

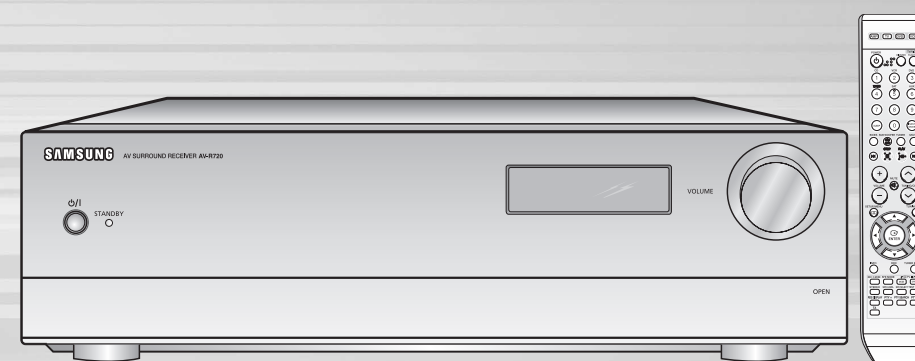
**SAMSUNG**

# Digital Surround AV Receiver System *AV-R720* *HT-AS720*

THIS APPLIANCE IS MANUFACTURED BY:

**SAMSUNG**

## Instruction Manual





# Safety Warnings

**CLASS 1 LASER PRODUCT**  
**KLASSE 1 LASER PRODUKT**  
**LUOKAN 1 LASER LAITE**  
**KLASS 1 LASER APPARAT**  
**PRODUCTO LASER CLASE 1**



## CAUTION

RISK OF ELECTRIC SHOCK.  
DO NOT OPEN



### CAUTION:

TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE REAR COVER. NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

### CLASS 1 LASER PRODUCT

This Compact Disc player is classified as a CLASS 1 LASER product.

- This apparatus shall always be connected to a AC outlet with a protective grounding connection.
- To disconnect the apparatus from the mains, the plug must be pulled out from the mains socket, therefore the mains plug shall be readily operable.

### Wiring the Main Power Supply Plug(UK Only)

#### IMPORTANT NOTICE

The main lead on this equipment is supplied with a moulded plug incorporating a fuse. The value of the fuse is indicated on the pin face of the plug and if it requires replacing, a fuse approved to BS1362 of the same rating must be used.

Never use the plug with the fuse cover removed. If the cover is detachable and a replacement is required, it must be of the same colour as the fuse fitted in the plug. Replacement covers are available from your dealer.

If the fitted plug is not suitable for the power points in your house or the cable is not long enough to reach a power point, you should obtain a suitable safety approved extension lead or consult your dealer for assistance.

However, if there is no alternative to cutting off the plug, remove the fuse and then safely dispose of the plug. Do not connect the plug to a main socket as there is a risk of shock hazard from the bared flexible cord.

Never attempt to insert bare wires directly into a main socket. A plug and fuse must be used at all times.

#### IMPORTANT


The wires in the main lead are coloured in accordance with the following code:—

**BLUE = NEUTRAL**

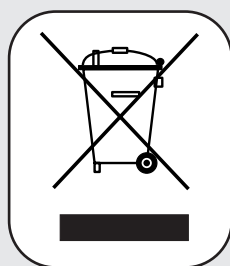
**BROWN = LIVE**

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

The wire coloured BLUE must be connected to the terminal marked with the letter N or coloured BLUE or BLACK. The wire coloured BROWN must be connected to the terminal marked with the letter L or coloured BROWN or RED.

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

This marking shown on the product or its literature, indicates that it should not be disposed with other household wastes at the end of its working life. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate this from other types of wastes and recycle it responsibly to promote the sustainable reuse of material resources. Household users should contact either the retailer where they purchased this product, or their local government office, for details of where and how they can take this item for environmentally safe recycling. Business users should contact their supplier and check the terms and conditions of the purchase contract. This product should not be mixed with other commercial wastes for disposal.



Use of controls, adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

### CAUTION-INVISIBLE LASER RADIATION WHEN OPEN AND INTERLOCKS DEFEATED, AVOID EXPOSURE TO BEAM.



This symbol indicates that dangerous voltage which can cause electric shock is present inside this unit.



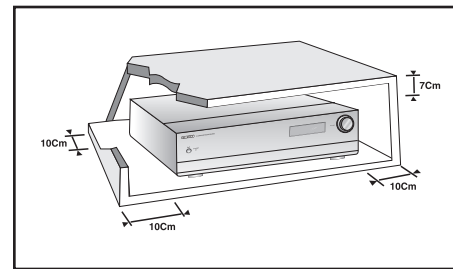
This symbol alerts you to important operating and maintenance instructions accompanying the unit.

**WARNING:** To reduce the risk of fire or electric shock, do not expose this appliance to rain or moisture.

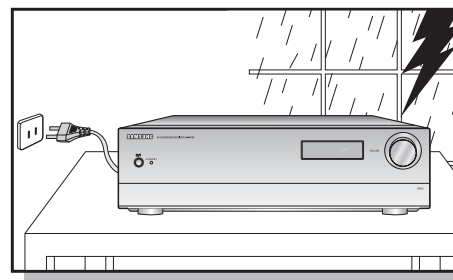
**CAUTION:** TO PREVENT ELECTRIC SHOCK, MATCH WIDE BLADE OF PLUG TO WIDE SLOT, FULLY INSERT.



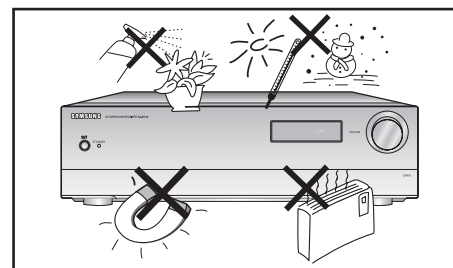
# Precautions



Ensure that the AC power supply in your house complies with the identification sticker located on the back of your player. Install your player horizontally, on a suitable base (furniture), with enough space around it for ventilation (7.5~10cm). Make sure the ventilation slots are not covered. Do not stack anything on top of the amplifier. In order to disconnect the player completely from the power supply, remove the mains plug from the wall outlet, especially when left unused for a long period of time.



During thunderstorms, disconnect AC main plug from the wall outlet. Voltage peaks due to lightning could damage the unit.

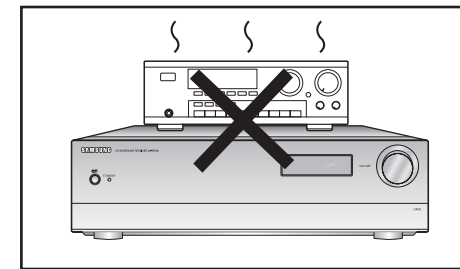


Protect the player from moisture(i.e. vases), and excess heat(e.g.fireplace) or equipment creating strong magnetic or electric fields (i.e.speakers...). Disconnect the power cable from the AC supply if the player malfunctions. Your player is not intended for industrial use.

Use of this product is for personal use only.

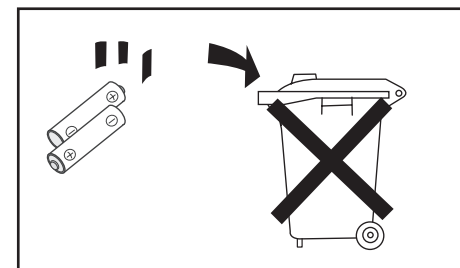
Condensation may occur if your player or disc have been stored in cold temperatures.

If transporting the player during the winter, wait approximately 2 hours until the unit has reached room temperature before using.



Do not expose the unit to direct sunlight or other heat sources.

This could lead to overheating and malfunction of the unit.



The battery used with this product contain chemicals that are harmful to the environment.

Do not dispose of batteries in the general household trash.



# Features

## Digital AV Receiver

This product is a pure digital AV receiver that performs digital signal processing to minimise signal distortion and loss.

## Dolby Pro Logic IIx

Dolby Pro Logic IIx is a new technology that provides discrete 7.1 channel out of 2 channel or multi channel sources. It also provides Music, Movie and Game modes.

## DTS 96/24

DTS is a surround format that implements 5.1 channel multi channel sound at 96KHz/24bit. In addition, it can also reproduce the matrix 6.1 of DTS 96/24 decoder signals.

## DOLBY DIGITAL EX

Adds a surround back channel for more spacious sound compared to regular 5.1 channel Dolby Digital.

## DTS (Digital Theater Systems)

DTS plays back 5.1 channel sound with less compression than Dolby Digital for richer sound.

## DTS-ES (Extended Surround)

DTS-ES adds an additional rear center surround channel for 6.1 channel sound. It is compatible with existing DTS Digital Sound formats.

## DTS NEO:6

Reproduces digital PCM or analogue stereo over 6.1 channel using a high precision DTS digital matrix.

## SFE (Sound Field Effect) Using 24bit Audio Digital Signal Processing

Provides more realistic surround sound with normal stereo audio sources.

## Anynet+ (HDMI-CEC) Function

Anynet+ is a function that can be used to operate this AV Receiver with a Samsung TV remote control, by connecting the receiver to a SAMSUNG TV using an HDMI Cable. (This function is available only in connection with Samsung TV and DVD player supporting Anynet+ (HDMI-CEC).)



