakers, Surround back speakers

4 Select and confirm the choice.

LR WALL

FLOOR : When the speakers are placed on the floor

WALL : When the speakers are wall-mounted

Factory setting: FLOOR

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

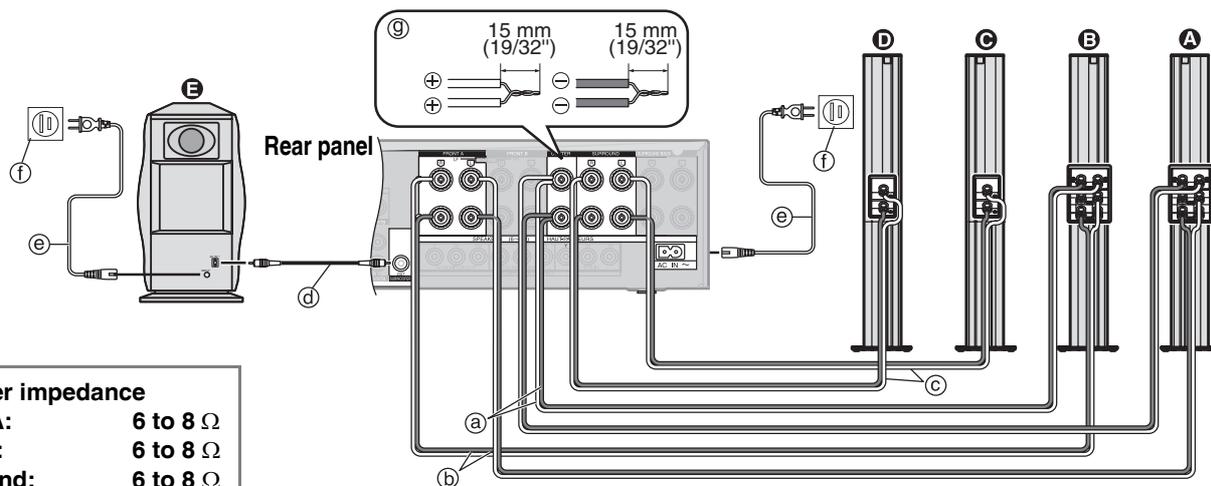
EXIT

### Note

- Be sure to make this setting before performing the auto speaker setup if this setting is made afterwards, the setting value of the auto speaker setup (⇒ pages 26 and 27) is initialized and ELS Surround sound cannot be properly played back.
- The settings are memorized even after the power is turned off.

# Connecting speakers and AC power supply cords

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



## Speaker impedance

Front A:	6 to 8 Ω
Center:	6 to 8 Ω
Surround:	6 to 8 Ω

## Front and surround speakers

(Front speaker L **A** , Front speaker R **B** , Surround speaker L **C** , Surround speaker R **D** )

Connect the speaker cables **(a)**, which have been connected to “CENTER” of front speakers **A** and **B** , to the center terminals on the receiver.

• Before connecting these cables to the receiver, twist the conductors with the same polarity in the left and right speaker cables together to make a single conductor. **(g)**

Connect the speaker cables **(b)**, which have been connected to “FRONT” of front speakers **A** and **B** , to the front terminals on the receiver, and connect the speaker cables **(c)** of the surround speakers **C** and **D** to the surround terminals.

Be sure to connect the (+) ends of the speaker cables to the positive (+) terminal of the receiver and connect their (-) ends to its negative (-) terminals.

## Subwoofer ( **E** )

Use a monaural connection cable (included) **(d)** for connection.

## AC power supply cord

**(e)** AC power supply cord (included)

**(f)** Household AC outlet (AC 120 V, 60 Hz)

### Connect AC power supply cord after all other cables and cords are connected.

- The included AC power supply cord is for use with this unit only. Do not use it with other equipment.
- Do not use an AC power supply cord from any other type of equipment with this unit.
- The unit's settings remain effective after the AC power supply cord is removed from the household AC outlet.

## Note

- Do not connect the speakers to other receivers but the receiver included in this package.
- If you connect other speakers but the speakers included in this package, ELS Surround sound cannot be properly played back.
- Do not move the speaker while the speaker cables are connected. This may cause a short circuit.
- Make sure to bundle the speaker cable with a string etc. when relocating the speaker cables.
- Do not forget to take steps instructed in “Auto speaker setup using the setup microphone” (➔ pages 26 and 27) after connecting speakers.

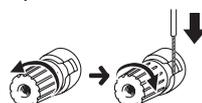
### How to connect speaker cables

1

Remove the vinyl covering the tips of speaker cables by twisting it off.

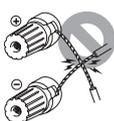
2

Speaker terminals



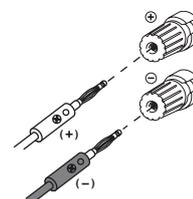
### Note

- Connect speaker cables properly to terminals after making sure left and right, and ⊕ and ⊖. Improper connections may cause the unit to develop problems.
- Do not short-circuit speaker cables. The action may damage circuits.

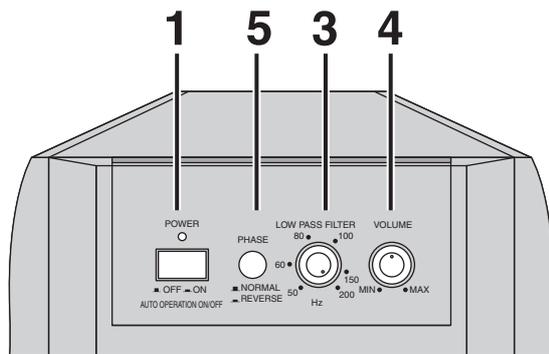


### If using banana plugs (4-mm plugs)

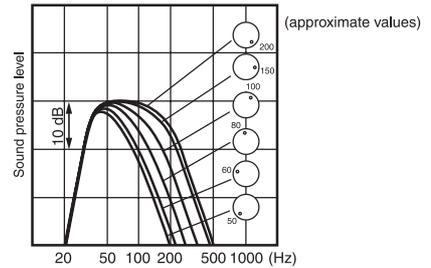
Turn speaker terminals clockwise and tighten them before inserting plugs into their holes.



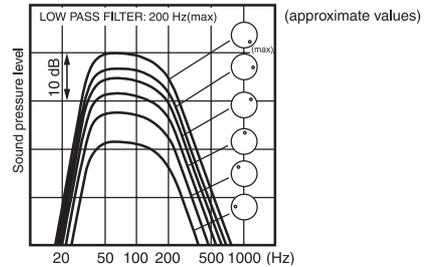
# Subwoofer operation



ⓑ Frequency response by LOW PASS FILTER setting



ⓒ Level change according to volume control setting



The active subwoofer reproduces very low frequency sound monaurally, making use of the fact that the human ear does not sense direction in the low frequency region.

You can emphasize low frequencies by combining the active subwoofer with the speaker system.

## 1 Set [POWER] to “**ON**”.

The power indicator turns green.

## 2 Output sound from the receiver **a** and adjust the volume to a suitable level.

- Do not adjust the bass as this can cause distortion.
- If the volume control on the receiver is left in the minimum position or there is no signal from the receiver for more than 8 minutes, the active subwoofer will automatically switch to standby and the power indicator will turn red. If you turn up the volume control on the receiver or if a signal enters the subwoofer from the receiver, the subwoofer will automatically switch to the operation mode and the power indicator will turn green.

Note, however, that the subwoofer may sometimes fail to switch to standby due to noise emitted by the receiver to which it is connected.

## 3 Set [LOW PASS FILTER].

- Refer to “Frequency response by LOW PASS FILTER setting” ⓑ.
- Set [LOW PASS FILTER] to 200 Hz.

## 4 Adjust [VOLUME] to a suitable level.

- Gradually turn up the volume control from the minimum position and set it in a position where the output from the subwoofer is balanced with the front speakers and also there is no distortion in the low frequency region.
- Set the volume to near center.
- Refer to “Level change according to volume control setting” ⓒ.

## 5 Play something, then set [PHASE] to “**NORMAL**” or “**REVERSE**” so the sound is normal.

The subwoofer and speakers cancel each other output (causing unusual, muffled sound) if the phase setting is incorrect.

■ Set [POWER] to “**OFF**”.

The power indicator turns off.

### When you wish to reproduce 2-channel stereo music

The output in the low range sometimes may be excessively high depending on the setting of the receiver and the active subwoofer when you are reproducing a multi-channel movie source.

### Reduce the subwoofer level at the receiver side.

Also, note that you may be able to obtain more natural sound quality by reducing the frequency of the “low-pass filter” on the active subwoofer.

### Note

If the volume output is too loud, the active subwoofer’s amplifier can be clipped, causing output to sound unusual. Reduce the volume of the receiver or the volume of the active subwoofer if this occurs.

### When settings are complete

The only operation you should have to perform daily is press [POWER] to turn the subwoofer ON/OFF.

If you reposition the system and the acoustics change, reset the subwoofer as necessary.

# Connections

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

## Connecting a TV and a DVD recorder/DVD player using HDMI cables

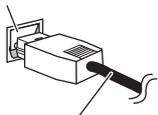
### Connection cable (All cables are sold separately)

Video and Audio cable	Audio cable
<b>HDMI Cable</b> (It is recommended that you use Panasonic's HDMI cable.) [Recommended part number: RP-CDHG15 (1.5 m/4.9 ft.), RP-CDHG30 (3.0 m/9.8 ft.), RP-CDHG50 (5.0 m/16.4 ft.), etc.] 	<b>Optical fiber cable</b> 

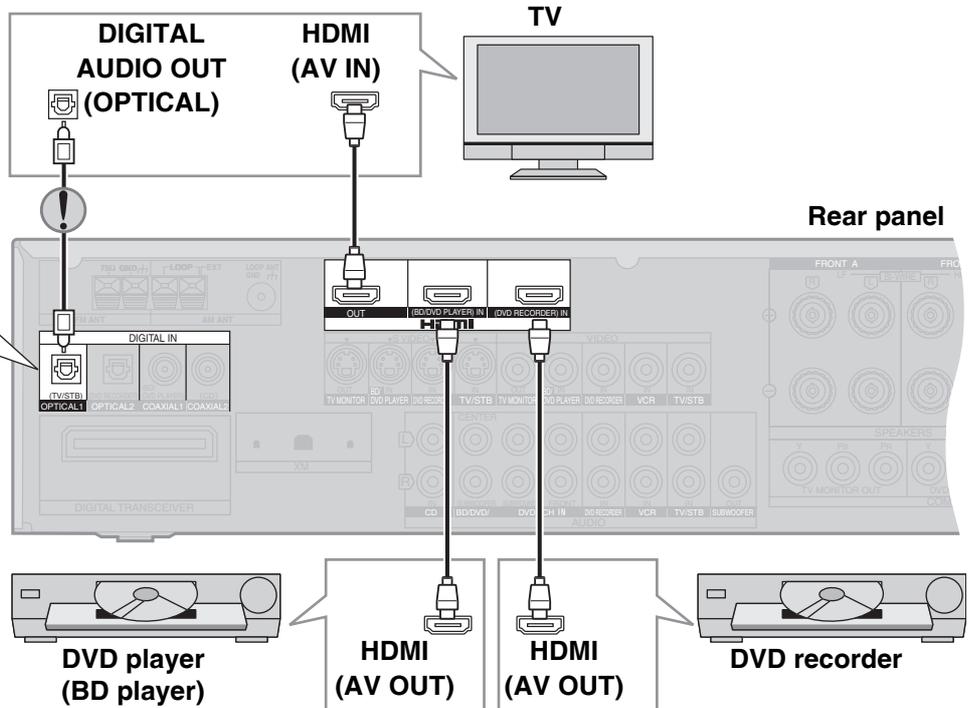
**!** You need an optical fiber cable for enjoying TV with surround sound. See "To enjoy TV with surround sound" (⇒ page 19) for making analog connections.

"Changing the digital input settings" (⇒ page 41)

**How to connect the optical fiber cable**  
 Insert the cable after making sure shapes match.



Do not sharply bend the optical fiber cable.



### HDMI connection

The HDMI input terminal on the unit's rear is made to specifications that presume connection of a DVD recorder/DVD player. When other equipment is connected, sounds may not come out of the unit, or pictures shown on the equipment (TV) connected to the HDMI output terminal may be disrupted. In such cases, see page 21 and make connections other than HDMI.

You can hear DVD sounds from speakers on the TV when you turn off the unit connected in the way shown above (standby through function). This convenient function enables you to enjoy DVDs late at night.

### Note

#### HDMI stands for High-Definition Multimedia Interface.

- The HDMI cable enables you to transmit digital audio and video signals using a single cable. You can also transmit control signals using HDMI connections.
- The unit complies with CPPM\*1. It can digitally transmit surround sound in DVD-Audio sources.
- We recommend using Panasonic cables 5.0 meters long or shorter for enjoying 1125p\*2 (1080p) pictures. They prevent picture degradation.
- The audio signal transmitted through HDMI takes priority when you use both HDMI and digital terminals (⇒ pages 16 to 19) for connection.
- The "HDMI" indicator stays on while you enjoy sound and pictures through HDMI connections.



\*1 Content Protection for Pre-recorded Media (CPPM): This copyright protection technology prevents copying of DVD-Audio files.

\*2 1125p (1080p): a progressive (non-interlace) scanning system that sends 1,125 scan lines every 1/60 second.

# Connections

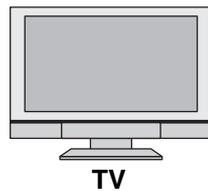
## Connecting cables to video and audio terminals (to use the TV, DVD recorder, DVD player, VCR)

### Connection cable (All cables are sold separately)

Video cable		
Video connection cable		
		
Audio cable		
Optical fiber cable	Coaxial cable	Stereo connection cable
		 White (L) Red (R)

#### Changing the digital input settings

For example, you can connect the unit to a DVD player that makes optical output only by performing the steps instructed in "Changing the digital input settings" (→ page 41).



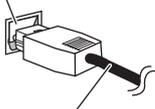
#### VIDEO IN

- To enjoy TV with surround sound, make additional connections instructed on page 19.

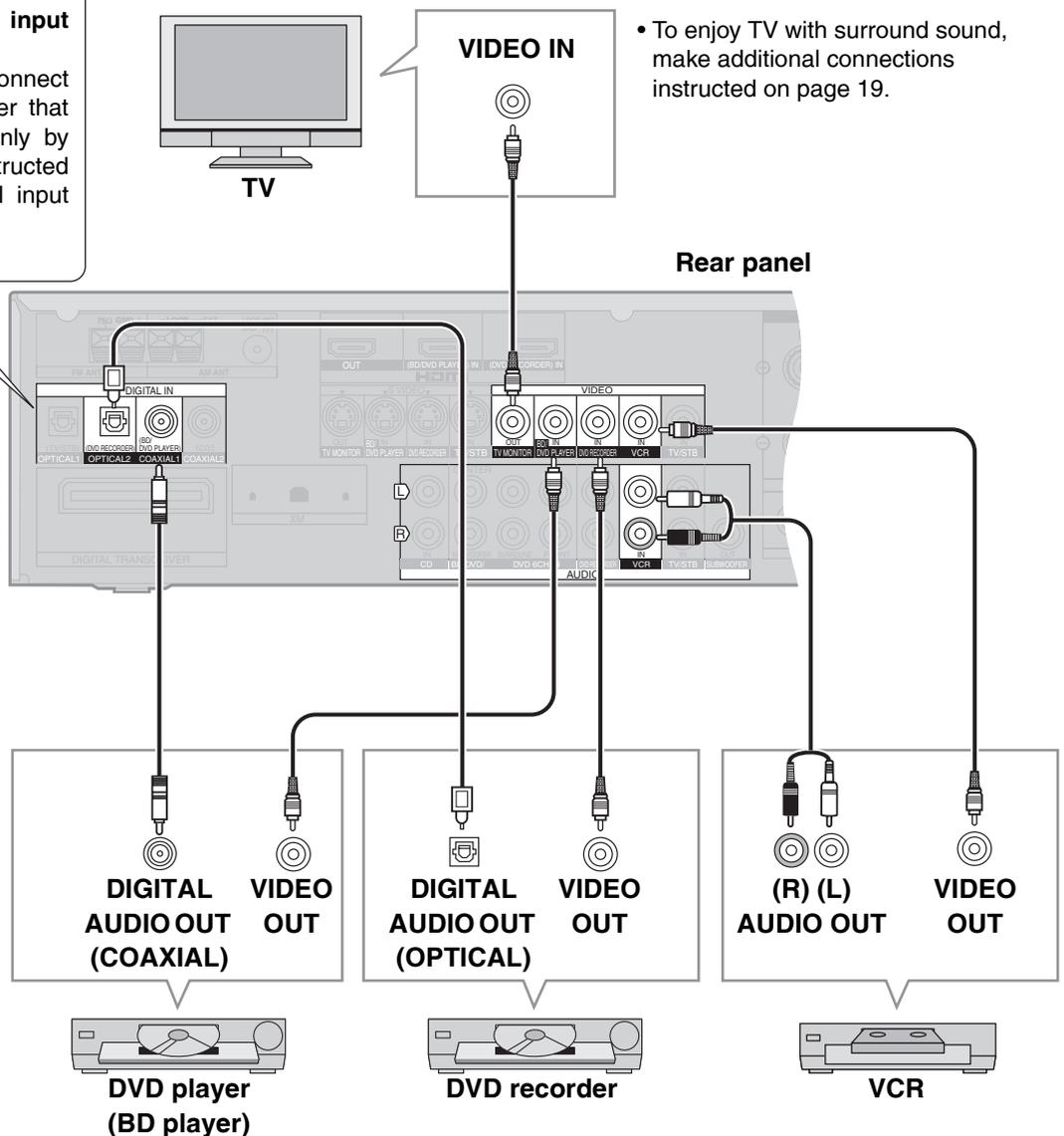
#### Rear panel

#### How to connect the optical fiber cable

Insert the cable after making sure shapes match.



Do not sharply bend the optical fiber cable.



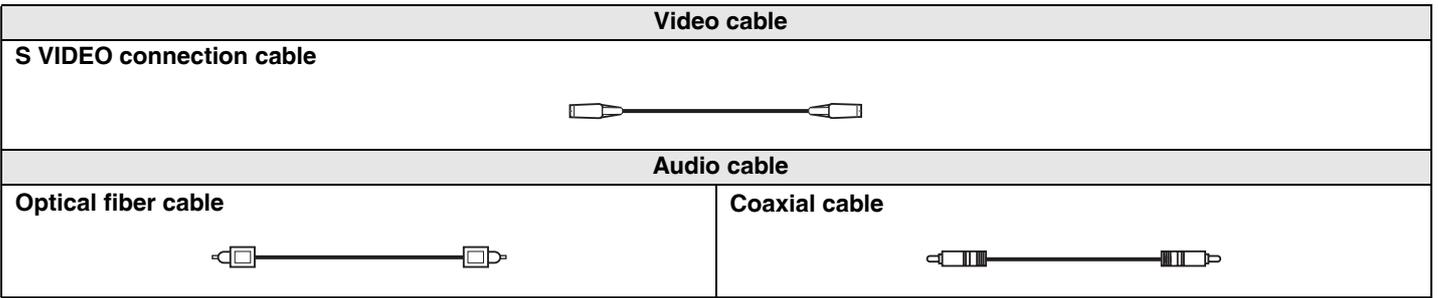
#### Note

- The input video signal can be sent out through an output terminal of the same type only.
- See page 21 for connecting the unit to a cable box or satellite receiver.

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

## Connecting cables to S video and audio terminals (to use the TV, DVD recorder, DVD player)

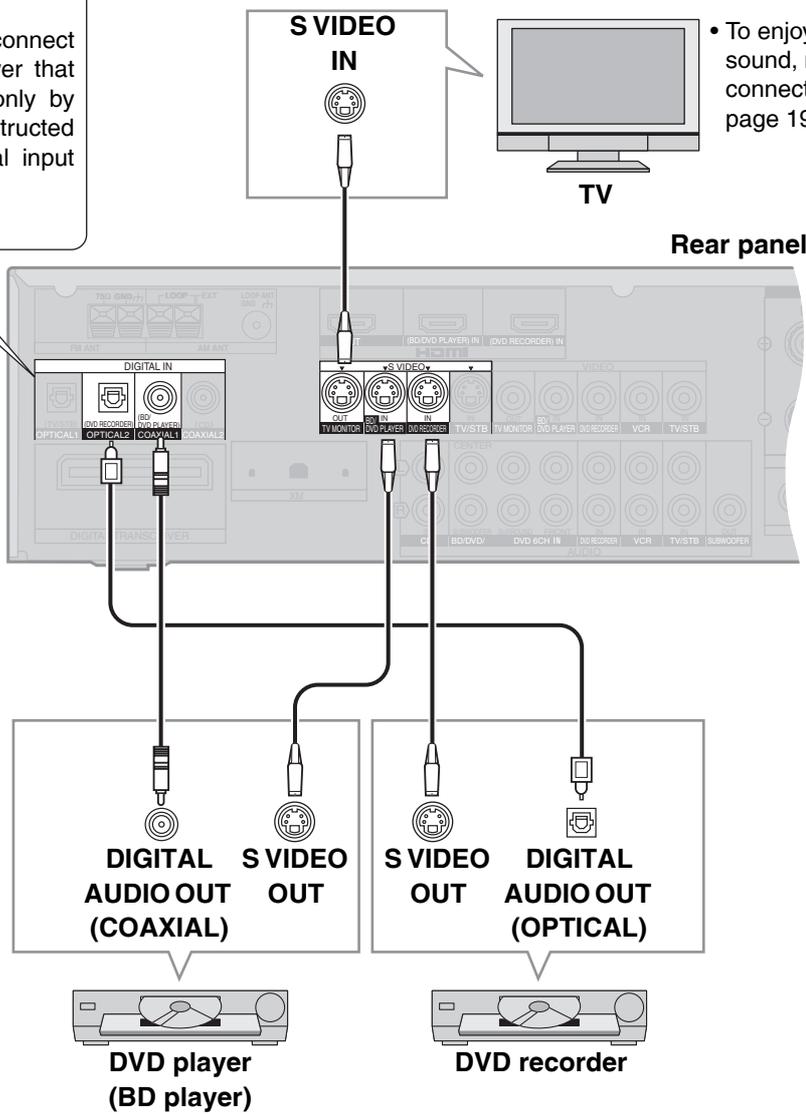
Connection cable (All cables are sold separately)



**Changing the digital input settings**  
For example, you can connect the unit to a DVD player that makes optical output only by performing the steps instructed in “Changing the digital input settings” (→ page 41).