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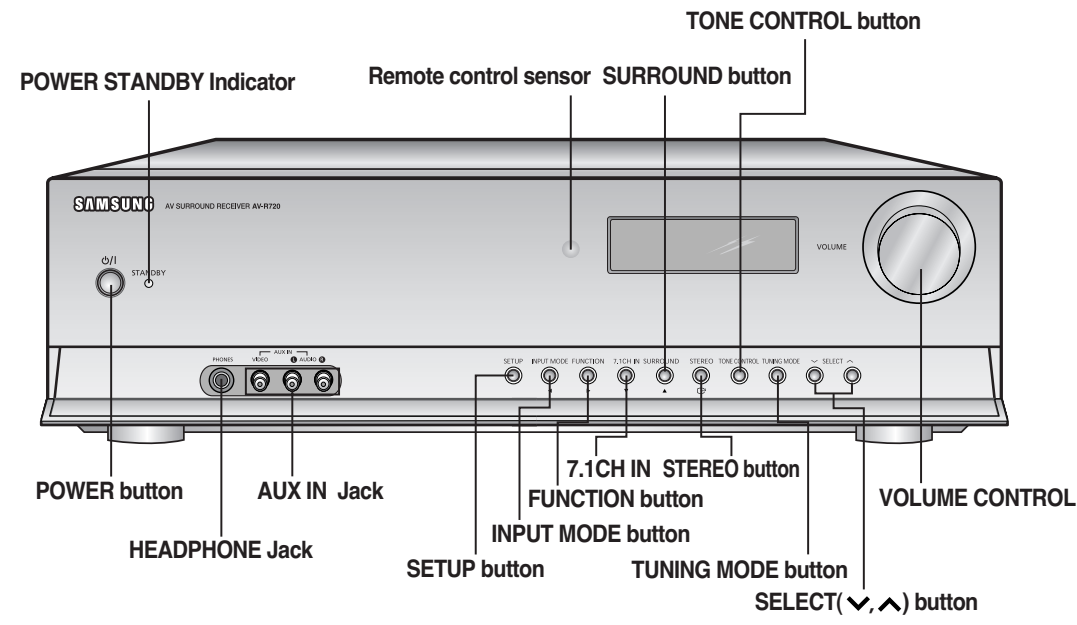
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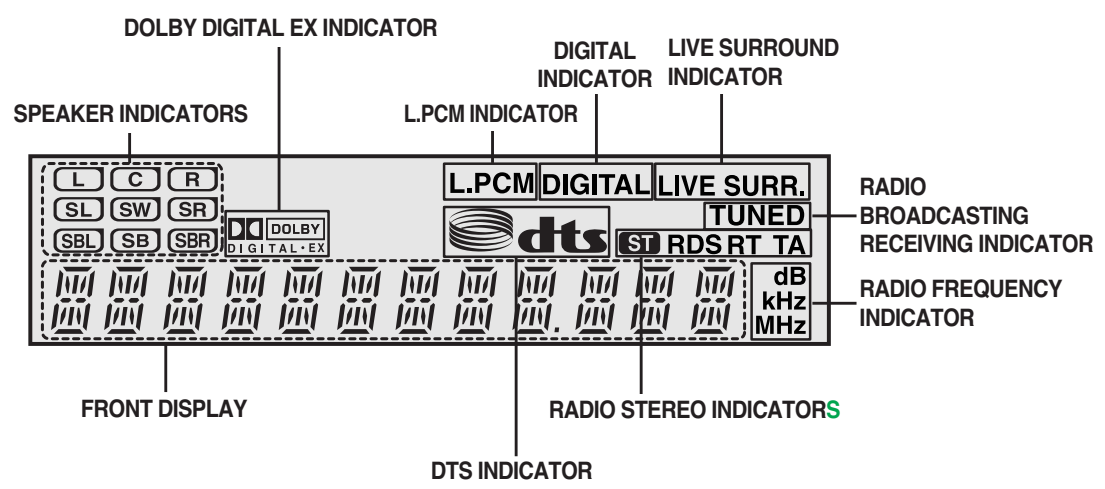


# Description

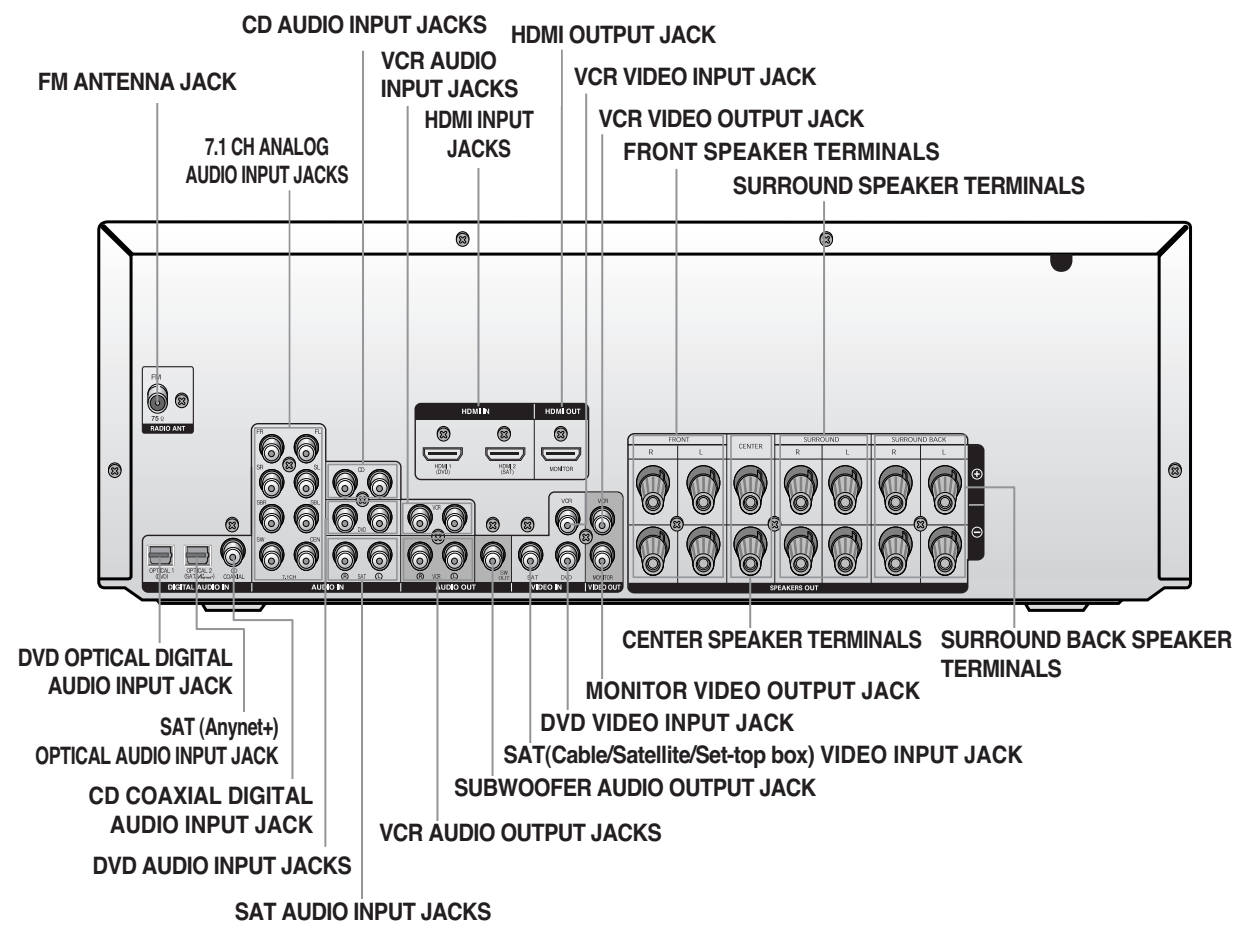
## [ Front panel ]



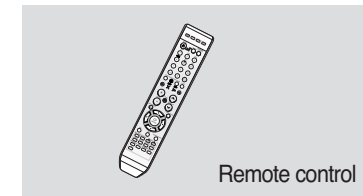
## [ Display ]



## [ Rear panel ]



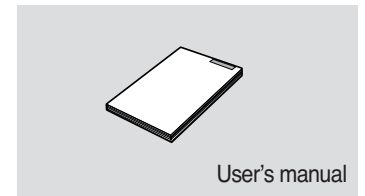
## ►► Accessories ◀◀



Remote control



FM antenna



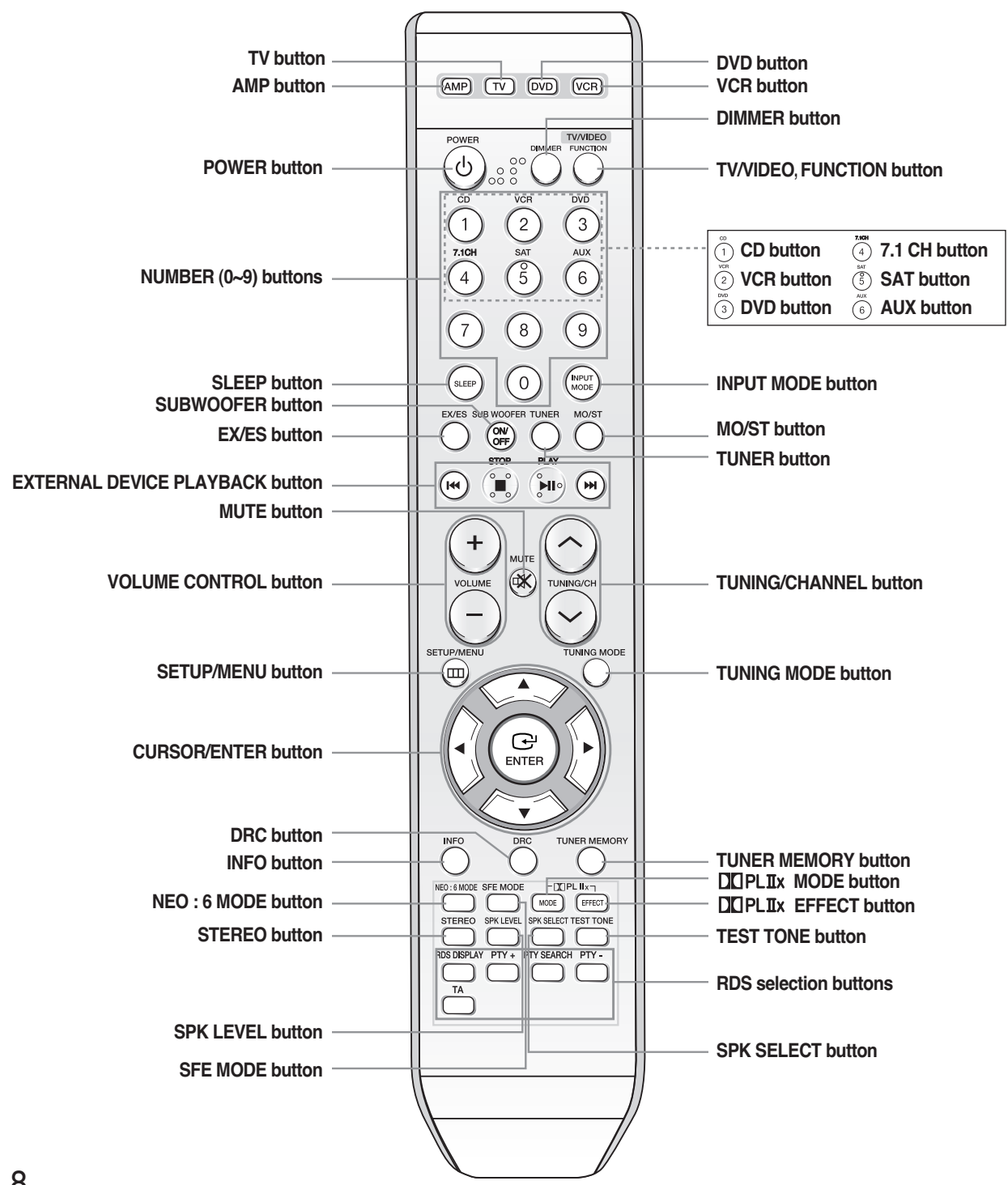
User's manual





# Description (Cont'd)

## [ Remote control ]



### Insert remote control batteries

**1** Remove the battery cover in the direction of the arrow.

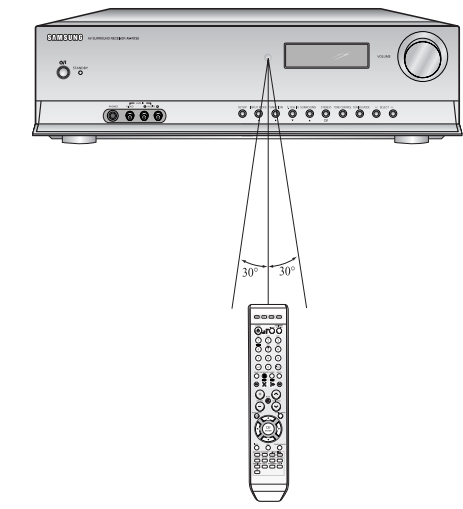
**2** Insert two 1.5V AAA batteries, paying attention to the correct polarities (+ and -).

**3** Replace the battery cover.

- Note**
- Follow these precautions to avoid leaking or cracking batteries:**
- Place batteries in the remote control so they match the polarity:(+) to (+)and (-)to (-).
  - Use the correct type of batteries. Batteries that look similar may differ in voltage.
  - Always replace both batteries at the same time.
  - Do not expose batteries to heat or flame.

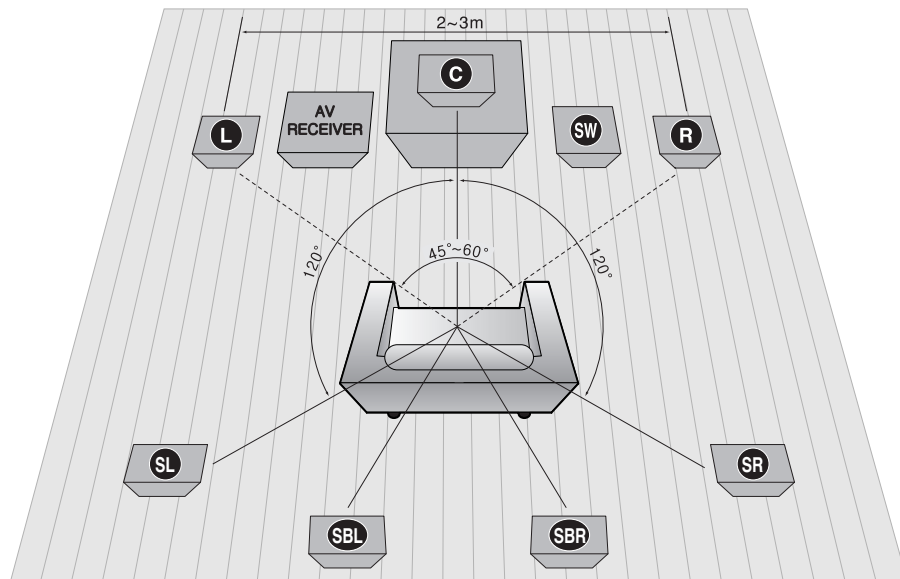
### Range of operation of the remote control

The remote control can be used up to approximately 23 feet/7 meters in a straight line. It can also be operated at a horizontal angle of up to 30° from the remote control sensor.



# Connecting the speakers

Before moving or installing the product, be sure to turn off the power and disconnect the power cord.



## Position of AV Receiver

- Place AV Receiver on a dedicated stand or rack.

## Front Speakers L R

- Place these speakers in front of your listening position, facing inwards (about 45°) toward you.
- Place the speakers so that their tweeters will be at the same height as your ears.
- Align the front face of the front speakers with the front face of the center speaker or place them slightly in front of the center speaker.

## Center speaker C

- It is best to install it at the same height as the front speakers.
- You can also install it directly over or under the TV.

## Subwoofer SW

- The position of the subwoofer is not so critical. Place it anywhere you like.

## Surround Speakers SL SR

- Place these speakers behind your listening position.
- If there isn't enough room, place these speakers so they face each other.
- Place them about 60 to 90cm (2 to 3feet) above your ears, facing slightly downward.
- Unlike the front and center speakers, the surround speakers are used to handle mainly sound effects and sound will not come from them all the time.

## Surround Back Speakers SBL SBR

- If you are using two rear center speakers, place them facing forward from behind the listening position.
- Place the surround back speaker about 70 cm to 1 m (2.3~3.3feet) above surround speakers, facing slightly downwards.

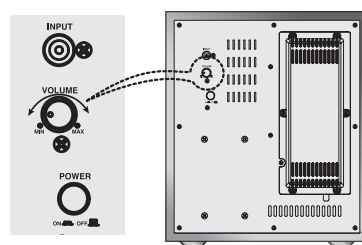


**Note** When you attach the speakers to a wall, make sure to fasten them tightly so they do not fall off.

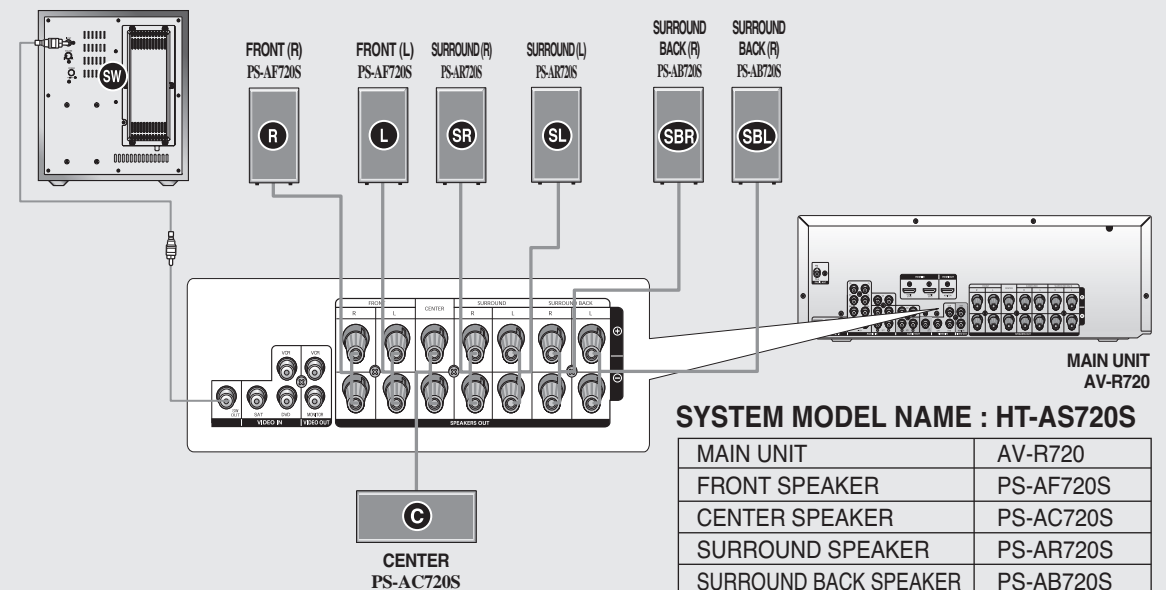
## Subwoofer function

Active subwoofer with integrated 150W amplifier provides rich bass sound.

- Connect the SW OUT terminal of the amplifier (AV-R720) to the INPUT terminal of the subwoofer speaker.
- Press the POWER button on the rear side of the subwoofer to turn the power on.
- Using the subwoofer's VOLUME control, you can set the desired bass level (See page 28 "Setting Speaker Level" to set the subwoofer level in the menu).



## ACTIVE SUBWOOFER (BUILT-IN POWER AMPLIFIER) PS-AW720S

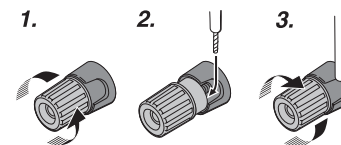


## SYSTEM MODEL NAME : HT-AS720S

MAIN UNIT	AV-R720
FRONT SPEAKER	PS-AF720S
CENTER SPEAKER	PS-AC720S
SURROUND SPEAKER	PS-AR720S
SURROUND BACK SPEAKER	PS-AB720S
ACTIVE SUBWOOFER	PS-AW720S

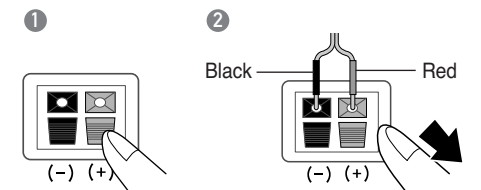
## CONNECTING SPEAKER WIRE

- Loosen the knob by turning counterclockwise.
- Insert the bare part of the wire into the hole in the side of each terminal.
- Tighten the knob by turning clockwise to secure the wire.