• To enjoy TV with surround sound, make additional connections instructed on page 19.

**How to connect the optical fiber cable**  
Insert the cable after making sure shapes match.  
Do not sharply bend the optical fiber cable.



**Note**

- The input video signal can be sent out through an output terminal of the same type only.
- See page 21 for connecting the unit to a cable box or satellite receiver.

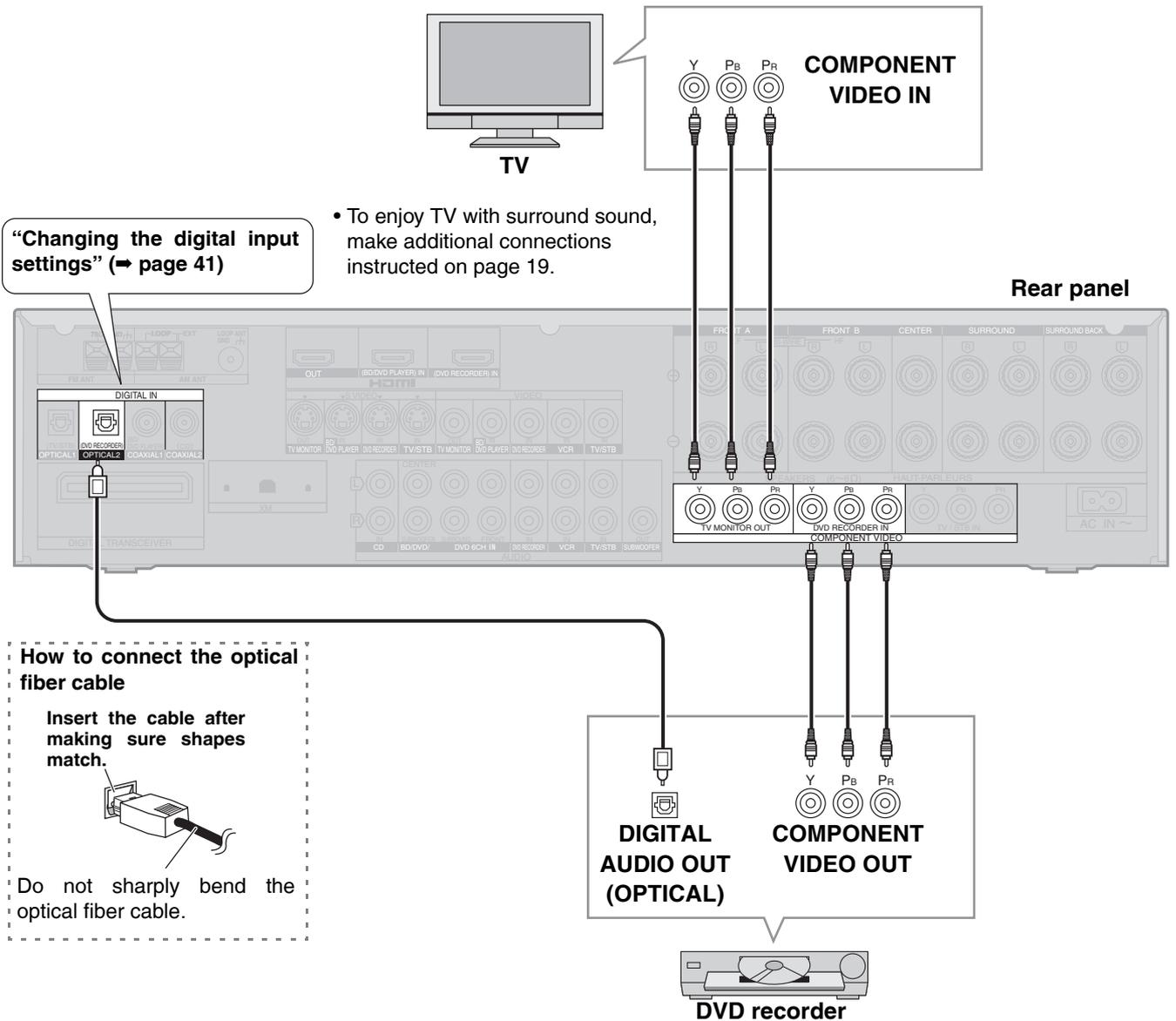
# Connections

## Connecting cables to component and audio terminals (to use the TV and DVD recorder)

The component video terminals can produce more accurate colors than the S video terminals (→ page 17).

### Connection cable (All cables are sold separately)

Video cable	Audio cable
Video connection cable 	Optical fiber cable 



### Component video terminals

The component video terminals (color-difference video terminals) output red (P<sub>R</sub>), blue (P<sub>B</sub>), and luminance (Y) signals separately. The terminals reproduce colors with greater accuracy for this reason.

### Note

- The input video signal can be sent out through an output terminal of the same type only.
- See page 21 for connecting the unit to a cable box or satellite receiver.

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

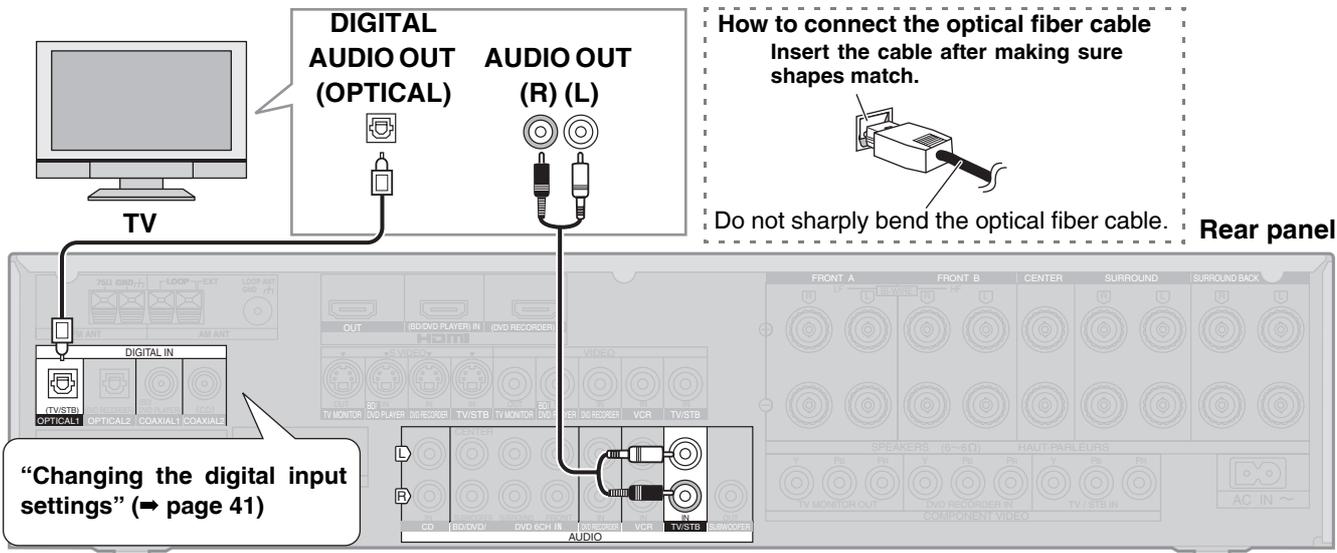
## Other connections

### Connection cable (All cables are sold separately)

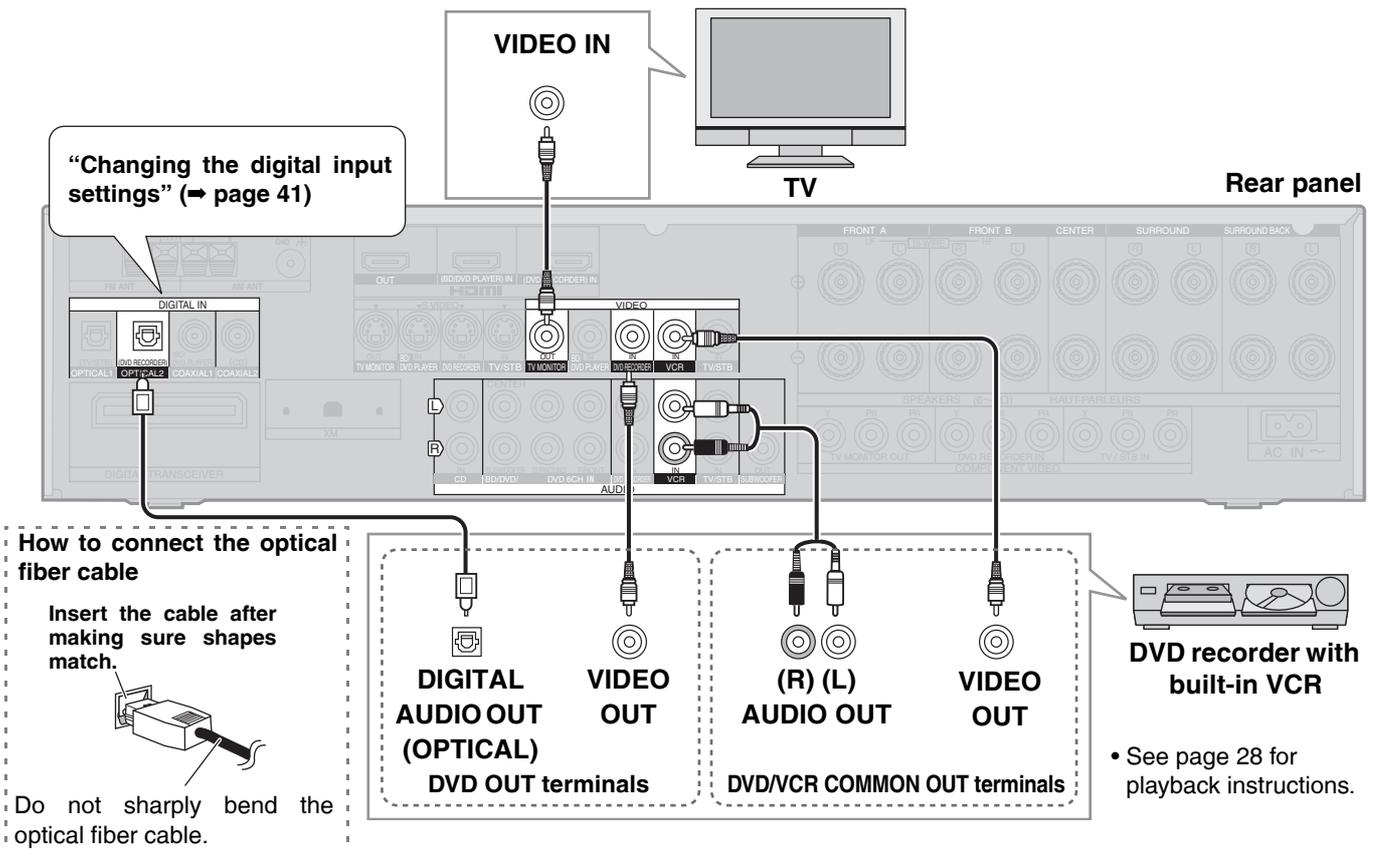
<b>Video cable</b>	
Video connection cable 	
<b>Audio cable</b>	
Optical fiber cable 	Stereo connection cable 

### To enjoy TV with surround sound

- Make the following connections in addition to those instructed on pages 16 to 18.**
- Speakers produce sounds when you make connections for either digital audio (OPTICAL) output or analog audio output. Make connections according to your equipment and preference.
  - Use the optical fiber cable for connection when your TV has the digital output terminal.



### To connect a DVD recorder with built-in VCR



# Connections

## Other connections

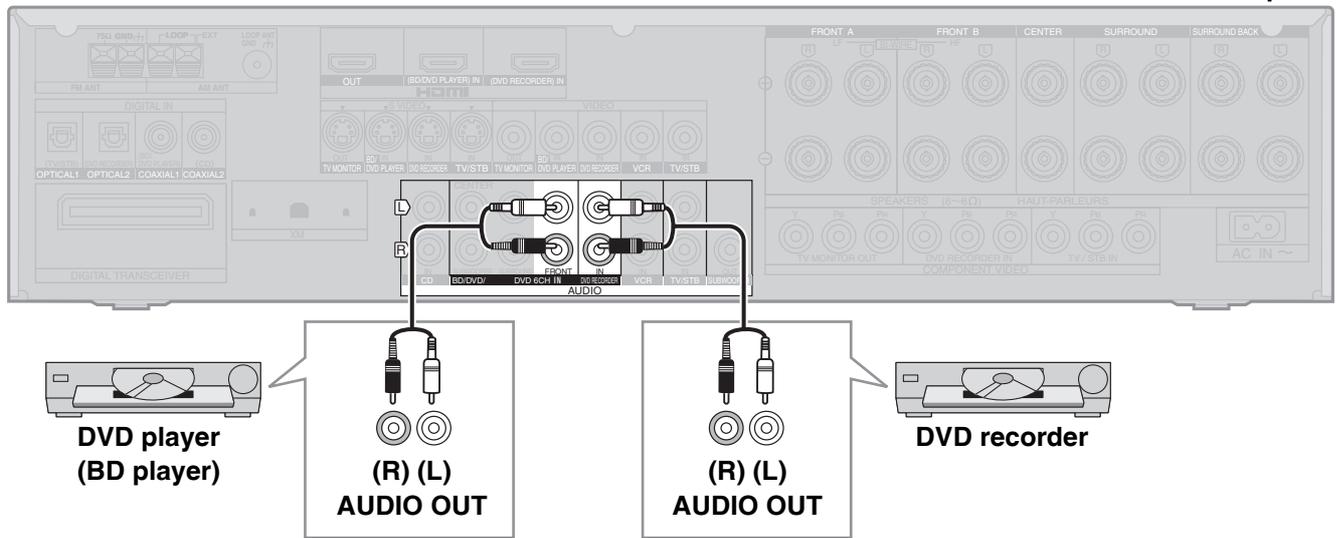
Connection cable (All cables are sold separately)

Video cable		
Video connection cable 	S VIDEO connection cable 	
Audio cable		
Optical fiber cable 	Coaxial cable 	Stereo connection cable  White (L) Red (R)

## To enjoy analog sounds

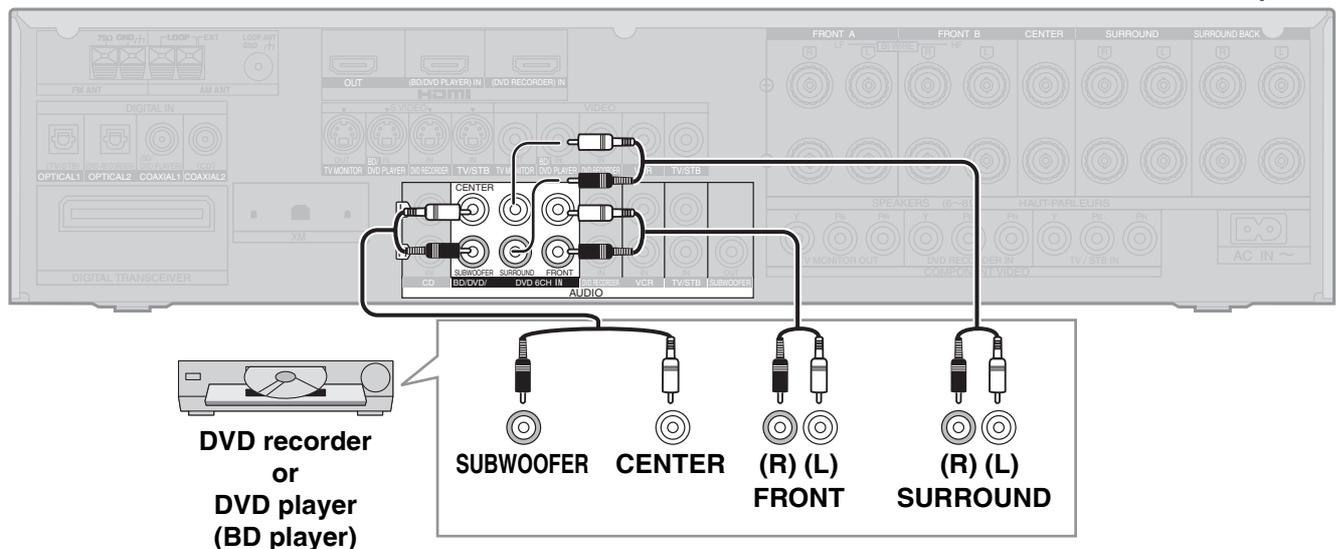
Make analog connections according to your equipment and preference. See pages 16 to 18 for video connections.

Rear panel



## To enjoy high-quality analog sounds using DVD-Audio discs (DVD analog 6-channel connections)

Rear panel

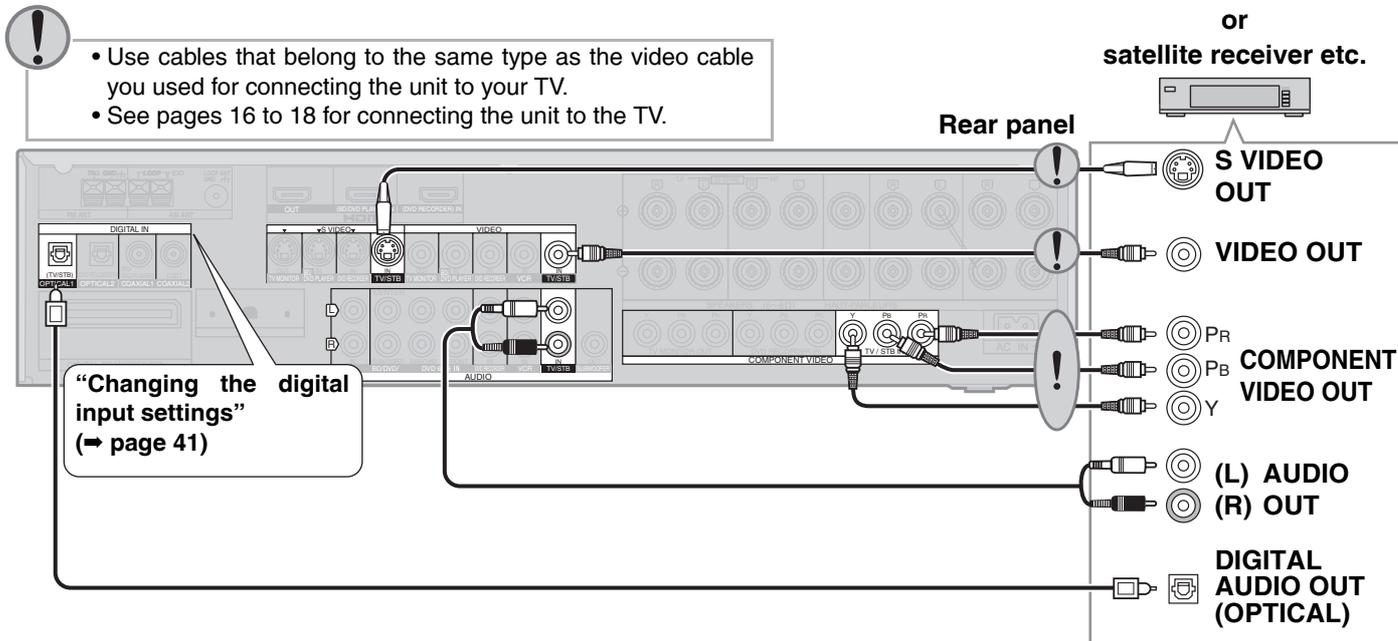


• See page 29 for playback instructions.

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

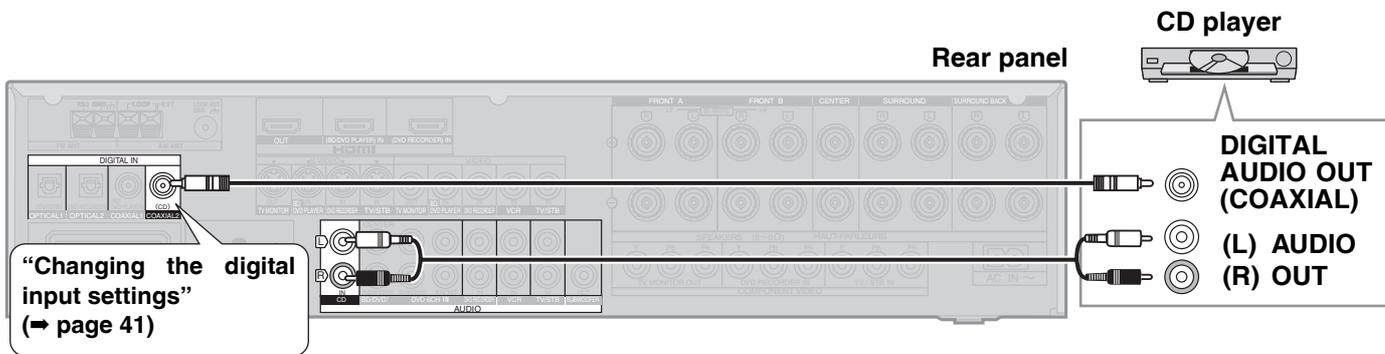
### To connect the unit to a cable box or satellite receiver etc.

Make either digital audio (OPTICAL) output connections or analog audio output connections according to your equipment and preference.



### To connect the unit to a CD player

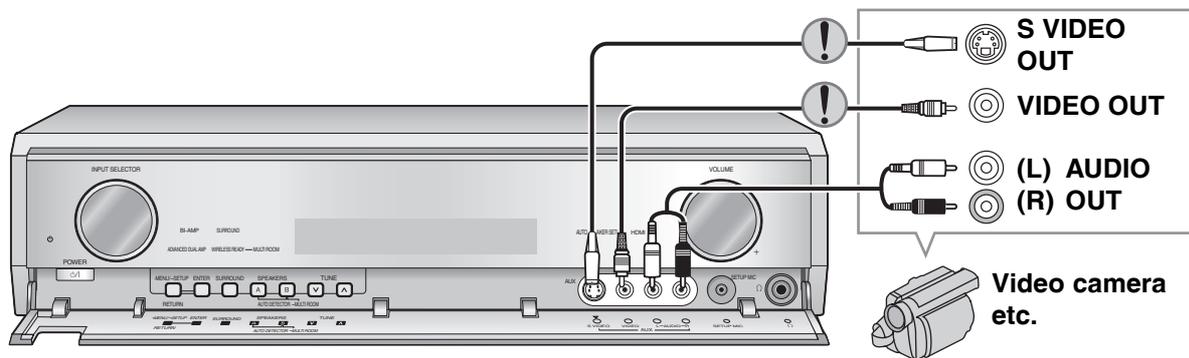
Make either digital audio (COAXIAL) output connections or analog audio output connections according to your equipment and preference.