## Connecting the Speakers

- Press down the terminal tab on the back of the speaker.
- Insert the black wire into the black terminal (-) and the red wire into the red (+) terminal, and then release the tab.
- Connect the connecting plugs to the back of the AV receiver.
  - Make sure the colors of the speaker terminals match the colors of the connecting plugs.



## Caution

- Keep the subwoofer speaker out of reach of children to prevent them from inserting their hands or objects into the duct (hole).



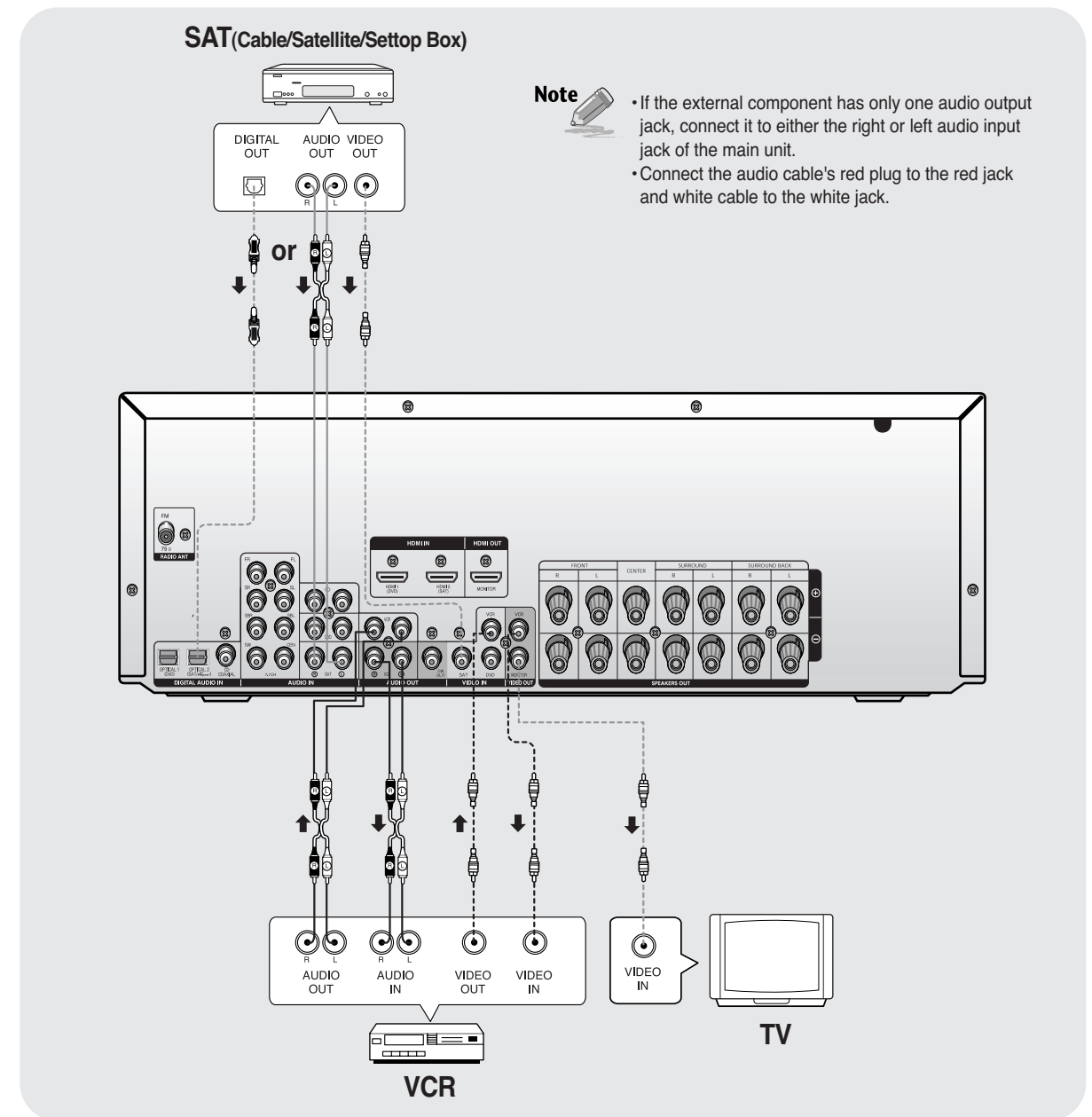
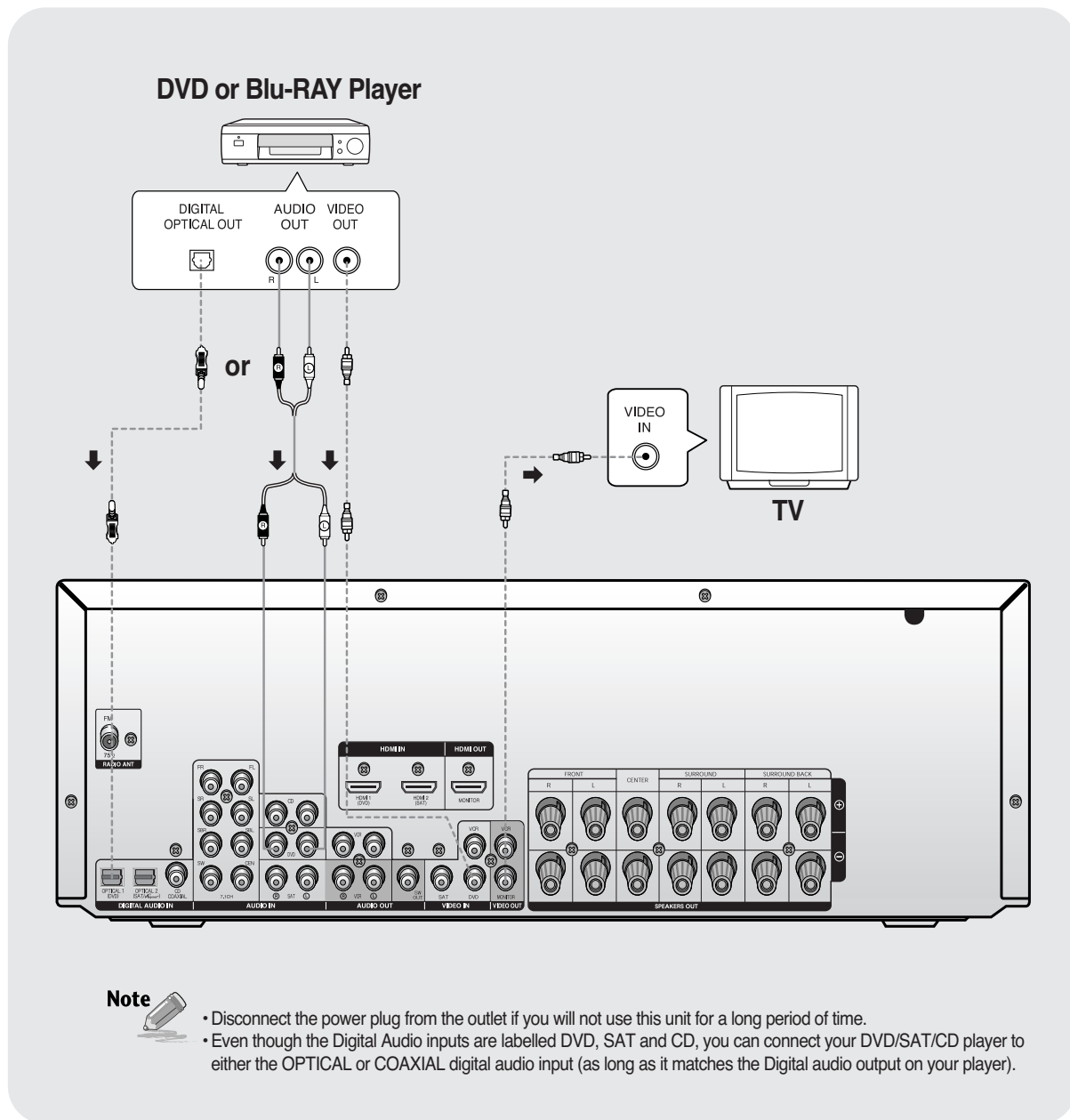
- Note**
- Never touch speaker terminals while the power is on. Doing so could result in electric shock.
  - Make sure the polarities (+ and -) are correct.
  - This system is capable of reproducing 6.1/7.1 channel sound, however only 5.1 speakers are supplied.



# Connecting external devices

## Connecting video devices

Before moving or installing the product, be sure to turn off the power and disconnect the power cord.