### To connect the unit to a video camera or game player etc.

These terminals are convenient for equipment you want to connect only temporarily.

- Use a cable that belongs to the same type as the video cable you used for connecting the unit to your TV.
- See pages 16 and 17 for connecting the unit to the TV.



# Connections

## Bi-wiring connections

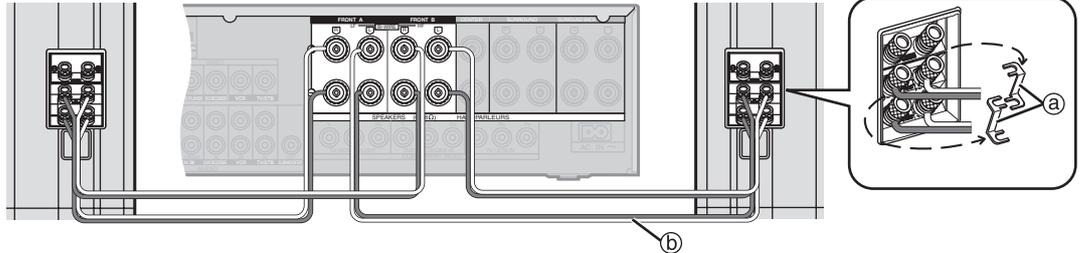
The front speakers come with separate mid/high-range (HF) and low-range (LF) terminals.

- Bi-wiring prevents high frequency and low frequency signals from interfering with each other. It offers playback in high audio quality.
- HF and LF stand for high frequency and low frequency, respectively.
- When the front speaker is connected through bi-wire connection, be sure to set “Making bi-wire setting” (⇒ below) to “YES” before performing the auto speaker setup (⇒ pages 26 and 27). Otherwise, the auto speaker setup cannot correctly adjust the audio to ELS surround characteristic.

Front speaker (R)  
Rear view

Rear panel

Front speaker (L)  
Rear view



Speaker impedance  
BI-WIRE: 6 to 8 Ω

Ⓐ The shorting bars

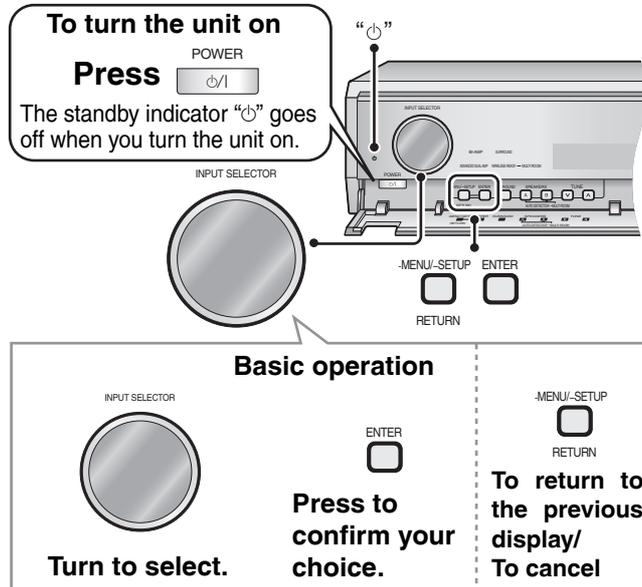
Ⓑ Speaker cable

Remove the shorting bars Ⓐ (but be sure to keep them in a safe place).

○○ **Note** ○○

- Make sure to connect speakers' HF terminals with the unit's FRONT B terminals, and speakers' LF terminals with the unit's FRONT A terminals.
- Different amps for high frequency and low frequency signals produce BI-AMP stereo sounds that are clearer and higher in audio quality when you play on 2 channels sources containing analog audio and 2-channel PCM signals (⇒ page 29).
- Set the speaker selector switch on the receiver to A/B (both A and B).

## Making bi-wire setting



1 Press and hold [-MENU/-SETUP, RETURN] for about 2 seconds to enter the SETUP.

2 Select and confirm the choice.

LR BI-WIRE

3 Select and confirm the choice.

YES

YES : When connected through bi-wire connection  
NO : When not connected through bi-wire connection  
Factory setting: NO

4 Press [-MENU/-SETUP, RETURN] to select “EXIT” and press [ENTER].

EXIT

○○ **Note** ○○

- See “Making BI-AMP settings” (⇒ page 40) for detailed settings.
- Be sure to make this setting before performing the auto speaker setup (⇒ pages 26 and 27) if this setting is made afterwards, the setting value of the auto speaker setup is initialized and ELS Surround sound cannot be properly played back.

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

## Connecting other speakers

You can connect other speakers than the speakers specific for this system. However, ELS Surround sound cannot be properly played back.

### When connecting other speakers

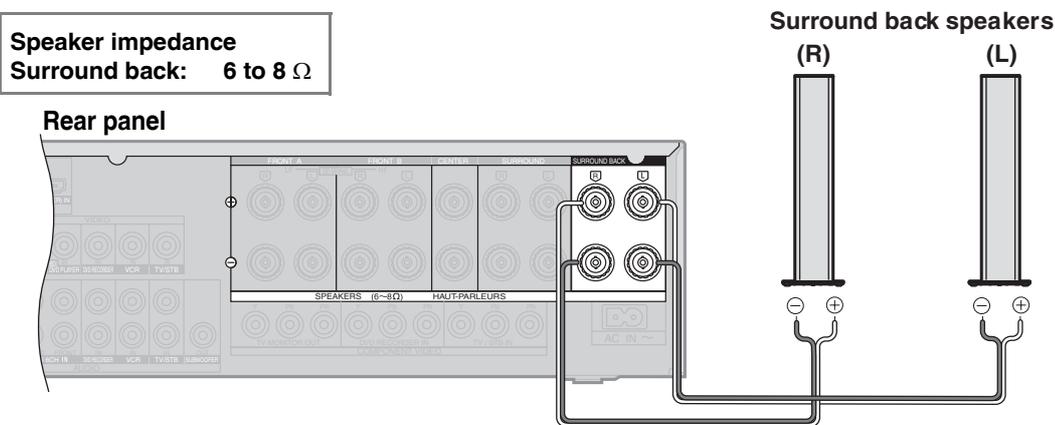
#### ■ Auto speaker setup

- When the subwoofer is connected, make sure it is turned on. (There are subwoofer models that turn off automatically.)
- Such factors as speaker types, room conditions and speaker placement may cause the unit to set speaker size, lowpass filter frequency and other items differently for the same type of speakers or produce settings that differ from the actual characteristics of respective speakers. When sound from speakers seems odd, check the following settings. When you find undesirable settings, correct them manually. See “Setting speakers and their sizes”, “Setting distances” and “Setting the lowpass filter” (➔ page 39).
- When left and right speakers differ in size, they are set as “SMALL”.
- When surround speakers and surround back speakers differ in size, they are set as “SMALL”.

#### ■ Playback

- The unit is compatible with linear PCM 7.1 channel surround signals decoded by the BD player and other equipment (up to 96 kHz/24 bit). See the operating instructions for equipment used for playback.

## Connecting surround back speakers



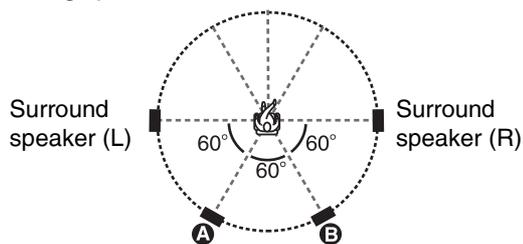
#### ○ ○ Note ○ ○

Use the terminal for the left speaker when you connect one surround back speaker only.

### Setting surround back speakers

#### Surround back speakers

(A left, B right)



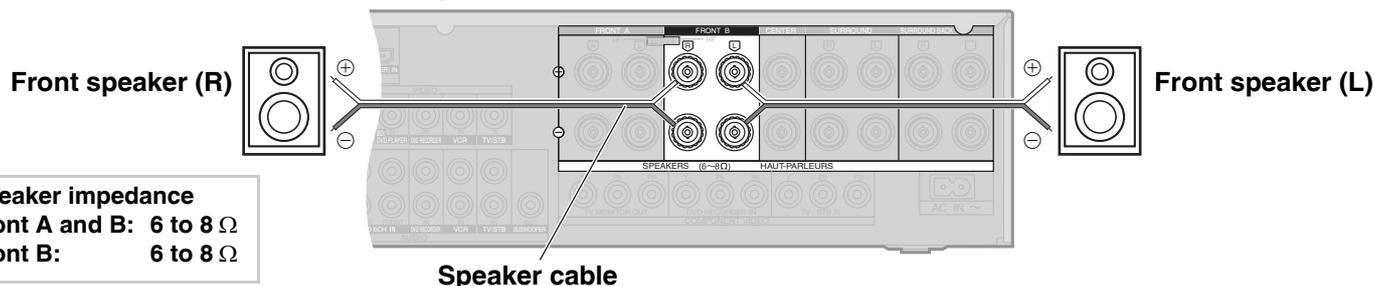
Place behind the seating area, about 1 meter (3.3 ft.) higher than ear level.

When you do not install any surround back speaker, sound assigned to them is distributed to surround speakers or front speakers and output from them.

## To connect a second pair of front speakers

Make the following connections when you wish to install a second pair of speakers in another room and enjoy music there.

### Rear panel



**Speaker impedance**  
**Front A and B: 6 to 8 Ω**  
**Front B: 6 to 8 Ω**

#### ○ ○ Note ○ ○

- “Auto speaker setup using the setup microphone” (➔ pages 26 and 27) is unavailable for speakers connected to the FRONT B terminals.
- Select “SPEAKERS B” when you wish to enjoy sounds from speakers connected to the FRONT B terminals (➔ page 29).
- If you select “SPEAKERS B” only, playback is 2-channel stereo. When a surround source is played, the sounds intended for all the speakers are played through the front left and front right speakers (2CH MIX).

# Connections

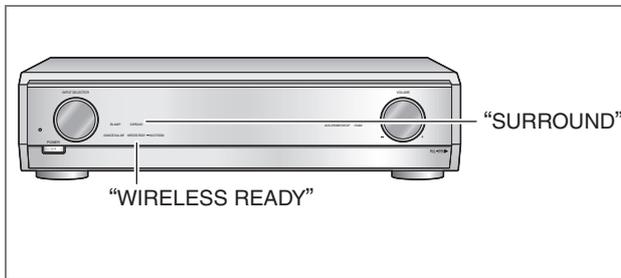
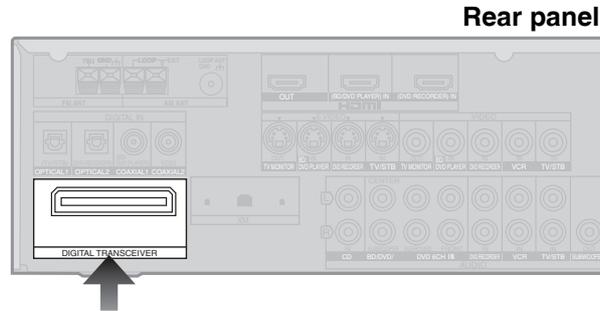
## Connecting other speakers

### Making surround speakers wireless with SH-FX50/SH-FX60

You can connect left and right surround speakers wirelessly by using Panasonic SH-FX50/SH-FX60 (a set consisting of a digital transceiver and a wireless system sold separately) with the unit.

To use this option, insert the digital transceiver into the unit's digital transceiver terminal and connect surround speakers to SH-FX50/SH-FX60's wireless system.

- See SH-FX50/SH-FX60's operating instructions for details.



The "WIRELESS READY" indicator stays on while the digital transceiver is in.

The indicator may stay off, go off or flash in the following cases.

**The indicator stays off:**

- When the "SURROUND" indicator is off
- When surround speakers are set as absent (⇒ pages 26, 27, 35 and 39)

**The indicator flashes:**

- When radio waves are interrupted (when SH-FX50/SH-FX60 is off)

#### Note

- Audio output changes as follows when you use surround speakers wirelessly.
  - The maximum number of playback channels is 5.1. Surround back speakers become unavailable. Sounds assigned to them are consolidated and output from surround speakers on the left and right.
  - Left and right surround terminals on the unit make no audio output. (No audio is output from the terminals while the "WIRELESS READY" indicator is flashing.)
- Make sure to turn the unit off before inserting or removing the digital transceiver.
- Surround speakers are set as connected when you perform automatic speaker detection (⇒ page 35).
- SH-FX60's "2-way wireless" function becomes unavailable.
- This function is unavailable when you select "**MULTI ROOM**" in "Making MULTI ROOM setting" (⇒ page 41).

**To perform the auto speaker setup using the supplied setup microphone:**

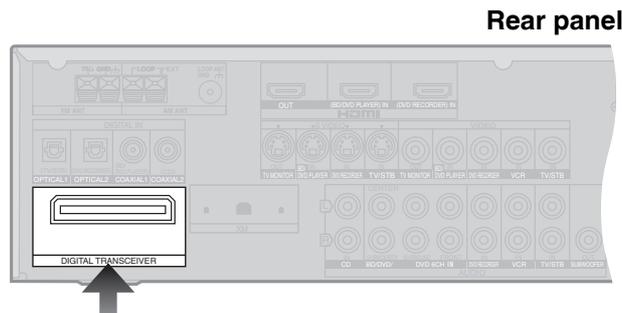
Settings made with the setup microphone are canceled when you insert or remove the transceiver after performing the setup.

### Sending audio to another room with SH-FX80

You can enjoy music wirelessly in another room (MULTI ROOM) by installing Panasonic SH-FX80 (a set consisting of a digital transceiver and a wireless system sold separately).

Insert SH-FX80's digital transceiver into the unit's digital transceiver terminal.

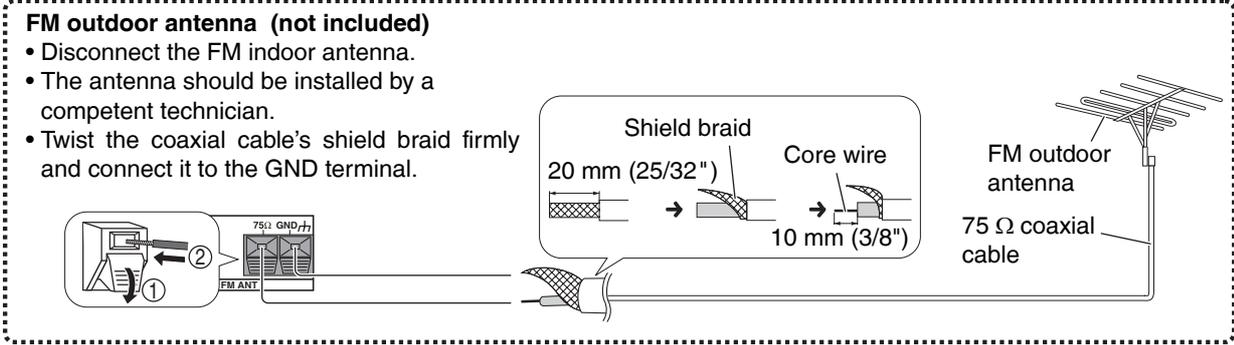
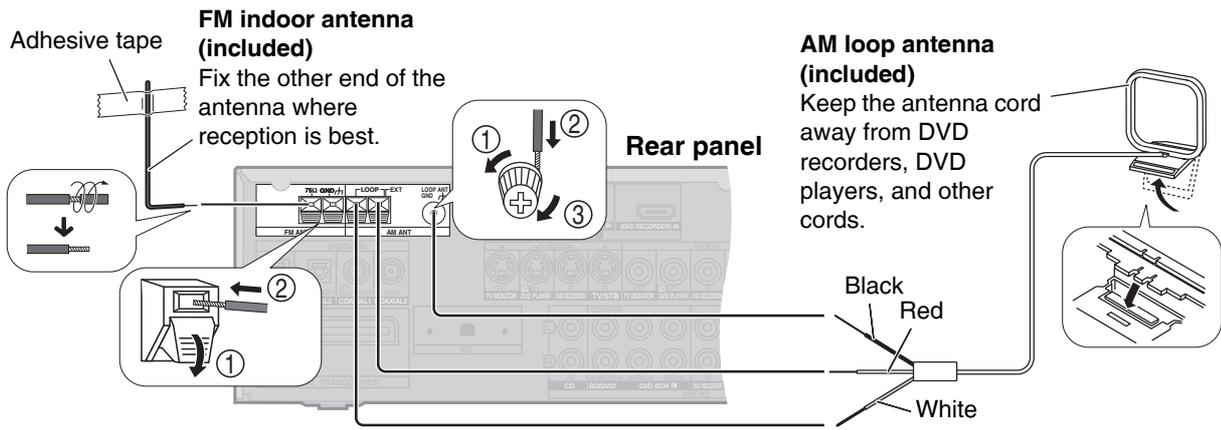
- See SH-FX80's operating instructions for details.
- To use this function, make sure to select "**MULTI ROOM**" in "Making MULTI ROOM setting" (⇒ page 41). The speakers do not produce adequate sounds unless you make this setting.



- Make sure to turn the unit off before inserting or removing the digital transceiver.

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

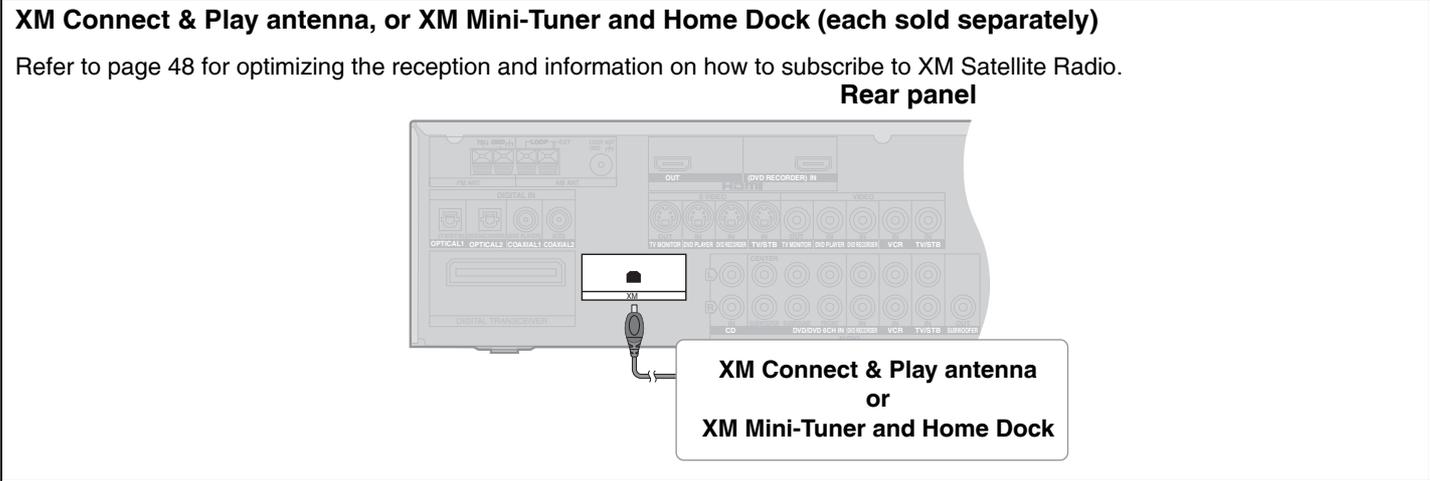
## Connecting antennas



## Connecting XM Connect & Play antenna or XM Mini-Tuner and Home Dock

You can enjoy XM Satellite Radio on this unit by connecting the XM Connect & Play antenna, or XM Mini-Tuner and Home Dock (each sold separately).

- XM monthly service subscription is required to receive XM Satellite Radio.



# Auto speaker setup using the setup microphone

- Using the supplied setup microphone, you can measure such items as distance from the seating area and polarity and make adjustment for connected speakers.
- For ELS Surround playback, perform the auto speaker setup and light up the “AUTO SPEAKER SETUP” indicator.
- The unit considers seven speakers and one subwoofer are connected to the unit (keeps factory settings) unless you perform these steps.

Keep quiet during the auto speaker setup. Conversational voice, air-conditioning noise and faint sounds made by wind may cause an error or produce an incorrect setting. Speakers output loud test signals during the auto speaker setup. Make sure to keep little children out of the room.

## Preparation

- Mute the TV volume before starting the auto speaker setup.
  - Make sure that the subwoofer is turned “ON”.
- Set the subwoofer volume to the normal listening level.



**To cancel the setup halfway**  
Press [TEST, -AUTO].

- ### 1 To turn the unit on

Press **POWER**

  - The standby indicator “**⏻**” goes off when you turn the unit on.
- ### 2 To select “SPEAKERS A”

Press **SPEAKERS A** (on the unit) to switch “**A**” on.
- ### 3 Connect the setup microphone.
- ### 4 Place the setup microphone.

  - Place the setup microphone on a flat surface to stabilize it.  
Examples: a level bench sharing the height with the seating area, a top section of a sofa etc..
  - Set the microphone at seated ear height.  
Use a tripod (for camera and other products) for best results.
- ### 5 To start the setup

Press and hold **-AUTO TEST** (on the remote control) for 2 seconds.

  - The “AUTO SPEAKER SETUP” indicator flashes.
  - When all auto settings are made, “**COMPLETE**” appears and the “AUTO SPEAKER SETUP” indicator lights on.
  - The auto speaker setup takes about 3 minutes to finish in the case of a 5.1-channel system.
  - The unit cancels the auto speaker setup halfway through when you give a different operational instruction before the setup finishes.
  - You can perform other operations after “**COMPLETE**” is displayed. The unit keeps the settings even if you move straight on to another operation.
- ### 6 To finish the setup

Press **-AUTO TEST** (on the remote control).

  - The unit turns off and on in quick succession for completing the setup.
  - Unplug the setup microphone when the setup is finished.

## Note

- The volume may reach an extremely high level when you repeat the auto speaker setup.  
When the auto speaker setup is finished, check the volume before starting playback.
- These settings remain effective after the unit goes off.
- The setup microphone jack is for use with the setup microphone only. Do not connect other microphones.
- The setup microphone is sensitive to heat. Keep it away from direct sunlight and avoid placing it on top of the unit.