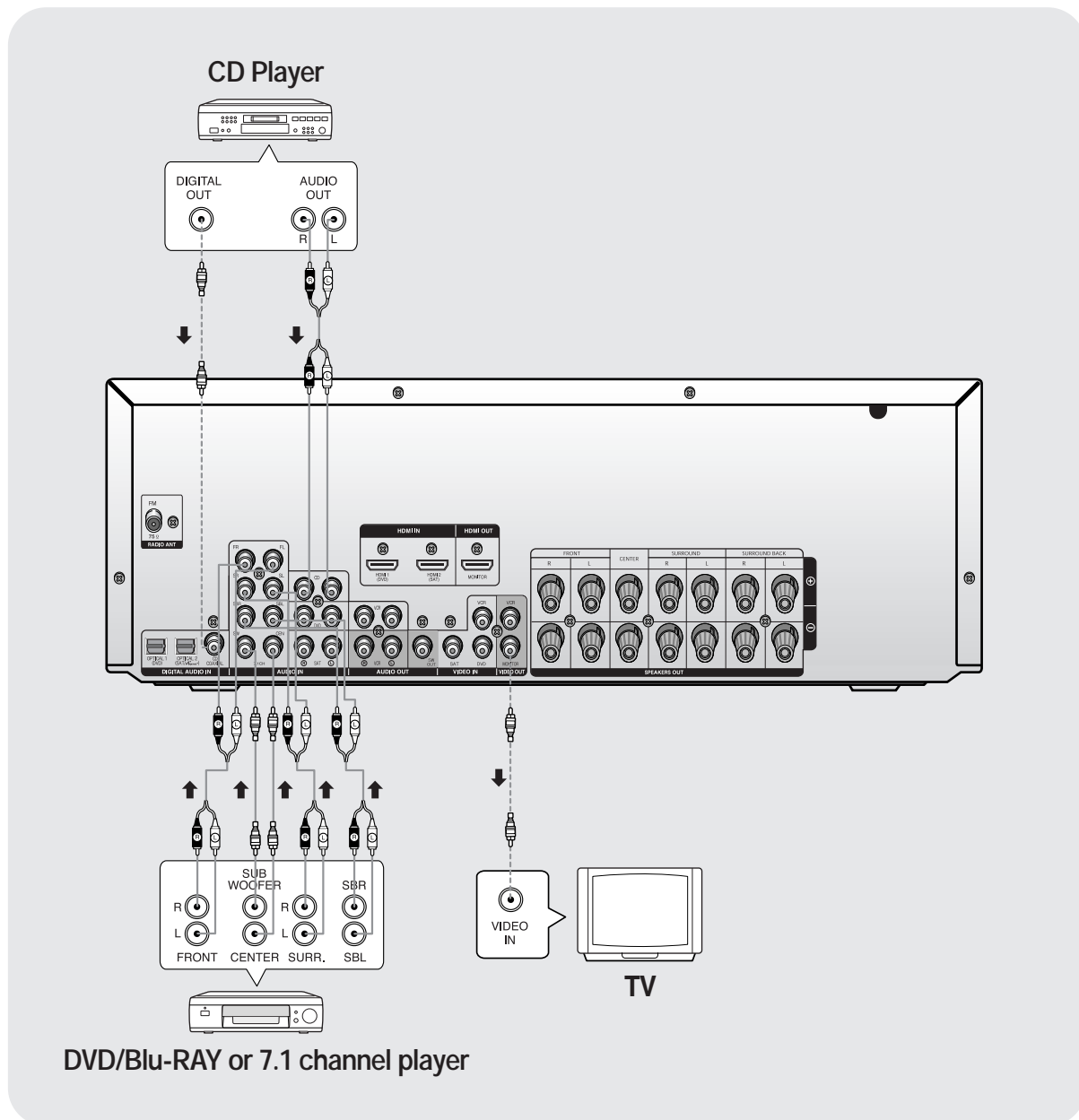




# Connecting external devices (cont'd)

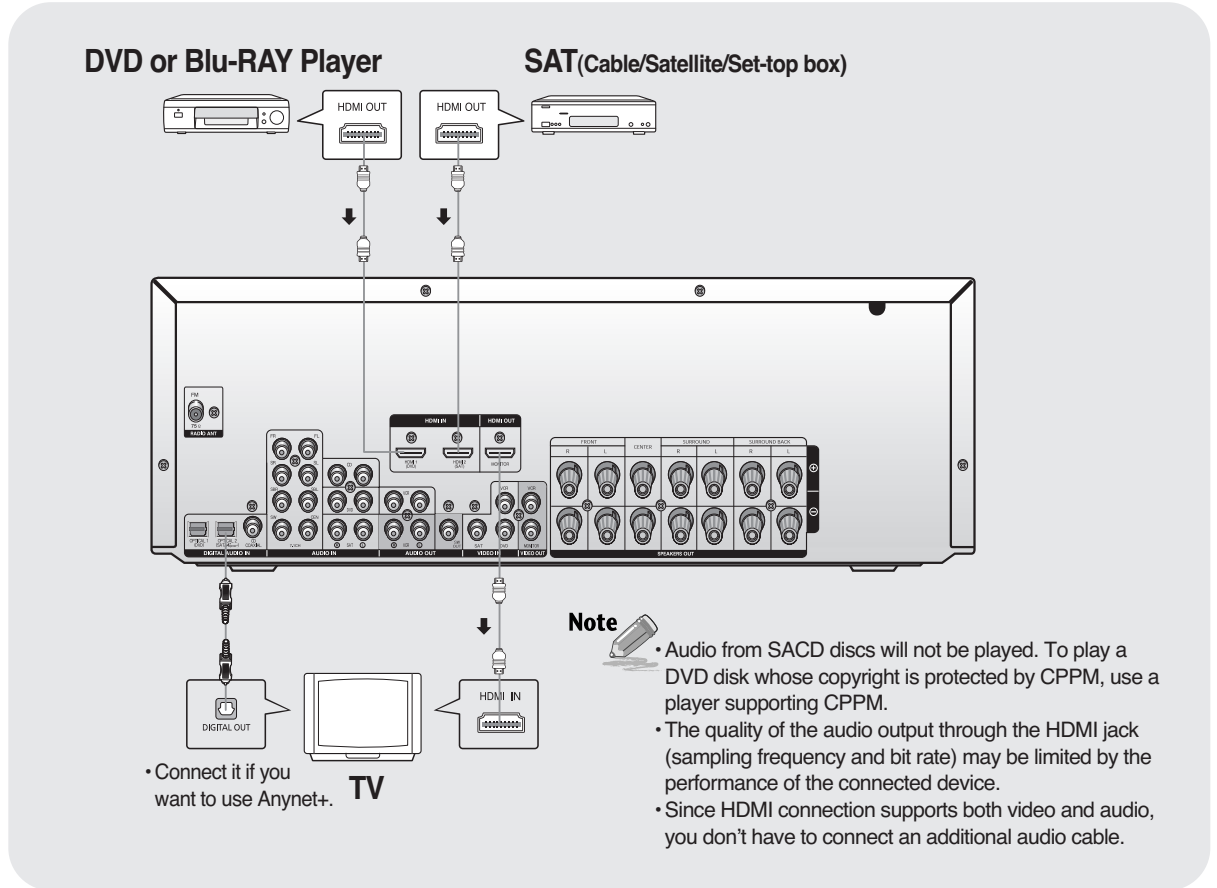
## Connecting audio/7.1 channel devices

Before moving or installing the product, be sure to turn off the power and disconnect the power cord.



## Connecting external devices via HDMI

By connecting through the HDMI(High-Definition Multimedia Interface) interface, you can play back digital video and audio without conversion to analog.



### High-bandwidth Digital Content Protection System (HDCP) support

To play digital contents through the HDMI connection, both of the connected external device and TV must support High-bandwidth Digital Content Protection System (HDCP). This product supports HDCP.

COMPATIBILITY WITH A TV SUPPORTING HDMI	
A TV with an HDMI jack.	Video/Audio
A TV with a DVI-D jack (TV supporting HDCP)	Video
A TV with a DVI-D jack (TV not supporting HDCP)	-

**Note** • If you use an HDMI cable to connect a Samsung TV to the DVD Player, you can operate the AV receiver using the TV's remote control. This function is available only in connection with Samsung TV and DVD player supporting Anynet+ (HDMI-CEC).  
• Please check the Anynet+ logo. If your TV has an Anynet+ logo, then it supports the Anynet+ function.





# Anynet+

## Using Anynet+(HDMI-CEC)

- 1 Connect the AV receiver to a Samsung TV with an HDMI cable. (See page 15)
- 2 Set the Anynet+ function on your TV. (See the TV instruction manual for more information.)
  - You can operate the AV receiver by using the TV remote control.  
(Available TV button : VOLUME  $\oplus$ ,  $\ominus$  button.)



### If you select TV

Set the Anynet+(HDMI-CEC) function to <On> on your TV.

- **Receiver : On** : You can listen to audio through the AV Receiver.
- **Receiver : Off** : You can listen to audio through the TV.

### If you select the DVD Player

Select **THEATER to connector** and set the option of each items below.

- **View TV** : If Anynet+(HDMI-CEC) set to on and you select View TV, the AV receiver will automatically switch to SAT OPTIC2(DIGITAL IN).
- **Receiver : On** : You can listen to audio through the AV receiver.
- **Receiver : Off** : You can listen to audio through the TV.

### To turn off Anynet+

- 1 Press **SETUP/MENU** button, and then press the **ENTER** button.
  - “SETUP MODE” appears on the display and goes into Setup Mode.
- 2 Press  $\blacktriangleleft$   $\blacktriangleright$  button to select the “ANYNET+ MODE”, and then press the **ENTER** button.
- 3 Press the  $\blacktriangle$   $\blacktriangledown$  button to set ANYNET+ to OFF.
  - If you are using Anynet+, set ANYNET+ to ON and if not, set it to OFF.

### To exit setup mode

- Wait for about 5 seconds or press **SETUP** button.
  - “SETUP OFF” appears on the display and Setup Mode is exited.



- When selecting View TV, you must have a digital optical cable connected from the TV to the AV receiver to listen to the TV sound through the AV receiver.

### Caution

- When you are making Anynet+ connection, do not connect more than two AV receivers (Anynet+ installed). Otherwise, it can cause a malfunction.

### With Anynet+

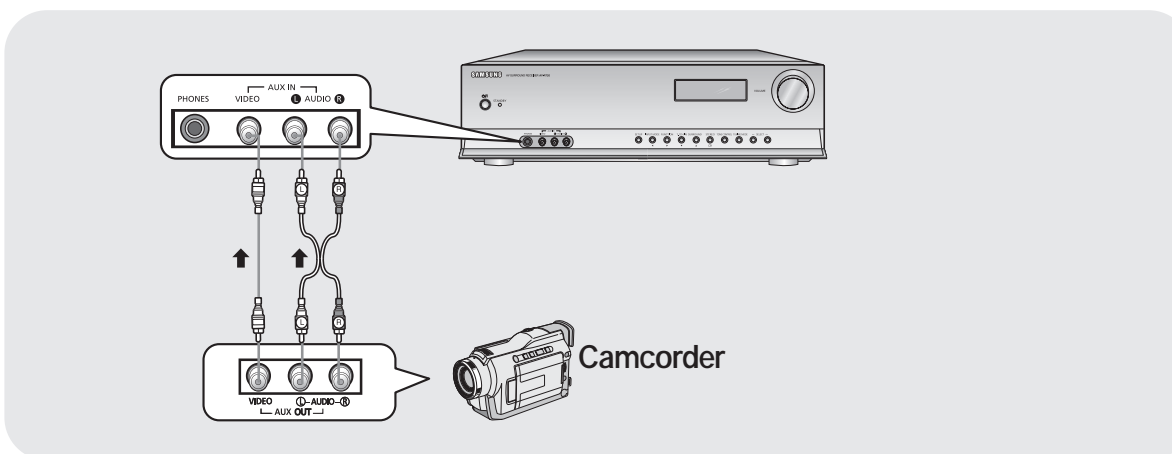
You can operate this unit, power on your TV, or watch a movie by pressing the Play button on your Samsung TV's remote control.



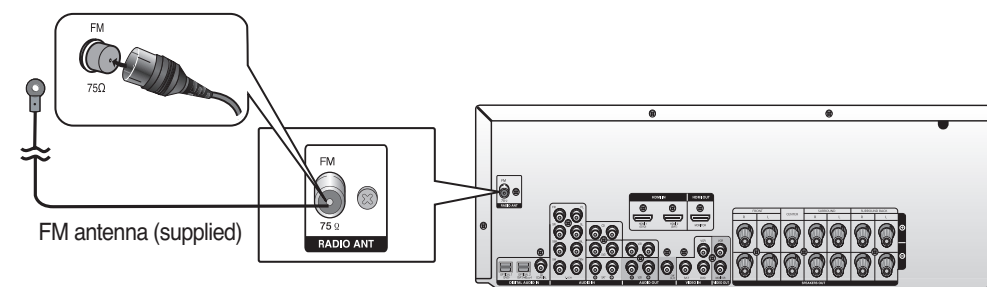
# Connecting external devices (Cont'd)

## Connecting AUX components

You can connect external devices you use (camcorder, game console, mobile equipment, etc.) to the front of this unit for convenience.



# Connecting the FM antenna



## FM antenna connection

1. Connect the FM antenna supplied to the FM 75Ω COAXIAL terminal as a temporary measure.
2. Slowly move the antenna wire around until you find a location where reception is good, then fasten it to a wall or other rigid surface.



# Before using the AV receiver



## Turning On/Off

Connect the power plug to the outlet.  
Press the **POWER** button of the remote control.

- This unit will be turned on or set to Standby mode.

## Remote control functions

You can operate your AMP (this AV receiver), TV, DVD and VCR with this remote control.  
See pages 43-46 for more details.

## To select a function

### Method 1

Press the **FUNCTION** button.

- Each time you press this button, **FM** → **7.1 MULTI CH** → **CD** → **DVD** → **SAT** → **VCR** → **AUX** will be selected in turn.

### Method 2

Press **CD**, **VCR**, **DVD**, **7.1CH**, **SAT**, **AUX** or **TUNER** button.

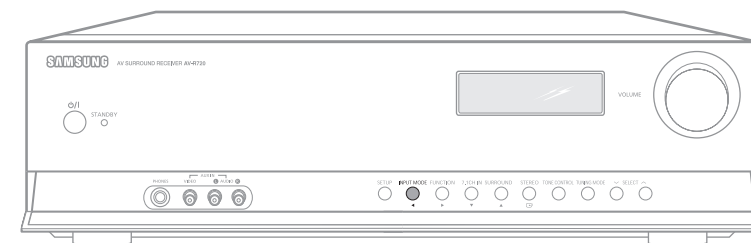
- You can directly select the desired function.



# Selecting digital/analogue Input

GB

You can listen to sound in 2 channel analog , Dolby Digital or DTS using this unit.



## REMOTE CONTROL

Press the **INPUT MODE** button.

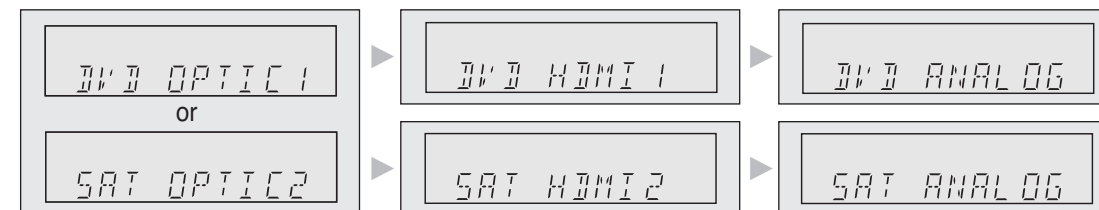
- Each time you press this button, input mode changes as follows:

## MAIN UNIT

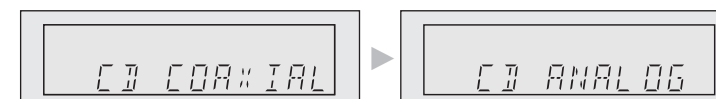
Press the **INPUT MODE** button.

- Each time the button is pressed, input mode changes as follows:

### For DVD/SAT function



### For CD function

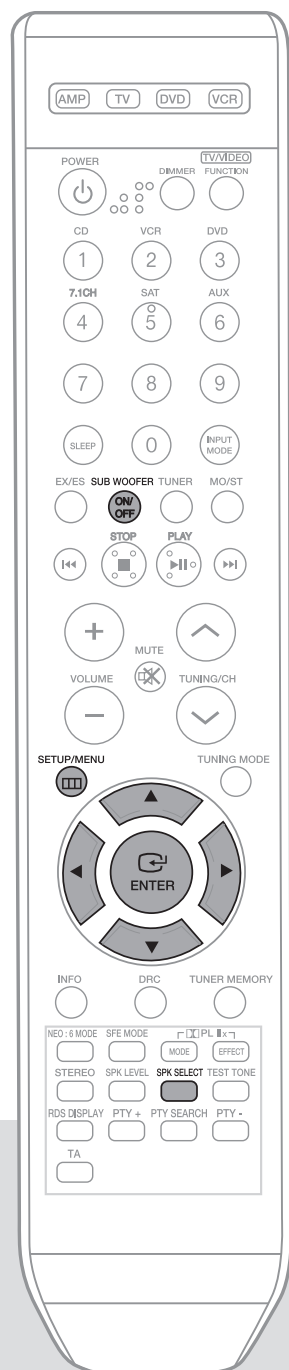


**Note**

- You can change the digital input setting for DVD, SAT and CD functions in the "DIGITAL IN" setup. (See page 23)
- You can enjoy Dolby Digital or DTS if you connect the digital audio output jack of an external audio component to the optical or coaxial digital audio input jack on the main unit.

# Setting the speaker mode

Signal outputs and frequency response from the speaker will be adjusted according to your speaker configuration and whether certain speakers are used or not.



## REMOTE CONTROL

- 1 Press **SETUP/MENU** button, and then press **ENTER** button.  
• "SETUP MODE" appears on the display and goes into Setup Mode.
  - 2 Press **◀▶** button to select the "SPK SETUP", and then press **ENTER** button.
  - 3 Press **◀▶** button to select the speaker you want.  
• Each time you press this button, FRONT → CEN → SURR → S.BACK → SUB → CROVR will be selected in turn.
  - 4 Press **▲▼** button to set the mode (LARGE, SMALL etc.) for the selected speaker.
  - 5 Repeat steps 3-4 to set the mode for each speaker.
- To exit setup mode**  
• Wait for about 5 seconds or press **SETUP/MENU** button.  
• "SETUP OFF" appears on the display and Setup Mode is exited.

### Using the SPK SELECT button

- 1 Press **SPK SELECT** button to select the speaker you want.  
• Each time you press this button, FRONT → CEN → SURR → S.BACK → SUB → CROVR will be selected in turn.
- 2 Press **▲▼** button to set the mode (LARGE, SMALL etc.) for the selected speaker.
- 3 Repeat steps 1-2 to set the mode for each speaker.

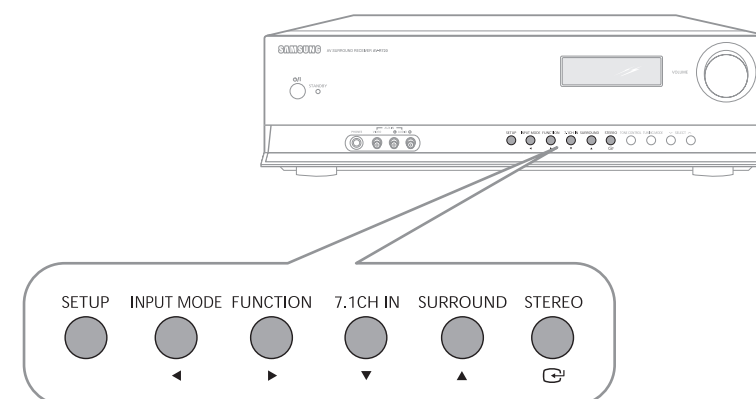
### To turn the SUBWOOFER on or off.

Press **SUBWOOFER** button on the remote.

- Each time you press this button, SUB : YES, SUB : NO will be selected in turn.



- If FRONT is set to LARGE, you can select YES or NO for SUB.
- If FRONT is set to SMALL, SUB is automatically set to YES. NO cannot be selected.