**With the setup microphone, the unit automatically sets the following.**

- STEP1**    **DISTANCE** : The unit measures the distance between each speaker and the seating area and corrects the sound delay in the seating area. The maximum speaker distance for correcting the delay is 15 meters (45 feet).  
**POLARITY** : The unit checks the polarity of each speaker and, when the polarity is wrong, corrects it.  
 Select “**CHECK NO**” in “Setting the unit against automatic polarity adjustment” (⇒ page 40) before starting the auto speaker setup when you do not want the unit to adjust polarity automatically.
- STEP2**    **SIZE** : The unit sets the speaker characteristics as follows. Size: SMALL, Lowpass Filter: 100 Hz
- STEP3**    **LEVEL** : The unit checks the output level of each speaker and makes adjustment.

**Error messages**

When one of the following error messages appears, press [TEST, –AUTO] to cancel and perform the auto speaker setup again.

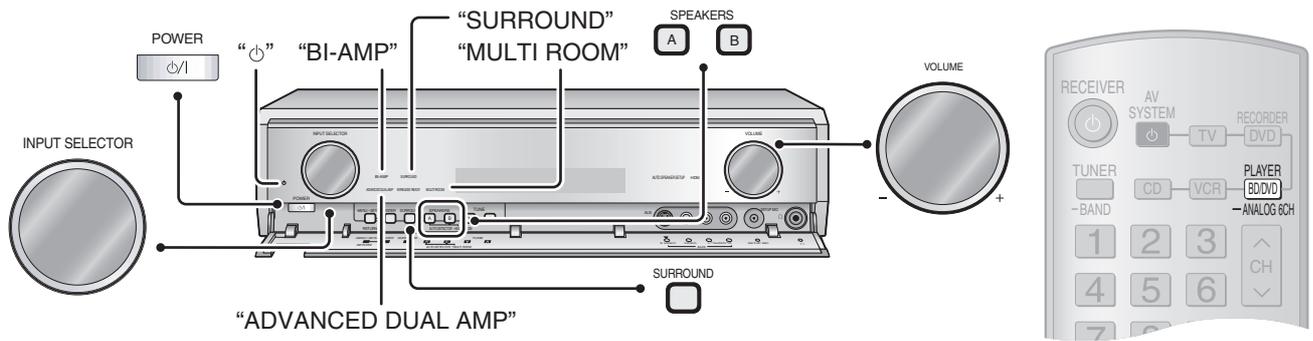
Message	Cause	Countermeasure
CONNECT MIC	• The setup microphone is not connected.	• Connect the setup microphone properly.
NO SIGNAL	• The setup microphone does not catch test signals.	• Check if the microphone is placed properly.
NOISY	• Loud noise is preventing measurement.	• Perform the auto speaker setup again when the room is quiet. • Turn off an air-conditioner and other equipment that are producing noise.
MEASURING ERROR	• A speaker is too far. • An error occurred from an unknown cause.	• Check speaker locations. • Perform the setup again.
CHECK CONNECTION TO SBL SPEAKER	• The right surround back speaker was detected, but the left surround back speaker was not detected.	• Connect to the left surround back speaker terminal when you connect only one surround back speaker. • Check the left surround back speaker's connections.
NEED TO CONNECT LS/RS SPEAKERS	• Surround back speakers were detected, but left and right surround speakers were not detected.	• Connect surround speakers as well when you connect surround back speakers.
CHECK CONNECTIONS TO LS/RS SPEAKERS	• Unable to detect one or both of the two surround speakers.	• Check connections.
CHECK CONNECTIONS TO L/R SPEAKERS	• Unable to detect one or both of the two front speakers.	• Check connections.
LOW SIGNAL	• Test signals from the speakers are too weak to allow accurate measurement with the microphone.	• Change the microphone location (height, direction etc.). • Check if there is any obstacle near a speaker that is blocking the test signals. • Set the subwoofer volume to the normal listening level.

○○○ **Note** ○○○

- Speaker placement, speaker directions and other conditions may prevent correct setting.
- Left and right front speakers are set as “LARGE” even if their size is “SMALL” when you perform the auto speaker setup without connecting the subwoofer. (ELS Surround sound cannot be properly played back.)
- The connection status is set and the level is adjusted for the subwoofer.
- The unit does not detect or correct polarity of left and right front speakers when you select “YES” in “Making bi-wire setting” (⇒ page 22).
- EZ Sync “HDAVI Control” (⇒ page 32) does not work during the auto speaker setup.
- The auto speaker setup is unavailable while muting (⇒ page 35) is on.
- If error messages such as “**LOW SIGNAL**” appear, the speaker placement may be out of recommended range of ELS. We recommend you place the speakers within 7 m (23 feet) from the microphone.
- Speakers whose polarity was automatically adjusted are displayed with “–” such as “**L 10.0 –**” (⇒ page 39).
- If you change the settings manually after the performing the auto speaker setup, ELS Surround sound cannot be properly played back.

 **When the “AUTO SPEAKER SETUP” indicator is off after the auto speaker setup:**  
 Auto speaker settings have been canceled as a result of various setting changes.

# Enjoying the Home Theater



## 1 To turn the unit on

Press 

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

**Note**

Do not forget to perform the auto speaker setup (⇒ pages 26 and 27) when you play a source with the unit for the first time.

## 2 To select "SPEAKERS A"

Press  to switch "A" on.



 To use bi-wire speakers (⇒ page 22)

Press [SPEAKERS A] or [SPEAKERS B] to switch "A" or "B" on.



 To enjoy BI-AMP stereo sounds  
See page 29.

## 3 To switch input sources

- Select the connected terminal when the names of the terminal and equipment you wish to use for playback do not match.

(e.g.)



TUNER FM → TUNER AM → TUNER XM → CD  
AUX ← VCR ← DVR ← BD/DVD ← TV/STB

- When you select "DVR", "DVD RECORDER" scrolls across the display once.
- You can also select an input source using the remote control (⇒ page 6).

Turn 

 To use a DVD recorder with built-in VCR (⇒ page 19)

- To play a DVD: select "DVR"
- To play a video cassette: select "VCR"

## 4 Play the selected input source.

 To switch between 2-channel stereo playback and surround playback  
Press [SURROUND].

## 5 To adjust the volume

Turn 



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

## To finish the Home Theater

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

### Digital signals this unit can play:

Dolby Digital (including Dolby Digital Surround EX), DTS (including DTS-ES and DTS 96/24) and PCM (⇒ page 55)

**Note**

- The unit memorizes whether [SURROUND] has been pressed on or off for each input source.
- The setting always switches from off to on when the input comes from a surround source in Dolby Digital, DTS or other formats.
- When you press [SURROUND] off while playing a surround source (excluding a DVD-Audio source that does not allow down-mixing), 2-channel mix (2CH MIX) activates.  
2-channel mix is canceled when you turn the unit off or when you switch input sources.
- The "SURROUND" indicator goes off when the sampling frequency for the input signal is higher than 96 kHz.
- The number of source channels appears on the display when a digital signal is input or input sources are switched. (Their number may not appear depending on the selected source.)



Subwoofer

Number of surround and surround back channels

Number of front and center channels

<b>Using SPEAKERS B</b>	Sound is output from the speakers connected to the <b>FRONT B</b> terminals on this unit. Press  to switch " <b>B</b> " on.	 To turn off speakers connected to the <b>FRONT A</b> terminals Switch " <b>A</b> " on the display off by pressing [SPEAKERS A].
<b>MULTI ROOM</b>	<b>The wireless speaker unit outputs 2-channel stereo sound.</b> <b>Preparation</b> Select " <b>MULTI ROOM</b> " in "Making MULTI ROOM setting" (⇒ page 41). Press and hold  for 2 seconds.	<ul style="list-style-type: none"> <li>When the function is on, the "MULTI ROOM" indicator lights on.</li> <li>This function is not available while muting is on.</li> </ul>
<b>ADVANCED DUAL AMP</b>	<b>ADVANCED DUAL AMP</b> activates automatically when you use 2-channel stereo playback or 5.1-channel playback. The "ADVANCED DUAL AMP" indicator stays on while this function is on.	<ul style="list-style-type: none"> <li>You can also set the ADVANCED DUAL AMP off (⇒ page 40).</li> </ul>
<b>BI-AMP</b>	<b>This function activates automatically when you play analog audio sources or 2-channel PCM signals through bi-wire connections.</b> <b>Preparation</b> <ul style="list-style-type: none"> <li>Connect bi-wire speakers (⇒ page 22).</li> <li>Select "<b>YES</b>" in "Making bi-wire setting" (⇒ page 22).</li> <li>Press [SURROUND] off (⇒ page 28).</li> </ul>	<ul style="list-style-type: none"> <li>The "BI-AMP" indicator stays on while BI-AMP is at work.</li> <li>Refer to "Making BI-AMP settings" (⇒ page 40) for detailed settings.</li> </ul>
<b>Playing DVD-Audio</b>	<b>Enjoying DVD-Audio sources through digital connections</b>	Connect the unit to a DVD recorder or DVD player using the HDMI cable (⇒ page 15) or a digital cable (COAXIAL1) (⇒ pages 16 and 17).
	<b>Playing DVD ANALOG 6CH</b>	<b>Preparation</b> <ul style="list-style-type: none"> <li>Make analog 6-channel connections (⇒ page 20).</li> <li>Select "SPEAKERS A" or turn bi-wire speakers on (⇒ page 28).</li> <li>Switch the input source to "<b>BD/DVD</b>" (⇒ page 28).</li> </ul> Press and hold  until " <b>DVD 6CH</b> " is displayed. 
	<b>Enjoying high quality 2-channel analog sounds</b>	<b>You can enjoy high quality stereo sound with 192 kHz 2-channel DVD-Audio.</b> <ol style="list-style-type: none"> <li>Cancel the "<b>DVD 6CH</b>" setting (⇒ above).</li> <li>Set the input signal to "<b>ANALOG</b>" in "Setting input signals" (⇒ page 41).</li> </ol>

○○○ **Note** ○○○

**SPEAKERS B**

- Playback is in 2-channel stereo when you select "SPEAKERS B" only.
- When only "SPEAKERS B" is selected and the input source is surround, "2CH MIX" appears on the display.
- Selected speakers output sounds assigned to front 2 channels when you make DVD ANALOG 6CH connections.
- If you select "SPEAKERS B" only, the following are set automatically irrespective of settings selected in "Setting speakers and their sizes" (⇒ page 39).  
 Speaker size: "**LARGE**"  
 Subwoofer: "**NO**" (Bass is output from the front speakers.)
- Settings made through the auto speaker setup (⇒ pages 26 and 27) do not affect the setting for SPEAKERS B.
- ELS Surround sound cannot be properly played back.

**MULTI ROOM**

- When you press [SPEAKERS A] or [SPEAKERS B], consolidated 2-channel stereo sound is output from front and surround speakers (in the original room).  
 MULTI ROOM is canceled when you press [SPEAKERS A] or [SPEAKERS B].
- ELS Surround sound cannot be properly played back.
- BI-AMP or ADVANCED DUAL AMP turns off when you perform MULTI ROOM playback.
- "**SPEAKERS ARE OFF**" is displayed when you press and hold [SPEAKERS B] for 2 seconds without selecting "SPEAKERS A" and "SPEAKERS B".

**ADVANCED DUAL AMP (⇒ page 55)**

- The unit takes advantage of unused amps, and runs one speaker with 2 amps when this function is on. ADVANCED DUAL AMP offers you sounds that are clearer and higher in audio quality than those available in normal playback. In 2-channel stereo playback, 3 speaker amps drive front speakers. The operation is called the triple amp mode.

- 2-channel stereo playback: Front, surround and surround back speaker amps are used for driving front speakers (triple amp mode).
- 5.1-channel playback: Front and surround back speaker amps are used for driving front speakers (dual amp mode).
- When surround speakers are connected wirelessly (⇒ page 24), the unit uses the wireless system amp for 5.1-channel playback. Under the condition, front speakers are driven in the triple amp mode.

**BI-AMP (⇒ page 55)**

- The unit takes advantage of the front speaker and the surround speaker amps, and drives the speakers' high-frequency and low-frequency ranges separately when this function is on.
- ADVANCED DUAL AMP is available with BI-AMP. When combined, the two functions enhance clarity and audio quality of stereo sounds.
- When you make bi-wire setting (⇒ page 22), both BI-AMP and ADVANCED DUAL AMP take effect as long as overlap is possible. In such case, ADVANCED DUAL AMP activates in the dual amp mode. Select "**OFF**" in "Canceling BI-AMP (using the triple amp mode)" (⇒ page 40) when you wish to use the triple amp mode.
- In 2-channel playback of PCM signal, when its sampling frequency is 176.4 kHz and 192 kHz, BI-AMP is turned OFF and ADVANCED DUAL AMP is turned ON.
- You cannot use BI-AMP with analog 6-channel connections for DVD-Audio sources.

**Playing DVD-Audio**

- Make the following speaker settings on the DVD recorder or the DVD player. (They are normal factory settings for the DVD recorder and the DVD player.)
- Speaker size: "**LARGE**" for all speakers
  - Speaker presence: present for all speakers
  - Distance setting: 0 or an equal distance for all speakers

# Listening to surround sound

You can add surround effects or create surround sound from 2-channel stereo sources.



## Note

- Speaker output levels set with the setup microphone (→ pages 26 and 27) apply to Dolby Pro Logic IIx, NEO:6 and SFC.
- Surround effects may be unavailable depending on sources.
- These settings remain effective after the unit goes off.
- The unit makes output through speakers according to the number of channels recorded in sources when you switch Dolby Pro Logic IIx, NEO:6, or SFC off.  
Example: The unit makes output through front speakers, the center speaker, surround speakers, and the subwoofer when you play 5.1-channel sources. Surround back speakers go silent.

## Dolby Pro Logic IIx

- Dolby Pro Logic IIx offers you surround playback of 2-channel stereo sources.
- The technology enables you to play 5.1-channel Dolby Digital and DTS sources on 7.1 channels (when two surround back speakers are connected to the unit) and on 6.1 channels (when only one surround back speaker is connected).
- The technology makes surround back channels available for the playback of Dolby Digital Surround EX sources.

Press to select one of the following modes.

To cancel  
Press

(The modes switch each time you press the button.)



## NEO:6

- NEO:6 offers you surround playback of 2-channel stereo sources.
- The technology enables you to play 5.1-channel Dolby Digital and DTS sources on 6.1 channels.

Press to select one of the following modes.

To cancel  
Press

(The modes switch each time you press the button.)



## SFC (Sound Field Control)

You can add presence and spread to surround sound according to your choice when you use SFC with Dolby Digital, DTS, PCM or analog sources.

Use this mode when playing music.

Press to select one of the following modes.

(The modes switch each time you press the button.)

You can also select each of the following modes by pressing

, and in succession.



To cancel  
Press

Use this mode when playing movies.

Press to select one of the following modes.

(The modes switch each time you press the button.)

You can also select each of the following modes by pressing

, and in succession.



To cancel  
Press

Dolby Pro Logic IIx	
<b>MOVIE</b>	This mode produces good effects when you play commercial film titles in the Dolby Surround format. Sounds assigned to surround back channels become stereo in playback when you connect two surround back speakers to the unit.
<b>MUSIC</b>	Use this mode when playing music.
<b>EX (Dolby Digital EX)</b>	This mode produces good effects when you play commercial film titles recorded in the Dolby Digital Surround EX format. This mode is effective on sources containing surround channels only. Sounds assigned to surround back channels become monaural in playback when you connect two surround back speakers to the unit. • “ <b>DIGITAL EX</b> ” or “ <b>EX</b> ” replaces “ <b>PL IIx</b> ” on the display when you connect one surround back speaker.
<b>GAME</b>	You can play games with dynamic sounds in this mode. This mode is effective on 2-channel stereo sources. This mode is unavailable when surround and surround back speakers are unconnected (➔ pages 13 and 23) or when you set them as absent in “Setting speakers and their sizes” (➔ page 39).
NEO:6	
<b>CINEMA</b>	Use this mode when playing movies.
<b>MUSIC</b>	Use this mode when playing music.
SFC (Sound Field Control)	
<b>LIVE</b>	Imparts the reflection and spread of a large concert hall.
<b>POP/ROCK</b>	Best suited for dynamic sound such as pop and rock music.
<b>VOCAL</b>	Best suited to enhance vocals.
<b>JAZZ</b>	Recreates natural sound ambience and direction.
<b>DANCE</b>	Enjoy a dance hall like audio effect.
<b>PARTY</b>	This mode gives you a stereo impression wherever your listening position may be. Music played in the mode sounds like background music at parties.
<b>DRAMA</b>	Best suited for dialogues in drama movies.
<b>ACTION</b>	Best suited for action movies with impact.
<b>SPORTS</b>	Enjoy a feeling like being at a live sporting event.
<b>MUSICAL</b>	Enjoy a feeling like being at a live musical performance.
<b>GAME</b>	Enjoy games with greater audio impact.

○○○ **Note** ○○○

#### Dolby Pro Logic IIx

Choices become “**EX**” or “**MUSIC**” when you connect one surround back speaker only.

#### NEO:6

- The “**CINEMA**” mode is available for 2-channel stereo Dolby Digital and DTS sources containing surround data. The “**MUSIC**” mode is available for the same sources containing no surround data.
- The subwoofer goes silent when you use NEO:6 on 2-channel stereo sources as long as all speakers have been set as “**LARGE**” in “Setting speakers and their sizes” (➔ page 39).

#### SFC (Sound Field Control)

- In the “**PARTY**” mode, when only one surround back speaker is connected and the center speaker is unused, the surround back speaker goes off.  
The center speaker goes silent when you connect no surround back speaker to the unit.
- Sound may be distorted when the selected input source and SFC mode do not match.  
In such cases, lower the effect level in “Adjusting the effect level” (➔ page 33) or select another mode through procedures instructed on page 30.

# Control with HDMI (EZ Sync™ “HDAVI Control™”)

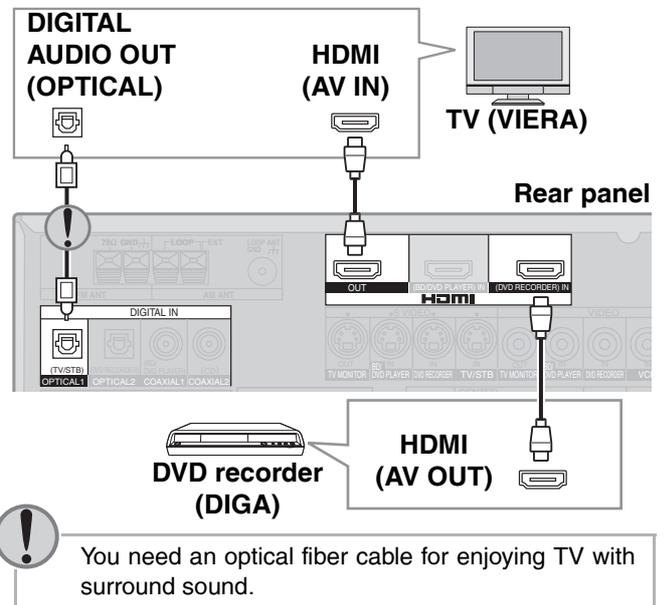
## What is EZ Sync “HDAVI Control”?

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

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

## Preparation

- 1 Connect the unit to a Panasonic TV (VIERA) and DVD recorder (DIGA) under EZ Sync “HDAVI Control” using the HDMI cable.  
(It is recommended that you use Panasonic’s HDMI cable. Non-HDMI-compliant cables cannot be utilized.)
- 2 Make settings in the menu for the TV (VIERA) to activate linked EZ Sync “HDAVI Control” operations.
- 3 Perform the following steps to make sure the unit accurately identifies connected equipment.
  - 1) Turn all equipment on.
  - 2) Switch the TV (VIERA) off and then put it back on.
  - 3) Switch the unit’s input to “DVR” and make sure the TV (VIERA) correctly shows pictures.  
(Take these steps after changing connections or settings.)



## Enjoying the Home Theater through one-touch operations

Aim the remote control at the DVD recorder (DIGA) and press 

- The following operations are automatically performed when you just press [ONE TOUCH PLAY].
- 1 The DVD recorder goes on and starts playing back the recorded media in the selected drive (e.g. HDD, DVD).
  - 2 The TV goes on and the TV input changes.
  - 3 Playback starts after the unit is turned on and the input source for the unit switches to “DVR”.

 **To adjust the volume:** Press 

You can also adjust the volume on your TV (VIERA)’s remote control.  
(A message informing the action appears on your TV while you adjust the volume.)

- Press [SKIP] to start playing a DVD disc or a recorded TV program again when playback does not start from the beginning.



## Note

- Only this unit turns off when you shut it down. Other connected equipment compatible with EZ Sync “HDAVI Control” stay on.
- Audio output automatically switches to speakers on your TV (VIERA) when you turn the unit off.  
Audio output from the DVD recorder (DIGA) switches from speakers on the TV (VIERA) to speakers connected to the unit when you turn the unit on.
- This unit goes from off to on, and speakers connected to this unit start making audio output when you set the TV (VIERA) to output sounds from the unit.
- This unit automatically goes off when you switch your TV (VIERA) off. (This operation is unavailable when you set the input source as “TUNER” or “CD” on this unit.)
- The input for the unit switches automatically to “DVR” when a source is played back on the DVD recorder.
- When pictures arrive after sounds, select “ON” in “Adjusting audio timing to video timing” (➡ page 42).
- To set the unit against EZ Sync “HDAVI Control”, see page 42.

## Enjoying sounds from the TV

The input source for the unit switches to “TV/STB” when you select a TV channel or operate the TV in other ways (➡ page 43).

# Remote controlling sound effects

See pages 30 and 31 for information about each mode.



○ ○ ○ **Note** ○ ○ ○  
These settings remain effective after the unit goes off.

## Adjusting Dolby Pro Logic IIx's "MUSIC" mode

You can use the following modes when the input source is 2-channel stereo.

**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**", and press **-** **+** for adjustment.

Adjustment range: **-3** (More surround sound) to **+3** (More front sound)  
Factory setting: **0**

**C-WIDTH**  
(Center Width Control)

In this mode, you can play music more naturally by adjusting sounds assigned to front and center speakers as a whole.

Press **EFFECT** to select "**C-WIDTH**", and press **-** **+** for adjustment.