## MAIN UNIT

- 1 Press **SETUP** button, and then press **ENTER** (**↵**) button.  
• "SETUP MODE" appears on the display and goes into Setup Mode.
  - 2 Press **◀▶** button to select the "SPK SETUP", and then press **ENTER** (**↵**) button.
  - 3 Press **◀▶** button to select the speaker you want.  
• Each time you press this button, FRONT → CEN → SURR → S.BACK → SUB → CROVR will be selected in turn.
  - 4 Press **▲▼** button to set the mode (LARGE, SMALL etc.) for the selected speaker.
  - 5 Repeat steps 3-4 to set the mode for each speaker.
- To exit setup mode**  
• Wait for about 5 seconds or press **SETUP** button.  
• "SETUP OFF" appears on the display and Setup Mode is exited.

### Setting the Speaker

SPEAKER	Possible Settings	Default Setting
FRONT(Front)	LARGE, SMALL	SMALL
CEN(Centre)	LARGE, SMALL, NONE	SMALL
SURR(Surround)	LARGE, SMALL, NONE	SMALL
S.BACK (Surround Back)	LARGE, SMALL, NONE	SMALL
SUB(Subwoofer)	YES, NO	YES
CROVR (Crossover Frequency)	60, 80, 100, 120, 150, 180, 200(Hz)	150Hz

- **LARGE** : Select when using large speakers. You can listen to full range sound.
- **SMALL** : Select this when using small speakers
- **NONE** : Select when no speaker is used
- **YES (subwoofer)** : Select when using the subwoofer speaker.
- **NO (subwoofer)** : Select when not using the subwoofer speaker.
- **CROVR** : Select the crossover frequency for the best bass response in your room.

# Setting the speaker listening distance

If the speakers cannot be placed at equal distances from the listening position, you can adjust the delay time of the audio signals from the centre and surround speakers.



DIST SETUP

F.L 10FT 3.0M

- 1 Press **SETUP/MENU** button, and then press **ENTER** button.  
• “SETUP MODE” appears on the display and goes into Setup Mode.
- 2 Press **◀▶** button to select the “DIST SETUP”, and then press **ENTER** button.
- 3 Press **◀▶** button to select the speaker you want.  
• Each time you press this button, F.L → CEN → F.R → S.R → SBR → SBL → S.L → S.W will be selected in turn.
- 4 Press **▲▼** button to set the speaker distance.  
• For F.L, CEN, F.R, S.W, S.R, SBR, SBL, S.L Speaker, you can set the distance from the speaker to listening position between 0.3~9.0m in intervals of 0.3m.

## To exit setup mode

- Wait for about 5 seconds or press **SETUP/MENU** button.  
“SETUP OFF” appears on the display and Setup Mode is exited.

## Setting Speaker Distance

Set the distance from the speaker to listening position in intervals of 0.3m.

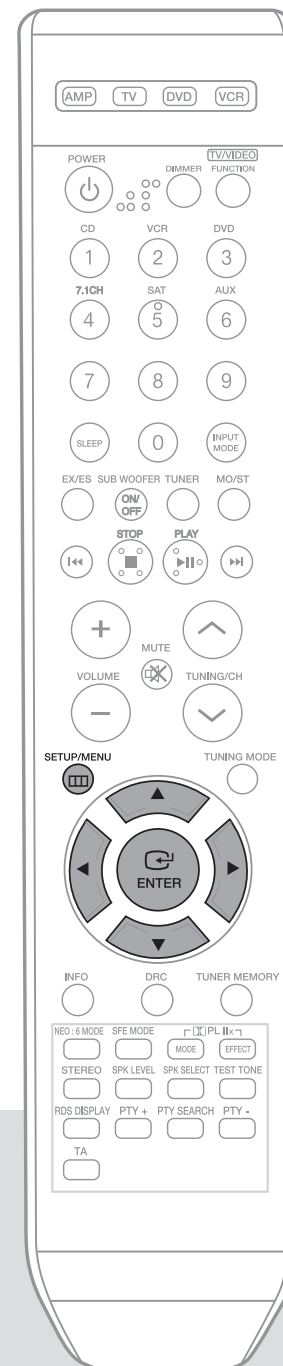
- **F.L (front left)** : 0.3m ~ 9m
- **F.R (front right)** : 0.3m ~ 9m
- **SBR (surround back right)** : 0.3m ~ 9m
- **SBL (surround back left)** : 0.3m ~ 9m
- **S.L (surround left)** : 0.3m ~ 9m
- **CEN (centre)** : 0.3m ~ 9m
- **S.R (surround right)** : 0.3m ~ 9m
- **SBL (surround back left)** : 0.3m ~ 9m
- **SW (subwoofer)** : 0.3m ~ 9m



- If the listening position is beyond the range of the speaker distance setup, set the speaker distance to the maximum.
- The distance range of the overall speaker system is determined based on the F.L(front left) speaker distance from the listening position.
- Based on the max delay channel, the distance of the front speaker is 1.5m(5ms) and the surround speaker can be set up to 4.5m(15ms).

# Setting digital input

You can set the digital input for a DVD/SAT/CD player to either OPTICAL or COAXIAL to match the connections you've made .



DIGITAL IN

CD : COAX

- 1 Press **SETUP/MENU** button, and then press **ENTER** button.  
• “SETUP MODE” appears on the display and goes into Setup Mode.
- 2 Press **◀▶** button to select the “DIGITAL IN”, and then press **ENTER** button.
- 3 Press **◀▶** button to select the the CD, DVD or SAT function.  
• Each time you press this button, CD → DVD → SAT will be selected in turn.
- 4 Press **▲▼** button to set the digital input.  
• Each time you press this button, COAXIAL → OPTICAL2 → OPTICAL1 will be selected in turn.

## To exit setup mode

- Wait for about 5 seconds or press **SETUP/MENU** button.  
“SETUP OFF” appears on the display and Setup Mode is exited.



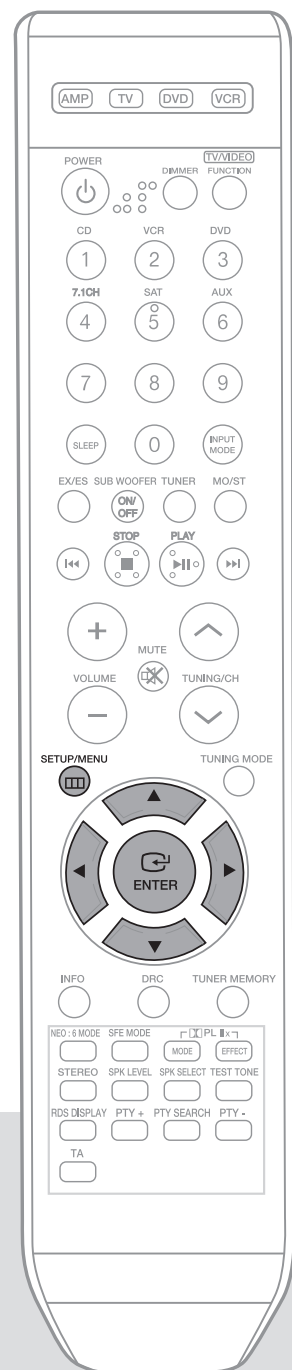
- You can select only one digital input for each function.  
Example) If you have selected COAXIAL for the CD function, you cannot select COAXIAL for the DVD or SAT function.

Function	Digital input
DVD	OPTICAL1
SAT	OPTICAL2
CD	COAXIAL



# Setting HDMI AUDIO

You can set HDMI audio settings.



HDMI AUDIO

HDMI : AVR

## Before using!

- Press the INPUT MODE button to select HDMI1 or HDMI2. (see page 19)
- If you select Digital (Optical, Coaxial) or Analogue, the HDMI audio setting will be deactivated.

**1** Press **SETUP/MENU** button, and then press **ENTER** button.

- “SETUP MODE” appears on the display and goes into Setup Mode.

**2** Press **◀▶** button to select the “HDMI AUDIO”, and then press **ENTER** button.

- “HDMI : AVR” appears on the display.

**3** Press **▲▼** button to set the HDMI audio.

- Each time you press this button, HDMI : AVR → HDMI : TV will be selected in turn.

## To exit setup mode

- Wait for about 5 seconds or press **SETUP/MENU** button.
- “SETUP OFF” appears on the display and Setup Mode is exited.

## Setting HDMI AUDIO

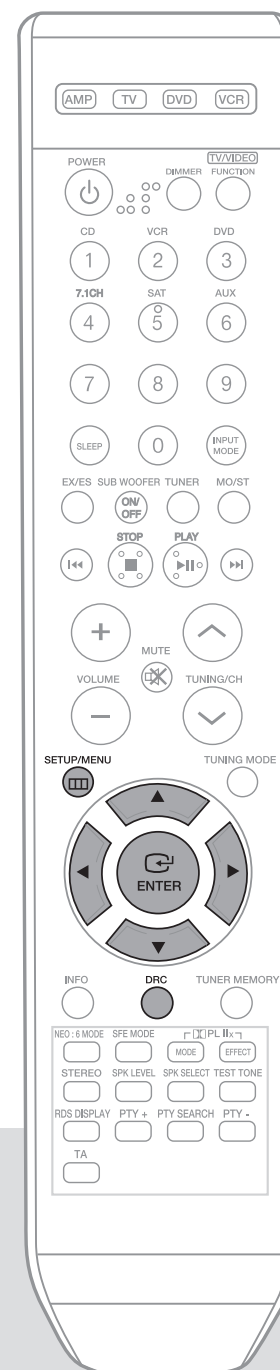
- **AVR** : Audio is played on this product.
- **TV** : Audio is played on a TV connected to the HDMI OUT jack and no audio is played on this product.



- This function is available when both video input and outputs HDMI.
- HDMI AUDIO setting is available only when the HDMI output is connected to a TV.
- If you do not hear sound from the TV, should change the HDMI audio output setting for your DVD PLAYER or SAT to PCM.