Adjustment range: **0** (Center becomes clearer) to **7** (Center becomes wider)  
Factory setting: **3**

**PANORAMA**  
(Panorama)

You feel like you are surrounded by music thanks to greater spread created by surround speakers.

Press **EFFECT** to select "**PANORAMA**", and press **-** **+** for selecting "**ON**" or "**OFF**".

Factory setting: **OFF**

## Adjusting NEO:6's "MUSIC" mode

You can use the following modes when the input source is 2-channel stereo.

**C-IMAGE** 2  
(Center Image Control)

In this mode, you can play music more naturally by adjusting sounds assigned to front and center speakers as a whole.

Press **EFFECT** to select "**C-IMAGE**", and press **-** **+** for adjustment.

Adjustment range: **0** (Center becomes clearer) to **5** (Center becomes wider)  
Factory setting: **2**

## Adjusting SFC (Sound Field Control)

### Adjusting the output level

Press **LEVEL** to select a speaker, and press **-** **+** for adjustment.

**C** (Center), **RS** (Surround right), **SBR** (Surround back right), **SBL** (Surround back left) (**SB** when only one surround back speaker is connected), **LS** (Surround left):  
("SBR", "SBL" and "SB" are displayed when the surround back speakers are connected.)

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**

○ ○ ○ **Note** ○ ○ ○

- You cannot adjust the output levels of speakers other than the subwoofer in the "**PARTY**" mode (⇒ pages 30 and 31).
- You cannot adjust speakers not connected (⇒ pages 13 and 23) and others set as absent in "Setting speakers and their sizes" (⇒ page 39).

### Adjusting the effect level

Press **EFFECT**, and press **-** **+** for adjustment.

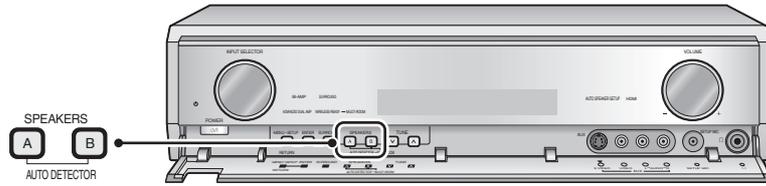
Adjustment range: **EFFECT 1** (minimum) to **EFFECT 10** (maximum)

Factory setting: **EFFECT 5**

○ ○ ○ **Note** ○ ○ ○

You cannot adjust the effect level in the "**PARTY**" mode (⇒ pages 30 and 31).

# Convenient functions



## ■ On the remote control



### Testing speaker output/Adjusting speaker volumes

#### How speakers are displayed

- 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)
- SW (SUBW)** : Subwoofer

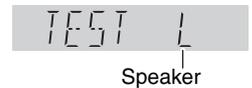
- Confirm audio output using the test signal after speakers are set.
- Adjust the output of the center and surround speakers, etc. to balance front speaker sounds with those from each of the other speakers in the seating area.
- You can adjust the speaker output according to your preference during playback.

#### Preparation

Press [SPEAKERS A] on the unit to switch "A" on.  
(Press [SPEAKERS A] or [SPEAKERS B] to switch "A B" on when bi-wire speakers are connected.)

#### 1 Press -AUTO

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



**L** → **C** → **R** → **RS** → **SBR** → **SBL** → **LS** → **SW**  
**L** → **C** → **R** → **RS** → **SB** → **LS** → **SW**

"SBR" and "SBL" are displayed when the surround back speakers are connected. ("SB" is displayed in case of one speaker.)

#### 2 Press to adjust the volumes of front speakers to the normal listening level.



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

- ☞ To finish after confirming the speaker output Press [TEST, -AUTO] to stop the test signal.
- ☞ To adjust speaker volumes Go to step 3.

#### 3 Press to select a speaker for adjustment.

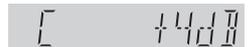


Speakers switch in the following order each time you press the button.

**C** → **RS** → **SBR** → **SBL** → **LS** → **SUBW**  
**C** → **RS** → **SB** → **LS** → **SUBW**

"SBR" and "SBL" are displayed when the surround back speakers are connected. ("SB" is displayed in case of one speaker.)

#### 4 Press to adjust the volume of the selected speaker.



Adjustment range:  
-20dB to +10dB

#### Repeat steps 3 and 4 to adjust the level of each speaker.

Factory setting: 0dB  
SUBW only:

- Only the adjusted speaker produces the test signal in steps 3 and 4.
- Connected speakers start producing the test signal again in the above order 2 seconds after both steps.

MIN (minimum) ↔ 1 to  
29 ↔ MAX (maximum)

Factory setting: 20

#### 5 Press -AUTO

#### Note

- You cannot adjust the level of front speakers themselves.
- Speakers not connected (⇒ pages 13 and 23) or set as unconnected in "Setting speakers and their sizes" (⇒ page 39) do not output test signals.
- Check connections and perform the auto speaker setup once again when a connected speaker does not output the test signal (⇒ pages 26 and 27).
- If you select "SPEAKERS B" only, the test signal will not be output.

## Adjusting the subwoofer level

You can adjust the output level while playing sources. You can adjust the level according to your preference by thickening or thinning the ultra bass, for example.

Press  to select a level.

- Select “---” to stop output.



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

Factory setting: **SUBW 20**

 **Note** 

- Sound can be distorted if you raise the volume while the subwoofer level is high. Reduce the subwoofer level if this occurs.
- Adjust the output level by taking steps described in “Testing speaker output/Adjusting speaker volumes” (⇒ page 34) when you wish to make detailed settings.

## Silencing speakers temporarily

Press 

- “**MUTING IS ON**” scrolls across the display while the volume is muted.
- Press the button again to cancel the operation.



 **Note** 

Muting is canceled when you turn the unit off or adjust the volume.

## Dimming the display light (Dimmer)

Press 

- Press the button to dim the display. The light above [INPUT SELECTOR] and [VOLUME] goes off.
- Press the button again to cancel the operation.

 **Note** 

Refer to page 37 for adjusting the brightness on the unit.

### ■ On the unit

## Detecting speaker status automatically

You can easily check connection status of each speaker when you want to.

### How speakers are displayed

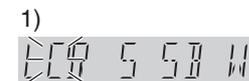
**L** : Front left  
**C** : Center  
**R** : Front right  
**S** : Surround  
**SB** : Surround back  
**W** : Subwoofer

Press  simultaneously to check the speaker presence.

Automatic speaker detection starts.

1) The unit checks the center speaker, surround speakers, surround back speakers and the subwoofer in that order. (The connection status for front speakers is always present.)

(e.g.)

1) 

2) The display shows the number of detected speakers (excluding the subwoofer).

2) 

3) The display shows connected speakers.

3) 

4) When automatic detection is finished, the display returns to the original.

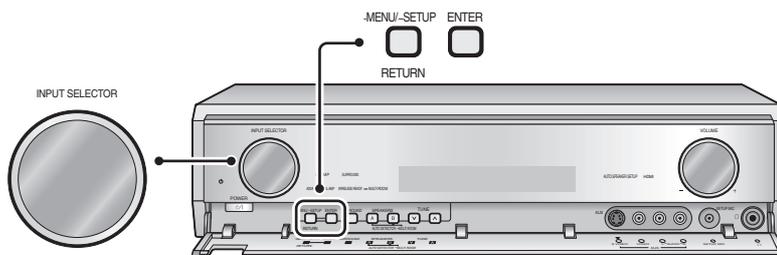
4) 

 **Note** 

- Automatic detection does not work well depending on speakers and cables. Make speaker settings manually in such cases (⇒ page 39).
- These settings remain effective after the unit goes off.
- To enjoy ELS Surround sound, be sure to perform the auto speaker setup (⇒ pages 26 and 27) after this setting.
- “**WARNING**” messages may appear on the display depending on detection results (⇒ below).

	The right surround back speaker was detected, but the unit did not detect the left surround back speaker. Use the terminal for the left speaker when you connect one surround back speaker only (⇒ page 23).
	The unit did not detect left and right surround speakers. Connect surround speakers as well when you connect surround back speakers to the unit.
	The unit did not detect one of the two surround speakers. Check speaker connections.

# Sound effects/Convenient functions



## How to set up

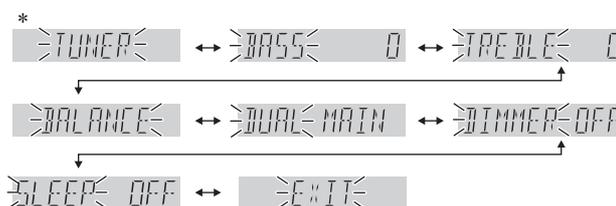
### 1 To enter the MENU

Press    
 RETURN

### 2 To select the item you wish to change

Turn  to select an item.

Press  for confirming the choice.



\* "TUNER" appears only when "TUNER FM", "TUNER AM" or "TUNER XM" has been selected as the input source.

### 3 To change the setting

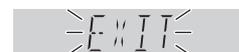
Turn  to change the setting.

Press  for confirming the choice.

### 4 To finish the setting

Press  several times to select "EXIT".

Press  for confirming the choice.



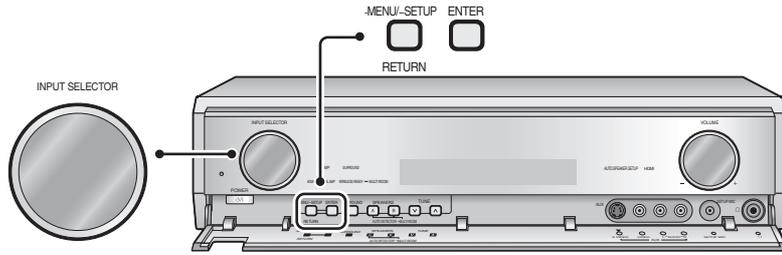
- The display returns to the original one.
- You can also select "EXIT" by turning [INPUT SELECTOR].

 To return to the previous display/To cancel

Press    
 RETURN

<p><b>Adjusting the bass</b></p> <ul style="list-style-type: none"> <li>You can adjust the bass through this operation.</li> </ul>	<p><b>1 Select and confirm the choice.</b></p>  <p><b>2 Make adjustment and confirm the choice.</b></p>  <p>Adjustment range: <b>-10 dB to +10 dB</b> Factory setting: <b>0 dB</b></p>
<p><b>Adjusting the treble</b></p> <ul style="list-style-type: none"> <li>You can adjust the treble through this operation.</li> </ul>	<p><b>1 Select and confirm the choice.</b></p>  <p><b>2 Make adjustment and confirm the choice.</b></p>  <p>Adjustment range: <b>-10 dB to +10 dB</b> Factory setting: <b>0 dB</b></p>
<p><b>Balancing front speaker volumes</b></p> <ul style="list-style-type: none"> <li>You can adjust the balance of the front speakers.</li> </ul>	<p><b>1 Select and confirm the choice.</b></p>  <p><b>2 Make adjustment and confirm the choice.</b></p>  <p>L : Front left R : Front right</p> <p>The bar shows the standard balance.</p> <p>○○○ <b>Note</b> ○○○ You cannot adjust volume balance when you use SFC's "<b>PARTY</b>" mode (→ pages 30 and 31).</p>
<p><b>Changing the audio output (Dual program)</b></p> <ul style="list-style-type: none"> <li>The unit allows you to switch dual audio signals in Dolby Digital and DTS formats.</li> </ul>	<p>"<b>DUAL PRG</b>" appears on the display when the unit receives dual audio signals.</p> <p><b>1 Select and confirm the choice.</b></p>  <p><b>2 Select audio and confirm the choice.</b></p>  <p><b>MAIN :</b> Main audio output <b>SAP :</b> Sub channel audio output <b>M+S :</b> Main and sub channel audio output Factory setting: <b>MAIN</b></p>
<p><b>Adjusting the brightness of the display</b></p> <ul style="list-style-type: none"> <li>Dim the display for better viewing in a darkened room.</li> </ul>	<p><b>1 Select and confirm the choice.</b></p>  <p><b>2 Select a setting and confirm the choice.</b></p>  <p>Adjustment range: <b>DIMMER 1</b> (bright) to <b>DIMMER 3</b> (dim) Factory setting: <b>OFF</b></p> <ul style="list-style-type: none"> <li>Select "<b>DIMMER OFF</b>" to cancel.</li> <li>When you select "<b>DIMMER 1</b>" to "<b>DIMMER 3</b>", the light above [INPUT SELECTOR] and [VOLUME] goes off.</li> </ul>
<p><b>Sleep timer</b></p> <ul style="list-style-type: none"> <li>The sleep timer can turn the unit off after a set time.</li> </ul>	<p><b>1 Select and confirm the choice.</b></p>  <p><b>2 Select the time and confirm the choice.</b></p>  <p>Times available for setting: <b>30, 60, 90, 120</b> (minutes) Factory setting: <b>OFF</b></p> <ul style="list-style-type: none"> <li>When this is set, "<b>SLEEP</b>" appears on the display.</li> <li><b>To check the setting:</b> After setting the time, you can check the remaining time using step 1.</li> <li><b>To change a setting:</b> Repeat the procedure from the beginning.</li> </ul> <p>○○○ <b>Note</b> ○○○ Sleep timer is for this unit only.</p>

# Settings

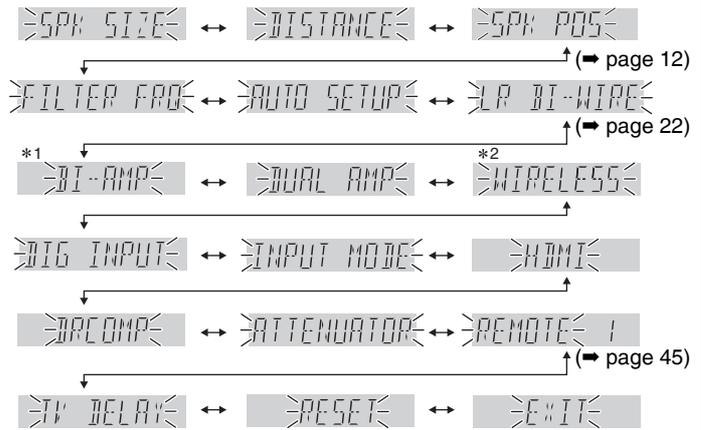


## How to set up

**1 To enter the SETUP**  
 Press and hold  for about 2 seconds.

**2 To select the item you wish to change**  
 Turn  to select an item.

Press  for confirming the choice.



\*1 "BI-AMP" appears on the display and become selectable only when you set bi-wire speakers (page 22).

\*2 "WIRELESS" appears only when the transceiver is inserted (page 24).

**3 To change the setting**  
 Turn  to select an item.

Press  for confirming the choice.

• You must repeat these steps several times depending on settings.

**4 To finish the setting**  
 Press  several times to select "EXIT".

Press  for confirming the choice.



• The display returns to the original one.  
 • You can also select "EXIT" by turning [INPUT SELECTOR].

 To return to the previous display/To cancel

Press 

## Setting speakers and their sizes

- You can set connected speakers and their sizes manually.
- Different ranges are played by different speakers. Size setting is necessary for reproducing sources, particularly their bass section, completely.

### 1 Select and confirm the choice.

SPK SIZE

### 2 Select a speaker for setting and confirm the choice.

SUBW YES

### 3 Change a setting and confirm the choice.

SUBW NO

☞ To go back to step 1

### Select and confirm the choice.

RETURN

☞ When you set the front speakers (LR) as "LARGE"

- The subwoofer also makes audio output in the bass range when you perform stereo playback of analog and PCM sources.
- The subwoofer sends out only the LFE (low frequency effect channel) signal contained in 2-channel Dolby Digital or DTS sources when you play them in stereo.

**SUBW** : Subwoofer

**LR** : Front speakers

**C** : Center speaker

**S** : Surround speakers

**SB** : Surround back speakers

**SUBW** : **NO** ; unconnected **YES** ; connected

**LR, C, S** :

**NONE** ;

For speakers you haven't connected (center or surround only).

**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 sufficiently reproduce the bass range down to 20 Hz.

**SB** :

**NONE** ;

For speakers you haven't connected.

**1-SPK** ;

If you connect one surround back speaker.

**2-SPK** ;

If you connect two surround back speakers.

Factory settings:

**LR, C, S** ; **SMALL**

**SUBW** ; **YES**

**SB** ; **2-SPK**

○○○ **Note** ○○○

- Set the lowpass filter frequency according to frequencies available for playback when speakers are set as "**SMALL**". The factory setting is 100 Hz (⇒ below).
- The following are set automatically.  
When you set "**LR**" to "**SMALL**", "**SUBW**" is set to "**YES**".  
When you set "**SUBW**" to "**NO**", "**LR**" is set to "**LARGE**".
- "**SB**" does not appear when "**S**" is set to "**NONE**".
- The "**SB**" size becomes the "**S**" size because the unit does not offer "**SB**" size setting.
- When you change the number of connected speakers, settings made with the setup microphone are canceled (ELS Surround sound cannot be properly played back.) (⇒ pages 26 and 27).

## Setting distances

- By adjusting the distance from each speaker (except the subwoofer) to the seating area, the sound delay time is automatically adjusted so that sound reaches the listener at the same time.

### 1 Select and confirm the choice.

DISTANCE

### 2 Select a speaker for setting and confirm the choice.

L 10.0 ft

### 3 Select a distance and confirm the choice.

L 10.0 ft

○○○ **Note** ○○○

- Speakers whose polarity was automatically adjusted through the auto speaker setup using the setup microphone (⇒ pages 26 and 27) are displayed with "-" such as "**L 10.0 -**".
- If the distance from speakers is too long, the distance part is displayed "**OVER**".

**L** : Front left

**R** : Front right

**RS** : Surround right

**SBL** : Surround back left

**SBR** : Surround back right

**C** : Center

**LS** : Surround left

Adjustment range: **1.0 to 45.0 ft** (feet)

This unit is adjusted at 0.5 feet intervals.

Factory settings: **L, R** ; **10.0 ft** (feet)

**C** ; **10.0 ft** (feet)

**LS, RS** ; **5.0 ft** (feet)

**SBL, SBR** ; **5.0 ft** (feet)

## Setting the lowpass filter

- If the speaker sizes (⇒ above) are set to "**SMALL**", make this setting.
- The unit cannot reproduce the entire bass range when speakers are set as "**SMALL**". You can arrange the unit to provide missing bass sounds through the subwoofer by setting the lowpass filter frequency according to frequencies available for playback.

### 1 Select and confirm the choice.

FILTER FREQ

### 2 Select the lowpass filter frequency and confirm the choice.

100

○○○ **Note** ○○○

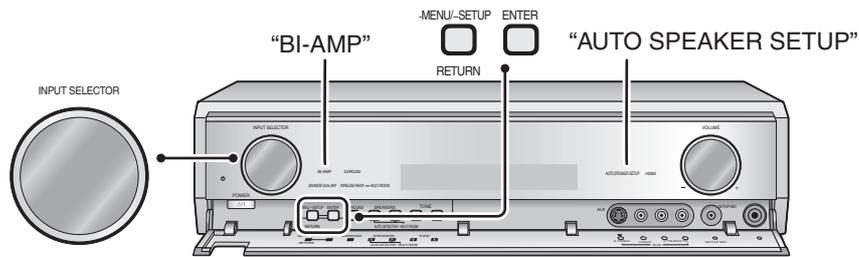
- The setting made through these steps applies to all speakers set as "**SMALL**".
- When you change the low pass filter frequency, settings made with the setup microphone are canceled (ELS Surround sound cannot be properly played back.) (⇒ pages 26 and 27).

Lowpass filter frequency for sending the bass range to the subwoofer:

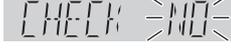
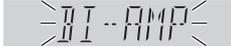
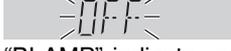
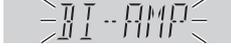
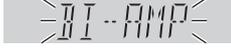
**80, 100, 120, 140, 160, 180, 200** (Hz)

Factory setting: **100** (Hz)

# Settings



See page 38 for receiver operations.

<p><b>Changing auto speaker settings</b></p> <p>1) Among speaker settings made with the setup microphone, you can return polarity to factory settings. (The "AUTO SPEAKER SETUP" indicator goes off when you perform this operation. ELS Surround sound cannot be properly played back.)</p> <p>2) The unit judges polarity of certain properly connected speakers as opposite. When this happens, set the unit against automatic polarity adjustment and prevent polarity reversal.</p>	<p>1) <b>To return polarity to factory settings</b></p> <p>2) <b>Setting the unit against automatic polarity adjustment</b></p>	<p>1 <b>Select and confirm the choice.</b>  </p> <p>2 <b>Select and confirm the choice.</b>  </p> <p>3 <b>Select and confirm the choice.</b>  </p> <p>• To cancel, select "NO".</p> <p><b>YES:</b> For returning to factory settings  <b>NO:</b> For keeping auto settings</p> <hr/> <p>1 <b>Select and confirm the choice.</b>  </p> <p>2 <b>Select and confirm the choice.</b>  </p> <p>3 <b>Select and confirm the choice.</b>  </p> <p><b>CHECK YES:</b> Normal auto speaker setup  <b>CHECK NO:</b> No automatic polarity adjustment</p>
<p><b>Making BI-AMP settings</b></p> <ul style="list-style-type: none"> <li>• BI-AMP settings appear on the display and become selectable only when you set bi-wire speakers (→ page 22).</li> </ul> <p>1) You can drive speakers with front, surround and surround back speaker amps instead of using BI-AMP (triple amp mode).</p> <p>2) You can adjust HF (high frequency) and LF (low frequency) output balance of the bi-wired speakers.</p> <p>3) You can reduce the delay time due to the difference in size of the HF and LF units.</p>	<p>1) <b>Canceling BI-AMP (using the triple amp mode)</b></p> <p>2) <b>Adjusting the balance</b></p> <p>3) <b>Correcting the HF and LF difference</b>  <small>(Side view of a speaker in cross section)</small></p> 	<p>1 <b>Select and confirm the choice.</b>  </p> <p>2 <b>Select and confirm the choice.</b>  </p> <p>3 <b>Select and confirm the choice.</b>  </p> <p>• The "BI-AMP" indicator goes off when the unit enters the triple amp mode.</p> <p><b>AUTO:</b> When using BI-AMP  <b>OFF:</b> When not using BI-AMP (when using the triple amp mode)  Factory setting: <b>AUTO</b></p> <hr/> <p>1 <b>Select and confirm the choice.</b>  </p> <p>2 <b>Select and confirm the choice.</b>  </p> <p>3 <b>Make adjustment and confirm the choice.</b>  </p> <p>The bar shows the standard balance.</p> <p><b>LF:</b> Low frequency  <b>HF:</b> High frequency</p> <hr/> <p>1 <b>Select and confirm the choice.</b>  </p> <p>2 <b>Select and confirm the choice.</b>  </p> <p>3 <b>Make adjustment and confirm the choice.</b>  </p> <p>Adjustment range:  <b>0.0 to 12.0 in</b> (inch)  This unit is adjusted at 0.5 inch intervals.  Factory setting: <b>0.0 in</b> (inch)</p>
<p><b>Setting ADVANCED DUAL AMP off</b></p>	<p>1 <b>Select and confirm the choice.</b></p> <p>2 <b>Select and confirm the choice.</b></p>	<p>1 <b>Select and confirm the choice.</b>  </p> <p>2 <b>Select and confirm the choice.</b>  </p> <p><b>AUTO:</b> Advanced dual amp is on.  <b>OFF:</b> Advanced dual amp is off.  Factory setting: <b>AUTO</b></p>

See page 38 for receiver operations.

### Making MULTI ROOM setting

- When SH-FX80 (sold separately) is connected (⇒ page 24) .

#### 1 Select and confirm the choice.

WIRELESS

#### 2 Select and confirm the choice.

MULTI ROOM

○○○ Note ○○○

- See page 29 to enjoy music with MULTI ROOM.
- Settings made with the setup microphone are canceled when you change the “SURR SPKR” or “MULTI ROOM” setting.

**MULTI ROOM :**  
when SH-FX80 is connected  
**SURR SPKR :**  
when SH-FX50/SH-FX60 is connected  
Factory setting: **SURR SPKR**

### Changing the digital input settings

- Change these settings to suit the connections you have made to the digital input terminals.
- You can only allocate one piece of equipment per terminal.  
Example: “OPT 1” becomes the only digital terminal you can use for connecting the DVD player to the unit when you change the DVD setting to the terminal.

#### 1 Select and confirm the choice.

DIG INPUT

#### 2 Select the equipment connected to the digital input terminal and confirm the choice.

TV OPT1

#### 3 Change the digital input setting and confirm the choice.

TV OPT1

Repeat steps 2 and 3 to change settings.

**TV :** TV  
**DVR :** DVD recorder  
**DVD :** DVD player  
**CD :** CD player  
Factory setting:  
**TV ;** OPT1 (OPTICAL1)  
**DVR ;** OPT2 (OPTICAL2)  
**DVD ;** COAX1 (COAXIAL1)  
**CD ;** COAX2 (COAXIAL2)

### Setting input signals

- You can fix the signal type (digital, analog or PCM) supplied by such equipment as the DVD recorder and the DVD player or make the unit identify the input signal type.
- Select “AUTO” when it is not necessary to fix the signal.

#### 1 Select and confirm the choice.

INPUT MODE

#### 2 Select the equipment connected to the digital input terminal and confirm the choice.

TV AUTO

#### 3 Select the method for identifying input signals and confirm the choice.

TV AUTO

Repeat steps 2 and 3 to change settings.

#### PCM FIX mode

- In rare cases, the unit may have trouble recognizing the digital signals on discs.
- Use this mode when, for example, the beginning of a playing CD track is cut off.
- You do not need to set the mode when playback is normal.
- When PCM FIX mode is on, the unit cannot process other signals. Cancel the mode when noise occurs.

○○○ Note ○○○

- “DIGITAL INPUT” stays on the display when you fix the input signal as digital.
- “PCM” appears on the display when you set the input signal as “PCM FIX”.
- “PCM FIX” flashes on the display when the unit is in the PCM FIX mode and a non-PCM source is input through digital (OPTICAL or COAXIAL) connections.

**TV :** TV  
**DVR :** DVD recorder  
**DVD :** DVD player  
**CD :** CD player

**AUTO :**  
Automatic identification of digital and analog signals (HDMI takes priority when the input signal is digital.)  
**ANALOG :**  
Fixes the input signal to analog.  
**DIG :**  
Fixes the input signal to digital.  
**PCM FIX :**  
Fixes the input signal to PCM.  
Factory setting:  
**TV, DVR, DVD, CD ;** AUTO

### Reducing standby power consumption (power saving standby mode)

#### 1 Select and confirm the choice.

HDMI

#### 2 Select and confirm the choice.

STANBY ON

#### 3 Select and confirm the choice.

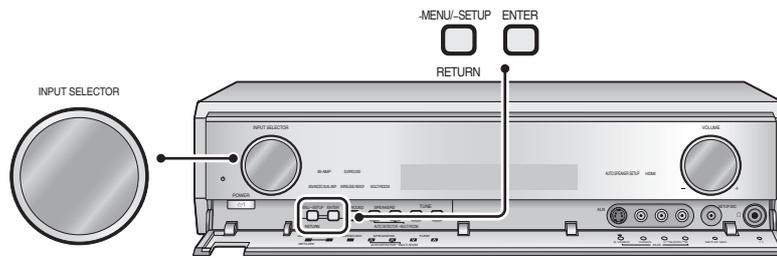
STANBY OFF

○○○ Note ○○○

- When you select “OFF”, the following becomes applicable.
- Standby power consumption becomes 0.3 W.
- Standby through with HDMI connections (⇒ page 15) does not work.
- EZ Sync “HDAVI Control” (⇒ page 32) is canceled (when the unit is off).

**OFF :**  
When you wish to reduce standby power consumption  
**ON :**  
When you activate the standby through function (standby power consumption becomes 0.7 W in this setting)  
Factory setting: **ON**

# Settings



See page 38 for receiver operations.

<p><b>Setting the unit against EZ Sync “HDAVI Control”</b></p> <p>You can set the unit against EZ Sync “HDAVI Control” when compatible TV (VIERA) and DVD recorder (DIGA) are connected.</p>	<p><b>1 Select and confirm the choice.</b></p> <p style="text-align: center;">HDMI</p> <p><b>2 Select and confirm the choice.</b></p> <p style="text-align: center;">CTRL ON</p> <p><b>3 Select and confirm the choice.</b></p> <p style="text-align: center;">CTRL OFF</p>	<p><b>OFF:</b> When not using EZ Sync “HDAVI Control”</p> <p><b>ON:</b> When using EZ Sync “HDAVI Control”</p> <p>Factory setting: <b>ON</b></p>
<p><b>Listening clearly at low volume</b></p> <ul style="list-style-type: none"> <li>• This function compresses the dynamic range of Dolby Digital contents.</li> <li>• Without affecting the sound field, the function makes spoken lines easier to catch at low volume by reducing the difference between the maximum and minimum sounds created by audio signals. This convenient function allows you to enjoy commercial sources late at night when you cannot produce loud sounds.</li> </ul>	<p><b>1 Select and confirm the choice.</b></p> <p style="text-align: center;">DRCOMP</p> <p><b>2 Select a setting and confirm the choice.</b></p> <p style="text-align: center;">STANDARD</p> <p>○○○ <b>Note</b> ○○○</p> <p>This function does not work when disc data does not support it.</p>	<p><b>OFF:</b> The software is played with the original dynamic range.</p> <p><b>STANDARD:</b> The level recommended by the producer of the software for household viewing</p> <p><b>MAX:</b> The maximum allowable compression (recommended for night viewing)</p> <p>Factory setting: <b>OFF</b></p>
<p><b>Switching the attenuator</b></p> <ul style="list-style-type: none"> <li>• Switch the attenuator on when sounds become distorted while playing an analog input source and the sign “OVERFLOW” appears on the display.</li> </ul>	<p><b>1 Select and confirm the choice.</b></p> <p style="text-align: center;">ATTENUATOR</p> <p><b>2 Select and confirm the choice.</b></p> <p style="text-align: center;">ON</p> <ul style="list-style-type: none"> <li>• To cancel, select “OFF”.</li> </ul>	<p><b>OFF:</b> For switching the attenuator off</p> <p><b>ON:</b> For switching the attenuator on</p> <p>Factory setting: <b>OFF</b></p>
<p><b>Adjusting audio timing to video timing</b></p> <ul style="list-style-type: none"> <li>• Adjust audio timing to video timing by delaying audio output by 40 msec or so when pictures arrive after sounds.</li> </ul>	<p><b>1 Select and confirm the choice.</b></p> <p style="text-align: center;">TV DELAY</p> <p><b>2 Select and confirm the choice.</b></p> <p style="text-align: center;">ON</p>	<p><b>OFF:</b> Normal setting</p> <p><b>ON:</b> Setting for delaying audio output</p> <p>Factory setting: <b>OFF</b></p>
<p><b>RESET (factory settings)</b></p> <ul style="list-style-type: none"> <li>• Re-enter settings to your liking when necessary.</li> </ul>	<p><b>1 Select and confirm the choice.</b></p> <p style="text-align: center;">RESET</p> <p><b>2 Select and confirm the choice.</b></p> <p style="text-align: center;">RESET YES</p> <ul style="list-style-type: none"> <li>• To cancel, select “NO”.</li> </ul> <p>○○○ <b>Note</b> ○○○</p> <p>When you select “YES”, the input source becomes tuner (preset channel 1). Preset radio stations will not be erased.</p>	<p><b>YES:</b> Choice for resetting</p> <p><b>NO:</b> Choice against resetting</p>

# Remote controlling a TV or DVD recorder etc.

Besides this unit, you can operate a Panasonic TV, DVD recorder, DVD player, VCR or CD player (excluding certain models) using the supplied remote control. See respective equipment's operating instructions for detailed operations. You may need to enter a code to operate some equipment (→ page 45).

Aim the remote control at the equipment you wish to operate.



## Remote controlling a DVD recorder

<b>To switch the unit's input to "DVR" / To switch the remote control to the DVD recorder operation mode</b>	<p><b>Do not forget to press this before operating a DVD recorder.</b></p>
<b>To turn the DVD recorder on or off</b>	
<b>To start playback</b>	
<b>To skip a track or chapter</b>	
<b>To search through the disc</b>	
<b>To play in slow-motion</b>	 
<b>To show the direct navigator (or the top menu)</b>	
<b>To show a sub menu</b>	
<b>To show the FUNCTIONS window (while stopped)</b>	
<b>To return to the previous screen</b>	
<b>To select an item</b> Press to select after pressing [DIRECT NAVIGATOR, TOP MENU], [S, SUB MENU], or [FUNCTIONS].	
<b>To confirm the selected item</b>	
<b>To select a track or chapter directly</b> • Some of the models require you to press [ENTER] to confirm after pressing number buttons.	
<b>To pause</b>	
<b>To move forward or backward frame by frame</b>	
<b>To skip a minute forward</b>	
<b>To switch DVD recorder drives (HDD, DVD drive, and SD drive etc.)</b>	
<b>To select a channel</b> (When you make a selection in rising or falling order)	
<b>To select a channel</b> (When you select a channel directly)	
<b>To stop playback</b>	

## Remote controlling a TV

<b>To switch the unit's input to "TV/STB" / To switch the remote control to the TV operation mode</b>	<p><b>Do not forget to press this before operating a TV.</b></p>
<b>To turn the TV on or off</b>	
<b>To switch the TV's input mode (TV/video)</b>	
<b>To adjust the TV volume</b>	
<b>To select a channel</b> (When you make a selection in rising or falling order)	
<b>To select a channel</b> (When you select a channel directly)	

**When operating a Panasonic DVD recorder using the supplied remote control**

Change the control setting on the supplied remote control to match the DVD recorder's remote control mode.

**Preparation** Confirm the DVD recorder's remote control mode in its operating instructions.

- 1 Press [DVD RECORDER].
- 2 Press and hold [ENTER] together with [1], [2], or [3] for 2 seconds or longer.

- [Mode 1], [Mode 2], or [Mode 3] is set on the remote control according to the pressed button.
- The factory setting is [Mode 1].

**When DVD recorder drives do not switch**

The condition may mean the DVD recorder does not recognize the signal this unit's remote control transmits. Switch the drives again after changing the signal in the following procedure.

- 1 Press [DVD RECORDER].
- 2 Press and hold [ENTER] together with [8] for 2 seconds or longer.

- To return: In step 2 above, press and hold [ENTER] together with [9] for 2 seconds or longer.

**Note**

When you operate a DVD recorder with built-in VCR, press [DRIVE SELECT] to select a choice other than VCR.

# Remote controlling a TV or DVD recorder etc.

Aim the remote control at the equipment you wish to operate.



## Remote controlling a DVD player

To switch the unit's input to "BD/DVD" / To switch the remote control to the DVD player operation mode	<p>PLAYER BD/DVD -ANALOG 6CH Do not forget to press this before operating a DVD player.</p>	To confirm the selected item	
To turn the DVD player on or off		To specify a disc (5-disc changer only)	<p>DISC</p> <p>1 2 3 4 5</p>
To start playback		To select a track or chapter directly	<p>1 2 3 4 5 6 7 8 9 0 [ENTER]</p> <p>Some of the models require you to press [ENTER] to confirm after pressing number buttons.</p>
To skip a track or chapter		To pause	
To search through the disc		To move forward or backward frame by frame	
To play in slow-motion		To stop playback	
To show the direct navigator (or the top menu)			

## Remote controlling a VCR

To switch the unit's input to "VCR" / To switch the remote control to the VCR operation mode	<p>Do not forget to press this before operating a VCR.</p>
To turn the VCR on or off	
To start playback	
To fast forward/rewind a tape	
To pause	
To select a channel (When you make a selection in rising or falling order)	
To select a channel (When you select a channel directly)	<p>1 2 3 4 5 6 7 8 9 0 [ENTER]</p>
To stop playback	

**Note**  
When you operate a DVD recorder with built-in VCR, press [DRIVE SELECT] to select VCR.

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

## Remote controlling a CD player

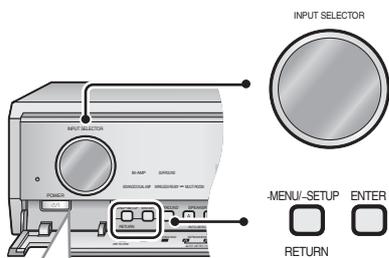
To switch the unit's input to "CD"/ To switch the remote control to the CD player operation mode	 <b>Do not forget to press this before operating a CD player.</b>
To turn the CD player on or off	AV SYSTEM 
To start playback	
To skip a track	
To search through the disc	
To pause	
To specify a disc (3-or 5-disc changer)	 DISC 1 2 3 4 5
To start play from a specified disc [MEGA CD changer] (holds more than 50 discs)	 DISC 1 2 3 4 5 6 7 8 9 0 
To select a track directly	1 2 3 4 5 6 7 8 9 0 
To stop playback	

## Using two or more Panasonic equipment (a mini component system, an AV amp etc.)

Two or more pieces of Panasonic audio equipment may start functioning when you operate the unit using the supplied remote control.

Set the unit's remote control code to "REMOTE 2" in such cases.

Do the following to set the same number (2) as the remote control code.



### Basic operation

Turn to select.

Press to confirm your choice.

To return to the previous display/  
To cancel

### Operation on the unit

- 1 Press and hold [-MENU/-SETUP, RETURN] for about 2 seconds to enter the SETUP.
- 2 Select and confirm the choice.
- 3 Select and confirm the choice.
- 4 Select and finish the setting.

REMOTE 1

REMOTE 2

EXIT

### Operation on the remote control

- 5 Press 
- 6 Press  and  simultaneously and hold them in the position for about 2 seconds.

When you return the remote control code to "1"

- Operation on the unit: select "1" in step 3.
- Operation on the remote control: in step 6, press [ENTER] and [1] simultaneously and hold them in the position for about 2 seconds.

## Entering a code to operate other equipment

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

### Changing the codes

TV	VCR	DVD player
		PLAYER  -ANALOG 6CH

Press and hold the button corresponding to the equipment.

1 2 3  
4 5 6  
7 8 9  
0

e.g. 0250, Press [0] → [2] → [5] → [0]

The remote control outputs the on/off signal. If the code is correct, the equipment turns on or off.

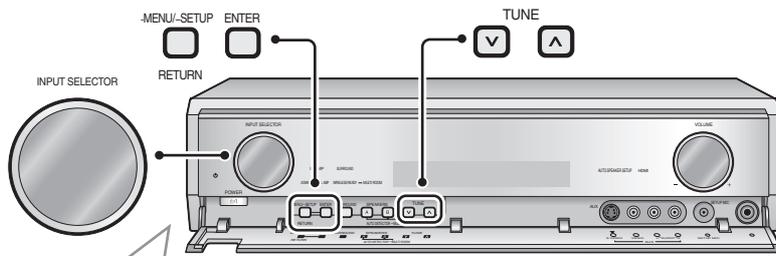
If it doesn't, try entering another code.

- 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	0051/0250/1492	0227/1244	0490/0491
AIWA	-	-	0641
APEX	-	-	0856/1352
BOSE	-	-	2023
DENON	-	-	0634
FISHER	1096	0046/0047/0054/0066	-
FUNAI	-	0184	-
G.E.	0047/0051/0747	0760/0761/1613	-
GOLD STAR	1240	1237	-
HARMAN KARDON	-	-	0702
HITACHI	1145	0042/1613	0664
JVC	1053	0008/0067/0384/0486	0623
KENWOOD	-	-	0737/1579
KONKA	-	-	0711
KOSS	-	-	1608
MAGNAVOX	0056/0694/1308/1694	0035/0226/0563	-
MINTEK	-	-	1472
MITSUBISHI	0150	0043/0075/0196/1617	1521
NEC	-	0038/0050	-
NEXBASE	-	-	0826
ONKYO	-	-	0627/1891
ORITRON	-	-	0651
PHILIPS	-	0563	0539
PIONEER	1487	-	0571
QUASAR	0051	-	-
RAITE	-	-	0665
RCA	0747/1047/1490/1491	0042/0051	0522
SAMPO	-	-	0698
SAMSUNG	-	-	0573
SANYO	-	0104	-
SHARP	0093/0165	0048/0062	1606
SHINTOM	-	0753	-
SILVANIA	-	-	0675
SMC	-	-	0811
SONY	0810	0033/0034/0586/0639/0640/1232	1033/1604/1607/1633
SYMPHONIC	0180	0000	-
TOSHIBA	1488	0057/0210	1459
VENTURER	-	-	1821
WAVE	-	-	0709
YAMAHA	-	-	0817
ZENITH	0016/0017	0039	0741/1605

# The radio



**Basic operation**

**INPUT SELECTOR**  
Turn to select.

**ENTER**  
Press to confirm your choice.

**MENU-SETUP**  
**RETURN**  
To return to the previous display/  
To cancel

## Manual tuning

### (Using the remote control)

- 1 To use the radio tuner**  
Press TUNER -BAND
- 2 To select "TUNER FM" or "TUNER AM"**  
Press and hold TUNER -BAND for 2 seconds.
- 3 To enter the station frequency (direct tuning)**  
Press DIRECT TUNING

e.g. FM 107.9 MHz, Press [1] → [0] → [7] → [9]  
Tuning intervals: FM - 0.1 MHz,  
AM - 10 kHz

- 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.

### (Using the unit)

- 1 To select "TUNER FM" or "TUNER AM"**

Turn
- 2 To tune to the station**  
Press TUNE

Tuning intervals: FM - 0.2 MHz,  
AM - 10 kHz

#### 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.)

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

#### Note

#### Improving reception

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

# Preset tuning

## Presetting stations

### ■ Auto presetting

#### 1 Tune to the frequency where you want to begin presetting. (⇒ page 46)

Set the channel reception to FM 87.9 MHz or AM 530 kHz if you want automatic presetting to start from the lowest frequency.

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 Press to enter the MENU.

#### 3 Select “*TUNER*” and confirm the setting.

#### 4 Select “*AUTO MEMO*” and confirm the setting.

#### 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 number are displayed for a second when a station is preset.
- The last station to be preset is displayed when presetting finishes.
- Frequencies may not be 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 46)

#### 2 Press to enter the MENU.

#### 3 Select “*TUNER*” and confirm the setting.

#### 4 Select “*MEMORY*” and confirm the setting.

#### 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 [-MENU/-SETUP, RETURN] twice to select “*EXIT*” and press [ENTER].

- FM stations can also be preset in the MONO mode (⇒ below).

## Listening to preset stations

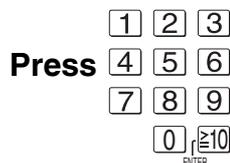
### (Using the remote control)

#### ■ Select the channel.



- Hold down the button to change channels faster.

#### ■ Press the numbered buttons to select the channel.



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

### (Using the unit)

#### 1 Press to enter the MENU.

#### 2 Select “*TUNER*” and confirm the setting.

#### 3 Select “*TUNE MODE*” and confirm the setting.

#### 4 Select “*PRESET*” and confirm the setting.

#### 5 Press [-MENU/-SETUP, RETURN] twice to select “*EXIT*” and press [ENTER].

#### 6 Press to select the channel.

- Hold down the button to change channels faster.
- Select “*MANUAL*” in step 4 when you wish to perform manual tuning (⇒ page 46).

## Reducing excessive noise (on the unit)

Select if noise is excessive during radio reception.

**Preparation** Press [-MENU/-SETUP, RETURN] to enter the MENU.

### ■ During FM stereo reception

You can improve FM reception by switching reception to monaural.

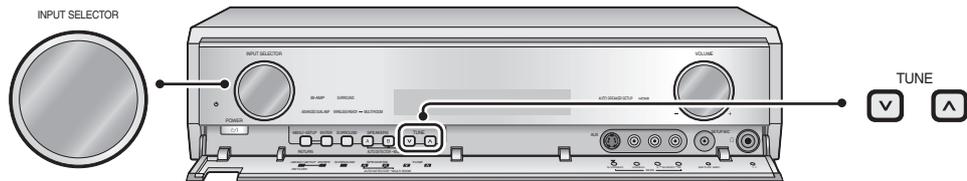
- 1 Select “*TUNER*” and confirm the setting.
- 2 Select “*FM MODE*” and confirm the setting.
- 3 Select “*MONO*” and confirm the setting.
  - When this is set, “*MONO*” appears on the display.
  - Select “*AUTO*” to cancel.
- 4 Press [-MENU/-SETUP, RETURN] twice to select “*EXIT*” and press [ENTER].

### ■ 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 the setting.
- 2 Select “*BEAT PROOF*” and confirm the setting.
- 3 Select “*MODE 1*” or “*MODE 2*” and confirm the setting.
- 4 Press [-MENU/-SETUP, RETURN] twice to select “*EXIT*” and press [ENTER].

# XM<sup>®</sup> Satellite Radio



## Introducing XM Satellite Radio

XM Satellite Radio is the provider of satellite radio with more than 6 million subscribers. XM offers more than 170 digital radio channels with music, talk, news, sports, comedy, traffic and weather reports. For more information, visit XM on the Web at [www.xmradio.com](http://www.xmradio.com).

## How to Subscribe

XM monthly service subscription sold separately. XM Connect & Play antenna, or XM Mini-Tuner and Home Dock (includes home antenna) required to receive XM service (sold separately). Installation costs and other fees and taxes, including a one-time activation fee may apply. Subscription fee is consumer only. All fees and programming subject to change. Channels with frequent explicit language are indicated with an XL. Channel blocking is available for XM radio receivers by calling 1-800-XMRADIO (1-800-967-2346). Subscriptions subject to Customer Agreement available at [xmradio.com](http://xmradio.com). XM service only available in the 48 contiguous United States. XM Ready is a trademark of XM Satellite Radio Inc. ©2006 XM Satellite Radio Inc. All rights reserved.

To subscribe, visit XM on the Web at [www.xmradio.com](http://www.xmradio.com) or call XM's Listener Care at 1-800-XMRADIO (1-800-967-2346). You should have your Radio ID ready; the Radio ID can be found by selecting channel 0 on the radio.

## Displaying the XM Satellite Radio ID

You can confirm your XM Satellite Radio ID necessary for activating XM Satellite Radio as follows.

### (Using the remote control)

**1 Connect the XM Connect & Play antenna, or XM Mini-Tuner and Home Dock. (→ page 25)**

**2 Press**  **to use the radio tuner.**

**3 Press and hold**  **for 2 seconds to select "TUNER XM".**

FM → AM → XM

**4 Press** 

**5 Press**  **3 times to select XM channel 0.**

**6 Write down your XM Satellite Radio ID below.**

**ID:** \_\_\_\_\_

- To avoid ambiguity, the letters I, O, S, and F are not used in the ID.

## Positioning the antenna for optimal reception

The unit has a signal strength indicator that allows you to optimize the XM signal reception.

- Place the antenna near a south-facing window with an unobstructed view of the sky for the best satellite signal reception.
- To prevent interference with wireless equipment, place the antenna away from this unit, Panasonic wireless sound system SH-FX80, Panasonic wireless system SH-FX50/SH-FX60, and other equipment that emits radio waves (such as radio equipment and microwave ovens).

### (Using the remote control)

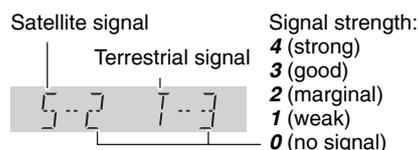
**1 Press** [TUNER, -BAND] **to use the radio tuner.**

**2 Press and hold** [TUNER, -BAND] **for about 2 seconds to select "TUNER XM".**

**3 Press and hold**  **for 2 seconds.**

Satellite and terrestrial signal levels (strength) are displayed.

**4 Position the antenna for the best possible signal reception.**



When you move the antenna for the best reception, the signal strength on the display changes.

- Position the antenna in a place where either satellite signal reception or terrestrial signal reception is strong.
- If the satellite signal is weak or not available, you can optimize the terrestrial signal reception (where available).

**5 Press and hold**  **for about 2 seconds to return to the previous display.**

- You can also return the display to the original by performing other operations.

## Selecting XM channels by direct entry (using the remote control)

XM channels can be selected manually by directly entering the XM channel number.

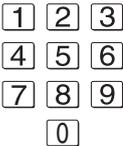
### 1 To use the radio tuner

Press 

### 2 To select "TUNER XM"

Press and hold  for 2 seconds. 

### 3 To enter an XM channel number (direct tuning), or to search a channel up and down

Press  

e.g. 3: Press [DIRECT TUNING, DISC] → [0] → [0] → [3]  
 21: Press [DIRECT TUNING, DISC] → [0] → [2] → [1]  
 123: Press [DIRECT TUNING, DISC] → [1] → [2] → [3]

• To return to the previous digit: Press [ $\geq 10$ , ENTER].

or

Press 

• Hold down the button to change channels faster.

#### Operation on the unit

1 Turn [INPUT SELECTOR] to select "TUNER XM".

2 Press [TUNE  $\nabla$  or  $\wedge$ ].

• Hold down the button to change channels faster.

## Selecting XM channels by category (using the remote control)

XM channels are organized into categories such as Rock, Classical, Country and Dance to make browsing and selecting broadcast content easier.

### Preparation Select "TUNER XM". (⇒ above)

### 1 To select a category

Press 

• Hold down the buttons to change categories quickly.

e.g.

  
 Category

### 2 To select an XM channel

Press 

• Hold down the buttons to change XM channels quickly.

e.g.

  
 Channel number

• To change the channels, repeat steps 1 and 2.

• You cannot select XM channel 0.

Select other channels.

• To cancel: press [ENTER] in step 1.

• If you do not press a button while the cursor is flashing, the display returns to the broadcast being received.

• If the broadcast has not been input correctly, "XM ---" will be displayed.

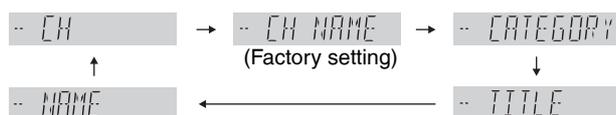
• XM channel selection by category enables you to narrow down your choices to channels belonging to a broadcasting category of your choice and then to select a favorite channel from the chosen category. Available categories vary according to broadcasting hours. The unit does not display categories with no broadcasting XM channel.

• Each XM channel may belong to two categories (Category 1 and Category 2). Both categories are used for channel selection by category. When "2" appears at the beginning of the category display, it means the XM channel selected by category belongs to Category 2.

## Displaying the XM channel information

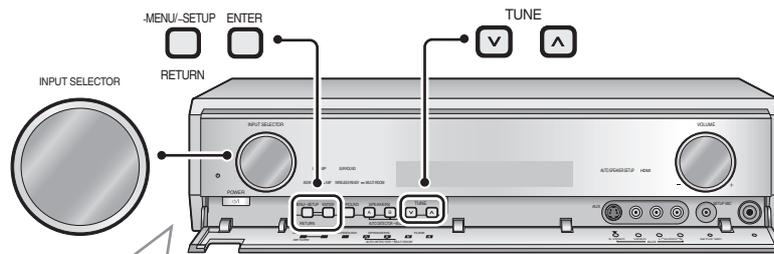
The display can be changed to inform broadcast contents such as XM channel number, channel name, category, song title (program title) and artist name (feature).

The display changes each time you press  while receiving XM broadcast.



• The unit memorizes the display item even if you turn it off.

# XM® Satellite Radio



**Basic operation**

**INPUT SELECTOR**  
Turn to select.

**ENTER**  
Press to confirm your choice.

**MENU-SETUP**  
RETURN  
To return to the previous display/  
To cancel

## Preset tuning

### Presetting your favorite XM channels (using the unit)

Channel presets allow you to quickly and conveniently select your favorite XM channels. Up to 15 XM channels can be stored as channel presets.

- 1 **Tune to the channel you want to preset.** (→ page 49)
  - You cannot preset XM channel 0. Select other channels.
- 2 **Press [-MENU/-SETUP, RETURN] to enter the MENU.**
- 3 **Select “TUNER” and confirm the setting.**
- 4 **Select “MEMORY” and confirm the setting.**
- 5 **Select a preset channel (XM CH) and press [ENTER].** e.g.
  - “STORED” is displayed.
  - To return to step 1 (and continue presetting), press [TUNE ∨ or ∧].
- 6 **Press [-MENU/-SETUP, RETURN] twice to select “EXIT” and press [ENTER].**



• Preset channels (XM CH) 1 to 15 all contain XM channel 1 in the factory setting.

## Selecting the preset channels

**(Using the remote control)**

■ **To search a channel up and down**

Press **CH**

- Hold down the button to change channels faster.

■ **To select preset channels (XM CH) directly**

Press

To select a two digit number  
e.g. 15: [ $\geq$  10, ENTER] → [1] → [5]

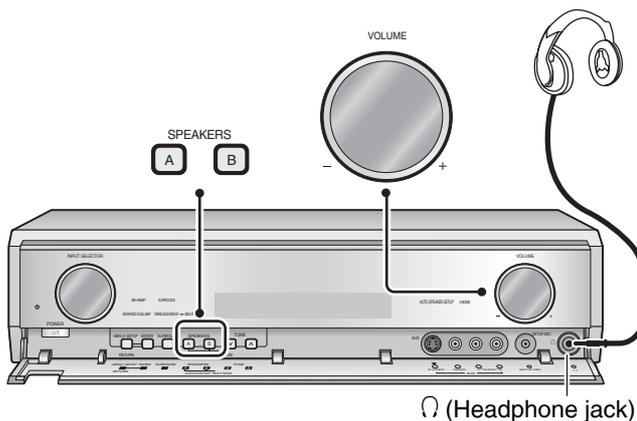
**(Using the unit)**

- 1 Press [-MENU/-SETUP, RETURN] to enter the MENU.
- 2 Select “TUNER” and confirm the setting.
- 3 Select “TUNE MODE” and confirm the setting.
- 4 Select “PRESET” and confirm the setting.
- 5 Press [-MENU/-SETUP, RETURN] twice to select “EXIT” and press [ENTER].
- 6 Press **TUNE** to select a preset channel.
  - Hold down the button to change channels faster.
  - Select “MANUAL” in step 4 when you wish to perform manual tuning for FM or AM broadcast. (→ page 46).

## XM advisory messages

Message	Status and remedy
<b>ANTENNA</b> (flashing)	<ul style="list-style-type: none"> <li>The XM Connect &amp; Play antenna, or XM Mini-Tuner and Home Dock is not properly connected. Check the connection and make sure the antenna cable is not damaged.</li> </ul>
<b>UPDATING</b> (flashing)	<ul style="list-style-type: none"> <li>The XM Connect &amp; Play antenna, or XM Mini-Tuner and Home Dock is being updated with the latest encryption code. Wait a few seconds for the update to complete.</li> <li>You may have selected an XM channel that has been blocked, or is no longer available with your subscription package. If you want to inquire about receiving the channel, call XM's Listener Care at 1-800-XMRADIO (1-800-967-2346).</li> </ul>
<b>NO SIGNAL</b> (flashing)	<ul style="list-style-type: none"> <li>The XM signal is too weak. Reorient the XM Connect &amp; Play antenna, or XM Mini-Tuner and Home Dock for better reception.</li> <li>Make sure the antenna is properly connected.</li> </ul>
<b>LOADING</b> (flashing)	<ul style="list-style-type: none"> <li>The XM Connect &amp; Play antenna, or XM Mini-Tuner and Home Dock is receiving and decoding the broadcast information. Wait a few seconds for loading to complete.</li> </ul>
<b>OFF AIR</b> (flashing)	<ul style="list-style-type: none"> <li>The selected XM channel is not broadcast now. Select a different channel.</li> </ul>
<b>XM ---</b>	<ul style="list-style-type: none"> <li>The selected XM channel is not available. Select a different channel.</li> </ul>
<b>---</b>	<ul style="list-style-type: none"> <li>Supplemental text information, such as the song title or artist name is not available for that particular broadcast. You can change the type of XM channel information that is displayed by pressing [S, XM DISPLAY].</li> </ul>
(You can receive only promotional XM channels)	<ul style="list-style-type: none"> <li>Your XM Connect &amp; Play antenna, or XM Mini-Tuner and Home Dock has not been activated, or your subscription has expired.</li> <li>To activate your XM Connect &amp; Play antenna, or XM Mini-Tuner and Home Dock, or to renew your subscription, visit XM on the Web at <a href="http://www.xmradio.com">www.xmradio.com</a> or call XM's Listener Care at 1-800-XMRADIO (1-800-967-2346). You should have your Radio ID ready.</li> </ul>
(Sometimes "TUNER XM" stays on the display for a long time)	<ul style="list-style-type: none"> <li>When this happens, the unit is taking time to receive the broadcast. Please wait for a while.</li> </ul>

# Using headphones



- 1 Press [SPEAKERS A] and [SPEAKERS B] to switch all speakers off.
- 2 Lower the volume by turning [VOLUME, -, +] and connect headphones to the unit.  
Plug type: ø 6.3 mm (1/4") stereo standard plug
- 3 Adjust the volume by turning [VOLUME, -, +].

**Note**

- Avoid listening for prolonged periods of time to prevent hearing damage.
- Playback channels become two when you switch all speakers off. The 2-channel mix (2CH MIX) function activates automatically when you play a surround source. (Excluding DVD-Audio sources that do not allow down-mixing.)
- ELS Surround sound cannot be properly played back.
- The DVD ANALOG 6CH (➡ page 29) goes off and front two channels make audio output when you play sources through analog 6-channel connections (➡ page 20).

# 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, refer to "Customer Services Directory" on page 58.

		Pages
<b>No power.</b>	<ul style="list-style-type: none"> <li>• Ensure the AC power supply cord is connected.</li> </ul>	<b>13</b>
<b>No sound. Sound is distorted.</b>	<ul style="list-style-type: none"> <li>• Turn the volume up.</li> <li>• Check connections to speakers and other equipment.</li> <li>• Turn on the speakers.</li> <li>• Select the correct source.</li> <li>• Change DIG INPUT setting to suit the type of connection you have made.</li> <li>• Check that the digital signals can be decoded by this unit.</li> <li>• Turn the muting off.</li> <li>• Turn PCM FIX off.</li> <li>• Recording of some DVD-Audio may not be possible due to copyright protection.</li> </ul>	<b>28</b> 13, 15 to 25, 32 <b>28</b> <b>28</b> <b>41</b> <b>55</b> <b>35</b> <b>41</b> –
<b>Sound stops. "OVERLOAD" appears on the display for about a second, and the unit turns off.</b>	<ul style="list-style-type: none"> <li>• Determine and correct the cause, then turn the unit on. Causes include: <ul style="list-style-type: none"> <li>- Shorting (bare wires touching) of positive and negative speaker wires.</li> <li>- Using speakers with an impedance lower than that rated for this unit.</li> <li>- Straining of the speakers through excessive volume or power.</li> <li>- Using the unit in a hot environment without proper ventilation.</li> </ul> </li> <li>➔ Consult your dealer if the problem occurs again after switching the unit on.</li> </ul>	<b>10, 13</b> <b>13, 22, 23</b> – –
<b>Analog input becomes distorted and the message "OVERFLOW" appears on the display during playback.</b>	<ul style="list-style-type: none"> <li>• Switch the attenuator on.</li> </ul>	<b>42</b>
<b>"F76" appears on the display and the unit turns off.</b>	<ul style="list-style-type: none"> <li>• Turn the unit off, disconnect the AC power supply cord, and consult your dealer.</li> </ul>	–
<b>"F70" appears on the display.</b>	<ul style="list-style-type: none"> <li>• Turn the unit off and on. When the message still appears, disconnect the AC power supply cord and consult your dealer.</li> </ul>	–
<b>"REMOTE 2" or "REMOTE 1" appears on the display.</b>	<ul style="list-style-type: none"> <li>• Match the codes on the main unit and the remote control.</li> </ul>	<b>45</b>
<b>Display is dim.</b>	<ul style="list-style-type: none"> <li>• Cancel the DIMMER function.</li> </ul>	<b>35, 37</b>
<b>Clicking sound is heard during play.</b>	<ul style="list-style-type: none"> <li>• 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.</li> <li>➔ You can also set the unit against automatic ADVANCED DUAL AMP operations.</li> </ul>	– <b>40</b>
<b>"MEASURING ERROR" appears on the display.</b>	<ul style="list-style-type: none"> <li>• A speaker is too far. Check speaker locations.</li> <li>• An error occurred from a cause that cannot be identified. Perform the auto speaker setup again.</li> </ul>	<b>26, 27</b> –
<b>When speaker distances are set (➔ page 39), "–" appears on the display with the speaker name such as "L 10.0 –".</b>	<ul style="list-style-type: none"> <li>• It appears when polarity of a speaker is automatically adjusted.</li> <li>➔ You can set speakers against automatic polarity adjustment.</li> </ul>	<b>40</b>
<b>When speaker distances are set (➔ page 39), "OVER" appears on the display.</b>	<ul style="list-style-type: none"> <li>• It appears when the measured distance exceeds 45 feet (15 meters). Check the speaker location.</li> </ul>	–
<b>Sound is not heard from the center, surround or subwoofer speakers.</b>	<ul style="list-style-type: none"> <li>• Ensure the speaker settings for your speakers are correct.</li> <li>• Confirm Dolby Pro Logic IIx, NEO:6, or SFC settings, and select an adequate mode.</li> <li>• Press [SURROUND] on when you play 2-channel stereo sources.</li> </ul>	<b>26, 27</b> <b>30, 31, 33</b> <b>28</b>
<b>Sound is not heard from the surround back speaker.</b>	<ul style="list-style-type: none"> <li>• Ensure the speaker settings for your speakers are correct.</li> <li>• Press [SURROUND] on.</li> </ul>	<b>26, 27</b> <b>28</b>
<b>Dolby Pro Logic IIx, NEO:6, and SFC are unavailable.</b>	<ul style="list-style-type: none"> <li>• Check if the center speaker, surround speakers, and surround back speakers are connected properly.</li> <li>• Press [SPEAKERS A] on.</li> <li>• You cannot use Dolby Pro Logic IIx, NEO:6 or SFC on sources containing PCM signals with the sampling frequency higher than 48 kHz.</li> <li>• Cancel DVD ANALOG 6CH playback.</li> <li>• You cannot use the effect when the input source contains dual audio signals in Dolby Digital or DTS formats.</li> <li>• You cannot use Dolby Pro Logic IIx, NEO:6 or SFC with PCM multi-channel.</li> </ul>	<b>13, 23</b> <b>28</b> – <b>29</b> – –
<b>There is no DTS audio output. There is audio output, but the DTS decoder indicator is not lit.</b>	<ul style="list-style-type: none"> <li>• Set the DTS Digital Audio Output setting on the DVD player or DVD recorder to "Bitstream".</li> </ul>	–
<b>Sound is distorted when using the Sound Field Control (SFC).</b>	<ul style="list-style-type: none"> <li>• Depending on the input source, sound may be distorted if you increase the SFC effect level. If this happens, decrease the SFC effect level.</li> </ul>	<b>33</b>

		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.)	25
	• Adjust the position of the FM or AM antenna.	25
	• Reduce the treble.	37
	• Turn off nearby televisions, video decks, DVD recorders, DVD players, and satellite receivers.	-
	• Separate the antenna from other cables, cords, and appliances.	-
There is a lot of noise when listening to AM.	• Try changing the BEAT PROOF mode.	47
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 " <b>PCMFIX</b> " as instructed in "Setting input signals" when you play 2-channel stereo sources.	41
"U70-1-1" appears on the display.	• The equipment connected by the HDMI cable is not compatible with the unit's copyright protection technology.	-
"U70-1-2" 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.	-
"U70-3" 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.	15, 32
	- Pull out the HDMI cable then reinsert it.	-
	- Reduce the number of equipment connected in series to the HDMI terminal if exceeding 2 units.	-
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 power supply cord, and make connections again.	15, 32
EZ Sync "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 power supply cord, and insert it into a household AC outlet again.	-
The equipment connected to the unit's "HDMI (BD/DVD PLAYER) IN" terminal turns on and off by itself.	• Some of the linked operations apply to the connected equipment that is EZ Sync "HDAVI Control" compatible. To prevent this, set the connected equipment (DVD recorder (DIGA) and others) against EZ Sync "HDAVI Control".	-
The remote control doesn't work.	• Replace the batteries if they are worn.	6
Other products respond to the remote control.	• Change this unit's remote control code to " <b>REMOTE 2</b> ".	45

# Help message

Message	Cause/countermeasure
1 CANCEL MUTING FUNCTION	Muting is on. Press [MUTING] on the remote control to cancel the function (⇒ page 35).
2 MUSIC MODE ONLY	The selected mode is not " <b>MUSIC</b> ". Change the mode to " <b>MUSIC</b> " (⇒ pages 30 and 31).
3 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 39).
4 NO SURROUND AND SURROUND BACK SPEAKERS	Surround and surround back speakers are not connected, or they are set as absent. Connect the speakers (⇒ pages 13 and 23) or change their setting to present (⇒ page 39).
5 NO SURROUND BACK SPEAKER	Surround back speakers are not connected, or they are set as absent. Connect the speakers (⇒ page 23) or change their setting to present (⇒ page 39).

Message	Cause/countermeasure
6 NOT POSSIBLE FOR DTS-ES SOURCE	You are trying to use the effect unavailable for DTS-ES sources.
7 NOT POSSIBLE FOR DVD AUDIO SOURCE	You are trying to use the effect unavailable for DVD-Audio sources.
8 NOT POSSIBLE FOR DVD 6CH INPUT	You are trying to use the effect unavailable for DVD analog 6-channel playback.
9 NOT POSSIBLE FOR THIS INPUT SOURCE	You are trying to use the effect unavailable for the current input source.
10 PCM FIX (flashing)	The unit is in the " <b>PCMFIX</b> " mode. Cancel this mode (⇒ page 41).
11 SELECT SPEAKER A	"SPEAKERS A" is off. Select "SPEAKERS A" (⇒ page 28).
12 SPEAKERS ARE OFF	"SPEAKERS A" and "SPEAKERS B" are off. Select "SPEAKERS A" or "SPEAKERS B" (⇒ pages 28 and 29).

## About speakers

### Speaker impedance and allowed input

#### SB-FC1010L, R/ SB-HS1010L, R

Impedance	6 $\Omega$
Input power	100 W (RATED)

The only receivers you should connect to these speakers are those whose rated output does not exceed the above figures. Using a receiver with higher ratings than listed above can cause abnormal sounds to occur because of excessive input, damage to the receiver or speakers, and fire. If equipment is damaged in any way or unexpected trouble occurs during playback, unplug the system from its outlet and call a servicer for assistance.

### Protection circuitry (SB-FC1010L, R / SB-HS1010 L,R)

These units incorporate protection circuitry to protect them from damage caused by excessive input or abnormal signals; when excess input is detected, input is automatically interrupted.

#### If sound is interrupted...

- 1.Reduce the volume of the receiver.
- 2.Check the sound source and connections for any problems.  
If there is no problem, the protection circuitry will reset in a few minutes.

#### After the protection circuit is reset...

Take care not to increase the receiver's volume too high.

#### Protection circuitry (SB-WA1010)

This speaker is provided with a protection circuit. If trouble develops inside the speaker because the speaker is being used in an abnormally hot location or because excessively high input signals are supplied, the protection circuit may be triggered, shutting down the output.

It could take approximately an hour for the protection circuitry to reset.

#### If sound is interrupted during play...

1. Reduce the volume level from the receiver.
2. Press [POWER] to turn the unit off.
3. Check the temperature and connections for problems.
4. Remove the cause of any problems discovered.

Press [POWER] to turn the unit on.

#### Should the unit still not function properly...

Pull out the plug and consult your dealer.

### Excessive input

**You can damage your speakers and shorten their life span if you keep the volume high over extended periods.**

#### Reduce the volume in the following cases to avoid damage:

- When playing distorted sound.
- When the speakers are receiving howling from a microphone or record player, noise from FM broadcasts, or continuous signals from an oscillator, test disc, or electronic instrument.
- When adjusting the sound quality.
- When turning the receiver on or off.

### Other notes

#### When used with a CRT TV set

- Depending on how the installation is configured, irregular coloring may occur. If this occurs, turn the television off for about 30 minutes. The television's demagnetizing function should correct the problem. If it persists, move the speakers further away from the television.

#### This speaker system is not magnetically shielded.

Do not place it near a PC or other device that is affected by magnetic fields.

#### Keep magnetized items away.

Magnetized cards, bank cards, commuter passes, etc., can be damaged if placed too close to the speaker magnets. Clocks may also be affected.

#### Avoid locations such as described below:

- In direct sunlight
- Near heating appliances or other sources of heat
- Where the humidity is high

# Audio signals and amp mechanism

## Digital signals this unit can play

<b>Dolby Digital (including Dolby Digital Surround EX)</b>	This is the digital surround system 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.	 DVD etc.
<b>DTS (including DTS-ES and DTS 96/24)</b>	This is the digital surround system 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.	 DVD etc.
<b>PCM</b>	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. Frequencies appear on the display when the unit receives input signals transmitted at the frequencies of 88.2 kHz, 96 kHz, 176.4 kHz, and 192 kHz.	 CD, DVD-Audio etc.

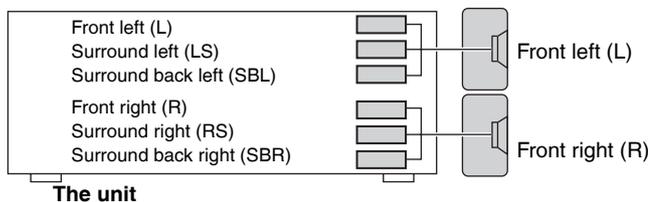
## Audio signal displays



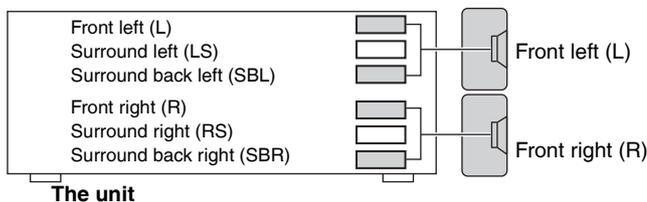
<p><b>DIGITAL:</b> Dolby Digital decoder is being used.</p>		<p><b>PL II:</b> The display informs Dolby Pro Logic IIx (the Dolby Pro Logic II decoder) is used on 2-channel stereo sources when surround back speakers are absent.</p>
<p><b>DIGITAL EX:</b> Dolby Digital Surround EX decoder (Dolby Pro Logic IIx decoder) is being used when the input signal is Dolby Digital 5.1-channel or Dolby Digital Surround EX. (Displayed only when you connect one surround back speaker.)</p>		<p><b>DTS:</b> DTS decoder is being used.</p> <p><b>DTS 96/24:</b> DTS 96/24 decoder is being used.</p>
<p><b>EX:</b> Dolby Digital Surround EX decoder (Dolby Pro Logic IIx decoder) is being used when the input signal is DTS 5.1-channel. (Displayed only when you connect one surround back speaker.)</p>		<p><b>DTS-ES:</b> DTS-ES discrete or matrix decoder is being used.</p> <p><b>NEO:6:</b> DTS NEO:6 matrix decoder is being used.</p>
<p><b>PL IIx:</b> Dolby Pro Logic IIx decoder is being used.</p>		<p><b>SFC:</b> SFC matrix function is being used.</p>

## ADVANCED DUAL AMP (⇒ page 29)

### ■ Stereo playback

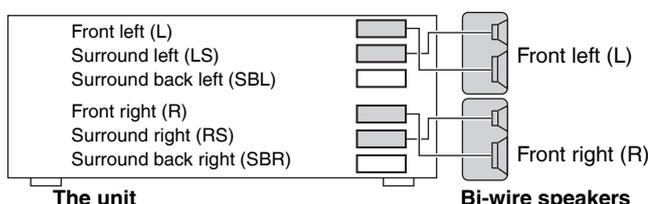


### ■ 5.1-channel surround playback

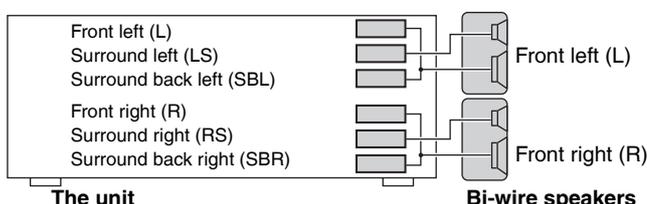


## BI-AMP (⇒ page 29)

### ■ BI-AMP



### ■ BI-AMP and ADVANCED DUAL AMP



# Specifications (IHF'78)

## ■ AMPLIFIER SECTION (SA-XR707)

<b>Rated minimum sine wave RMS power output</b>	
20 Hz to 20 kHz both channels driven	100 W per channel (6 Ω)
0.09 % total harmonic distortion	
<b>1 kHz continuous power output both channels driven</b>	
0.09 % total harmonic distortion	105 W per channel (6 Ω)
<b>Total harmonic distortion</b>	
rated power at 20 Hz to 20 kHz	0.09 % (6 Ω)
<b>Power bandwidth</b>	
both channels driven, -3 dB	4 Hz to 88 kHz (6 Ω, 0.9 %)
<b>Power output each channel driven</b>	
0.9 % total harmonic distortion at 1 kHz	
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)
<b>Load impedance</b>	
Front (L/R)	
A or B	6 to 8 Ω
A and B	6 to 8 Ω
BI-WIRE	6 to 8 Ω
Center	6 to 8 Ω
Surround (L/R)	6 to 8 Ω
Surround Back (L/R)	6 to 8 Ω
<b>Frequency response</b>	
CD, AUX, TV/STB, VCR, DVD RECORDER, BD/DVD	4 Hz to 88 kHz, ±3 dB
DVD 6CH	4 Hz to 44 kHz, ±3 dB
<b>Input sensitivity</b>	
CD, AUX, TV/STB, VCR, DVD RECORDER, BD/DVD/DVD 6CH	27 mV (200 mV, IHF '66)
<b>Input impedance</b>	
CD, AUX, TV/STB, VCR, DVD RECORDER, BD/DVD/DVD 6CH	22 kΩ
<b>S/N (IHF A)</b>	
CD, TV/STB, BD/DVD PLAYER, DVD RECORDER (Digital Input)	85 dB (103 dB, IHF '66)
<b>Tone controls</b>	
BASS	50 Hz, +10 to -10 dB
TREBLE	20 kHz, +10 to -10 dB
<b>Subwoofer frequency response (-6 dB)</b>	
	7 Hz to 200 Hz

Digital input (OPTICAL)	2
(COAXIAL)	2

HDMI (Version 1.2a)	Input	2
	Output	1

## ■ FM TUNER SECTION (SA-XR707)

Frequency range	87.9 to 107.9 MHz
Sensitivity	11.2 dBf (2 μV, IHF '58)
<b>50 dB quieting sensitivity</b>	
MONO	18.3 dBf (4.5 μV, IHF '58)
STEREO	38.3 dBf (45 μV, IHF '58)
<b>Total harmonic distortion</b>	
MONO	0.2%
STEREO	0.3%
<b>S/N</b>	
MONO	73 dB
STEREO	67 dB
Frequency response	20 Hz to 15 kHz, +1 dB, -2 dB
Alternate channel selectivity	65 dB
Capture ratio	1.5 dB
Image rejection at 98 MHz	40 dB
Spurious response rejection at 98 MHz	75 dB
AM suppression	50 dB
<b>Stereo separation</b>	
1 kHz	40 dB
10 kHz	30 dB
Antenna terminal	75 Ω (unbalanced)

## ■ AM TUNER SECTION (SA-XR707)

Frequency range	530 to 1710 kHz
Sensitivity	20 μV, 330 μV/m
Selectivity	55 dB
IF rejection at 1000 kHz	50 dB

## ■ VIDEO SECTION (SA-XR707)

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

## ■ GENERAL

Power supply	AC 120 V, 60 Hz
Power consumption	140 W
Dimensions (W x H x D)	430 mm x 107.5 mm x 390 mm (16-15/16" x 4-7/32" x 15-11/32")
Mass (Weight)	Approx. 5.3 kg (11.7 lb.)

## ■ DIN POWER (SA-XR707)

1 kHz, T. H. D. 1 %	2 x 100 W (6 Ω)
---------------------	-----------------

Power consumption in standby mode:	0.7 W
Power consumption in HDMI off mode:	0.3 W

Marking sign is located on bottom of the unit.

## ■ SB-FC1010L/SB-FC1010R

### FRONT SPEAKER SECTION

Type	3 way 4 speaker system Bass-reflex type	
Speaker	Woofers:	8 cm (3-1/8") cone type x 2
	Tweeters:	2.5 cm (1") dome type x 1
	Super Tweeter:	1.2 cm (1/2") dome type x 1
Impedance	6 Ω	
Input power (IEC)	200 W (MAX), 100 W (RATED)	
Sound pressure level	82.5 dB/W (1.0 m)	
Crossover frequency	2.5 kHz, 20 kHz	
Frequency range	65 Hz to 100 kHz (at -16 dB) 75 Hz to 90 kHz (at -10 dB)	

### CENTER SPEAKER SECTION

Type	3 way 3 speaker system Bass-reflex type	
Speaker	Woofers:	8 cm (3-1/8") cone type x 1
	Midrange:	6.5 cm (2-1/2") cone type x 1
	Tweeter:	2.5 cm (1") dome type x 1
Impedance	12 Ω	
Input power (IEC)	100 W (MAX), 50 W (RATED)	
Sound pressure level	80 dB/W (1.0 m)	
Crossover frequency	800 Hz, 3 kHz	
Frequency range	65 Hz to 50 kHz (at -16 dB) 75 Hz to 40 kHz (at -10 dB)	

### GENERAL

Dimensions (W x H x D)	279 mm x 1298 mm x 279 mm (with the stand) (11" x 51-1/4" x 11") (with the stand) 175 mm x 802 mm x 102 mm (For wall-mounting) (6-29/32" x 31-19/32" x 4-1/32") (For wall-mounting)
Mass (Weight)	Approx. 13.2 kg (29.1 lb.) (with the stand) Approx. 5.4 kg (11.9 lb.) (For wall-mounting)

## ■ SB-HS1010L/SB-HS1010R

Type	3 way 4 speaker system Bass-reflex type	
Speaker	Woofers:	8 cm (3-1/8") cone type x 2
	Tweeters:	2.5 cm (1") dome type x 1
	Super Tweeter:	1.2 cm (1/2") dome type x 1
Impedance	6 Ω	
Input power (IEC)	200 W (MAX), 100 W (RATED)	
Sound pressure level	82.5 dB/W (1.0 m)	
Crossover frequency	2.5 kHz, 20 kHz	
Frequency range	65 Hz to 100 kHz (at -16 dB) 75 Hz to 90 kHz (at -10 dB)	
Dimensions (W x H x D)	279 mm x 1298 mm x 279 mm (with the stand) (11" x 51-1/4" x 11") (with the stand) 175 mm x 802 mm x 102 mm (For wall-mounting) (6-29/32" x 31-19/32" x 4-1/32") (For wall-mounting)	
Mass	Approx. 12.5 kg (27.5 lb.) (with the stand) Approx. 4.7 kg (10.4 lb.) (For wall-mounting)	

## ■ SB-WA1010

### SPEAKER SECTION

Type	1 way 2 speaker system Bass-reflex type	
Speaker	Woofers:	17 cm (6-3/4") cone type x 2
		83 dB/W (1.0 m)
Sound pressure level	83 dB/W (1.0 m)	
Frequency range (with amp)	28 Hz to 300 Hz (at -16 dB) 32 Hz to 240 Hz (at -10 dB)	

### AMPLIFIER SECTION

Output power	100 W (6 Ω) x 2 (THD 0.9 %)
Input sensitivity / Input Impedance	300 mV/33 kΩ (50 Hz) (RCA jack)
Phase switching	NORMAL/REVERSE
Low pass filter	50 Hz to 200 Hz Variable

### GENERAL

Power supply	AC 120 V, 60 Hz
Power consumption	150 W
Dimensions (W x H x D)	254 mm x 496 mm x 500 mm (10" x 19-17/32" x 19-11/16")
Mass (Weight)	Approx. 22 kg (48.5 lb.)

Power consumption in input standby condition:	1.8 W
---	-------

### Notes:

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

# Maintenance

## If the surfaces are dirty

To clean this unit, wipe with a soft, dry cloth.

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

# Product Service

- 1. Damage requiring service** — The unit should be serviced by qualified service personnel if:
  - (a) The AC power supply cord or the plug has been damaged; or
  - (b) Objects or liquids have gotten into the unit; or
  - (c) The unit has been exposed to rain; or
  - (d) The unit does not operate normally or exhibits a marked change in performance; or
  - (e) The unit has been dropped or the cabinet damaged.
- 2. Servicing** — Do not attempt to service the unit beyond that described in these operating instructions. Refer all other servicing to authorized servicing personnel.
- 3. Replacement parts** — When parts need replacing ensure the servicer uses parts specified by the manufacturer or parts that have the same characteristics as the original parts. Unauthorized substitutes may result in fire, electric shock, or other hazards.
- 4. Safety check** — After repairs or service, ask the servicer to perform safety checks to confirm that the unit is in proper working condition.

The servicer will require all components to service your system. Therefore, should service ever be necessary, be sure to bring the entire system.

## Product information

For product information or assistance with product operation: Refer to “Customer Services Directory” on page 58.

# Listening caution



Selecting fine audio equipment such as the unit you've just purchased is only the start of your musical enjoyment. Now it's time to consider how you can maximize the fun and excitement your equipment offers. This manufacturer and the Electronic Industries Association's Consumer Electronics Group want you to get the most out of your equipment by playing it at a safe level. One that lets the sound come through loud and clear without annoying blaring or distortion-and, most importantly, without affecting your sensitive hearing.

We recommend that you avoid prolonged exposure to excessive noise.

Sound can be deceiving. Over time your hearing “comfort level” adapts to higher volumes of sound. So what sounds “normal” can actually be loud and harmful to your hearing.

Guard against this by setting your equipment at a safe level BEFORE your hearing adapts.

To establish a safe level:

- Start your volume control at a low setting.
- Slowly increase the sound until you can hear it comfortably and clearly, and without distortion.

Once you have established a comfortable sound level:

- Set the dial and leave it there.

Taking a minute to do this now will help to prevent hearing damage or loss in the future. After all, we want you listening for a lifetime.

# Limited Warranty

Panasonic Consumer Electronics Company,  
Division of Panasonic Corporation of North America  
One Panasonic Way Secaucus, New Jersey 07094

Panasonic Puerto Rico, Inc.  
Ave. 65 de Infantería, Km. 9.5  
San Gabriel Industrial Park, Carolina, Puerto Rico 00985

## Panasonic Audio Products Limited Warranty

### Limited Warranty Coverage

If your product does not work properly because of a defect in materials or workmanship, Panasonic Consumer Electronics Company or Panasonic Puerto Rico, Inc. (collectively referred to as "the warrantor") will, for the length of the period indicated on the chart below, which starts with the date of original purchase ("warranty period"), at its option either (a) repair your product with new or refurbished parts, or (b) replace it with a new or a refurbished product. The decision to repair or replace will be made by the warrantor.

Product or Part Name	Parts	Labor
Audio Products (except items listed below)	One (1) year	One (1) year
USB Reader-Writer, Personal Computer Card Adapters (in exchange for defective item)	One (1) year	Not Applicable
Accessories: Headphones, Cartridges, Microphones, Adapters	Ninety (90) days	Ninety (90) days
Rechargeable Batteries, DVD-R/-RAM Discs (in exchange for defective item)	Ten (10) days	Not Applicable
SD Memory Cards, Rechargeable Battery Packs (in exchange for defective item)	Ninety (90) days	Not Applicable

During the "Labor" warranty period there will be no charge for labor. During the "Parts" warranty period, there will be no charge for parts. You must carry-in or mail-in your product during the warranty period. If non-rechargeable batteries are included, they are not warranted. This warranty only applies to products purchased and serviced in the United States or Puerto Rico. This warranty is extended only to the original purchaser of a new product which was not sold "as is". A purchase receipt or other proof of the original purchase date is required for warranty service.

### Carry-In or Mail-In Service

For Carry-In or Mail-In Service in the United States call 1-800-211-PANA (1-800-211-7262) or visit Panasonic web site: <http://www.panasonic.com>  
For assistance in Puerto Rico call Panasonic Puerto Rico, Inc. (787)-750-4300 or fax (787)-768-2910.

### Limited Warranty Limits And Exclusions

This warranty ONLY COVERS failures due to defects in materials or workmanship, and DOES NOT COVER normal wear and tear or cosmetic damage. The warranty ALSO DOES NOT COVER damages which occurred in shipment, or failures which are caused by products not supplied by the warrantor, or failures which result from accidents, misuse, abuse, neglect, mishandling, misapplication, alteration, faulty installation, set-up adjustments, misadjustment of consumer controls, improper maintenance, power line surge, lightning damage, modification, or commercial use (such as in a hotel, office, restaurant, or other business), rental use of the product, service by anyone other than a Factory Servicenter or other Authorized Servicer, or damage that is attributable to acts of God.

**THERE ARE NO EXPRESS WARRANTIES EXCEPT AS LISTED UNDER "LIMITED WARRANTY COVERAGE". THE WARRANTOR IS NOT LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OF THIS PRODUCT, OR ARISING OUT OF ANY BREACH OF THIS WARRANTY.** (As examples, this excludes damages for lost time, travel to and from the servicer, loss of media or images, data or other memory content. The items listed are not exclusive, but are for illustration only.) **ALL EXPRESS AND IMPLIED WARRANTIES, INCLUDING THE WARRANTY OF MERCHANTABILITY, ARE LIMITED TO THE PERIOD OF THE LIMITED WARRANTY.** Some states do not allow the exclusion or limitation of incidental or consequential damages, or limitations on how long an implied warranty lasts, so the exclusions may not apply to you. This warranty gives you specific legal rights and you may also have other rights which vary from state to state. If a problem with this product develops during or after the warranty period, you may contact your dealer or Servicenter. If the problem is not handled to your satisfaction, then write to the warrantor's Consumer Affairs Department at the addresses listed for the warrantor.

**PARTS AND SERVICE WHICH ARE NOT COVERED BY THIS LIMITED WARRANTY ARE YOUR RESPONSIBILITY.**

### Customer Services Directory

Obtain Product Information and Operating Assistance; locate your nearest Dealer or Servicenter; purchase Parts and Accessories; or make Customer Service and Literature requests by visiting our Web Site at:

<http://www.panasonic.com/consumersupport>

or, contact us via the web at:

<http://www.panasonic.com/contactinfo>

You may also contact us directly at:

1-800-211-PANA (7262),

Monday-Friday 9 am-9 pm; Saturday-Sunday 10 am-7 pm, EST.

For hearing or speech impaired TTY users, TTY: 1-877-833-8855

### Accessory Purchases

Purchase Parts, Accessories and Instruction Books online for all Panasonic Products by visiting our Web Site at:

<http://www.pstc.panasonic.com>

or, send your request by E-mail to:

[npcparts@us.panasonic.com](mailto:npcparts@us.panasonic.com)

You may also contact us directly at:

1-800-332-5368 (Phone) 1-800-237-9080 (Fax Only) (Monday – Friday 9 am to 8 pm, EST.)

Panasonic Service and Technology Company

20421 84th Avenue South, Kent, WA 98032

(We Accept Visa, MasterCard, Discover Card, American Express, and Personal Checks)

For hearing or speech impaired TTY users, TTY: 1-866-605-1277

### Service in Puerto Rico

Panasonic Puerto Rico, Inc.

Ave. 65 de Infantería, Km. 9.5, San Gabriel Industrial Park, Carolina, Puerto Rico 00985

Phone (787)750-4300, Fax (787)768-2910

User memo:

DATE OF PURCHASE _____
DEALER NAME _____
DEALER ADDRESS _____
TELEPHONE NUMBER _____

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

MODEL NUMBER	SERIAL NUMBER
<b>SA-XR707</b> _____	_____
<b>SB-FC1010L</b> _____	_____
<b>SB-FC1010R</b> _____	_____
<b>SB-HS1010L</b> _____	_____
<b>SB-HS1010R</b> _____	_____
<b>SB-WA1010</b> _____	_____

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

“DTS” and “DTS-ES | Neo:6” are registered trademarks of DTS, Inc. “96/24” is a trademark of DTS, Inc.

The XM name and related logos are registered trademarks of XM Satellite Radio Inc. All rights reserved.

### 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.

HDMI, the HDMI logo and High-Definition Multimedia Interface are trademarks or registered trademarks of HDMI Licensing LLC.

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

EZ Sync™ is a trademark of Matsushita Electric Industrial Co., Ltd.

### -If you see this symbol-

#### 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.

Limited Warranty

Reference

---

**Panasonic Consumer Electronics  
Company, Division of Panasonic  
Corporation of North America**

One Panasonic Way Secaucus,  
New Jersey 07094

***<http://www.panasonic.com>***

© 2007 Matsushita Electric Industrial Co., Ltd.  
Printed in Malaysia

**Panasonic Puerto Rico, Inc.**

Ave. 65 de Infantería, Km. 9.5  
San Gabriel Industrial Park, Carolina,  
Puerto Rico 00985

ⓔn

**RQT8979-P**  
H0407RT0