# Setting DRC (Dynamic Range Compression)

You can use this function to enjoy Dolby Digital sound when watching movies at low volume at night. DRC compresses the audio to make the loudest sounds quieter and the quietest sounds louder.



DRC SETUP

DRC : MAX

**1** Press **SETUP/MENU** button, and then press **ENTER** button.

- “SETUP MODE” appears on the display and goes into Setup Mode.

**2** Press **◀▶** button to select the “DRC SETUP”, and then press **ENTER** button.

- “DRC:STD” appears on the display.

**3** Press **▲▼** button to set the DRC.

- Each time you press this button, DRC : STD → DRC : MAX → DRC : MIN will be selected in turn.

## To exit setup mode

- Wait for about 5 seconds or press **SETUP/MENU** button.
- “SETUP OFF” appears on the display and Setup Mode is exited.

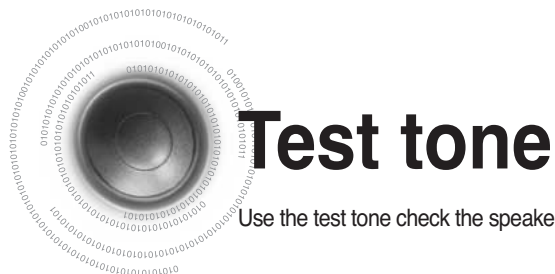
## Using the DRC button

Press **DRC** button.

- Each time you press this button, DRC : STD → DRC : MAX → DRC : MIN will be selected in turn.

## Setting DRC

- **STD** : Sets DRC effect to standard.
- **MAX** : Sets DRC effect to maximum.
- **MIN** : Sets DRC effect to minimum.



Use the test tone check the speaker connection status or level.

## To automatically output test tone



- 1 Press **SETUP/MENU** button, and then press **ENTER** button.  
• “SETUP MODE” appears on the display and the unit goes into Setup Mode.
- 2 Press **◀▶** button to select the “TEST-T AUTO”, and then press **ENTER** button.  
• Test signal will be automatically output as follows; F.L → CEN → F.R → S.R → SBR → SBL → S.L → S.W .  
• During test signal output, press **▲▼** button to adjust the individual speaker output level from -10 to +10 dB by 1 step.

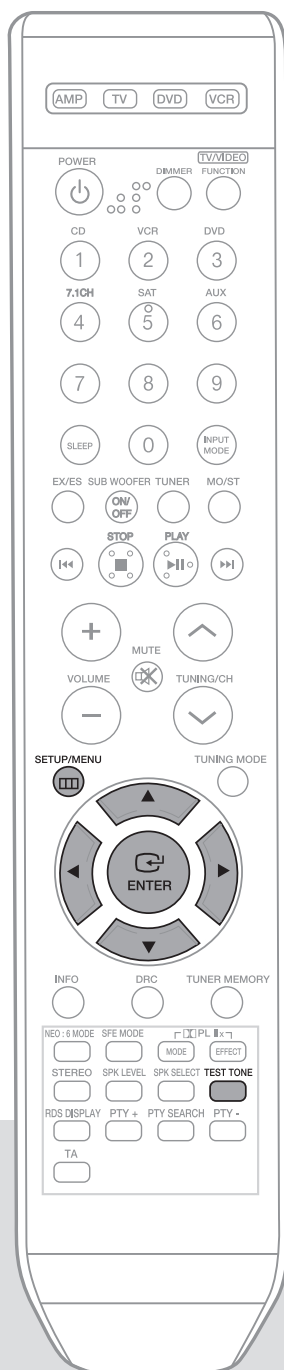
### To stop test tone

- Press **SETUP/MENU** button once time.  
“SETUP OFF” appears on the display and test tone stops.

### Using the Test Tone button

Press **TEST TONE** button.

- Test signal will be automatically output as follows; F.L → CEN → F.R → S.R → SBR → SBL → S.L → S.W.
- During test tone output, press **▲▼** button to adjust the speaker output level from -10 to +10 dB by 1 step.



## To Manually Output Test Tone



- 1 Press **SETUP/MENU** button, and then press **ENTER** button.  
• “SETUP MODE” appears on the display and goes into Setup Mode.
- 2 Press **◀▶** button to select the “TEST-T MANU”, and then press **ENTER** button.
- 3 Press **◀▶** button to select the speaker you want..  
• Each time you press **◀▶** button, F.L → CEN → F.R → S.R → SBR → SBL → S.L → S.W will be selected in turn.
- 4 Press **▲▼** button to set the test tone as you want.  
• You can adjust the speaker output level from -10 to +10dB by 1 step.  
• The sound gets quieter at -10dB and louder at +10dB.

### To stop test tone

- Press **SETUP/MENU** button once time.  
“SETUP OFF” appears on the display and test tone stops.

### Test Tone Output

- **F.L (front left)** : -10 ~ +10dB
- **CEN (centre)** : -10 ~ +10dB
- **F.R (front right)** : -10 ~ +10dB
- **S.R (surround right)** : -10 ~ +10dB
- **SBR (surround back right)** : -10 ~ +10dB
- **SBL (surround back left)** : -10 ~ +10dB
- **S.L (surround left)** : -10 ~ +10dB
- **S.W (subwoofer)** : -10 ~ +10dB

# Setting speaker level

You can set the balance and level of speakers.



- 1 Press **SETUP/MENU** button, and then press **ENTER** button.  
• "SETUP MODE" appears on the display and goes into Setup Mode.
- 2 Press **◀▶** button to select the "LEVEL SETUP", and then press **ENTER** button.
- 3 Press **◀▶** button to select the speaker you want.  
• Each time you press **◀▶** button, F.L → CEN → F.R → S.R → SBR → SBL → S.L → S.W will be selected in turn.
- 4 Press **▲▼** button to set the speaker mode.  
• You can adjust it from -10 to +10dB by 1 step.  
• The sound gets quieter at -10dB and louder at +10dB.

## To exit setup mode

- Wait for about 5 seconds or press **SETUP/MENU** button.
- "SETUP OFF" appears on the display and Setup Mode is exited.

## Using the SPK LEVEL button

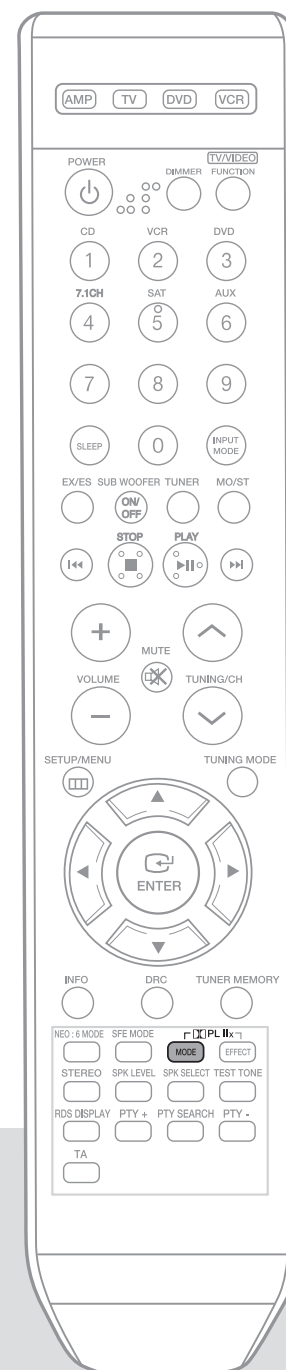
- 1 Press **SPK LEVEL** button to select the speaker you want.  
• Each time you press this button, F.L → CEN → F.R → S.R → SBR → SBL → S.L → S.W → SPK LVL OFF will be selected in turn.
- 2 Press **▲▼** button to set the speaker level you want.  
• You can adjust it from -10 to +10dB by 1 step.  
• The sound gets quieter at -10dB and louder at +10dB.

## Setting Speaker Level

- **F.L (front left)** : -10 ~ +10dB
- **CEN (centre)** : -10 ~ +10dB
- **F.R (front right)** : -10 ~ +10dB
- **S.R (surround right)** : -10 ~ +10dB
- **SBR (surround back right)** : -10 ~ +10dB
- **SBL (surround back left)** : -10 ~ +10dB
- **S.L (surround left)** : -10 ~ +10dB
- **S.W (subwoofer)** : -10 ~ +10dB

# Dolby Pro Logic IIx mode

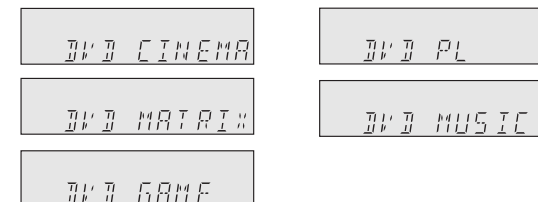
This mode provides 7.1 channel sound from 2 channel sources.



## REMOTE CONTROL

Press **DPLIIx MODE** button.

- Each time you press this button, CINEMA → MATRIX → GAME → PL → MUSIC will be selected in turn.



## MAIN UNIT

- 1 Press **SURROUND** button to select "DPLIIx MODE".  
• Each time you press this button, DPLIIx → NEO:6 → SFE → STEREO will be selected in turn.
- 2 Press **SELECT (▼, ▲)** button.  
• Each time you press **SELECT (▲)** button, CINEMA → MATRIX → GAME → PL → MUSIC will be selected in turn.  
• Each time you press **SELECT (▼)** button, MUSIC → PL → GAME → MATRIX → CINEMA will be selected in turn.

## To exit setup mode

- Wait for about 5 seconds.

## Dolby Pro Logic IIx mode

- **MUSIC** : Provides 7.1 channel surround sound for digital, analog or existing stereo sources such as CD, TAPE, FM, TV and stereo VCR.
- **CINEMA** : Adds realism to the movie soundtrack.
- **MATRIX** : You will hear 7.1 channel surround sound.
- **GAME** : Enhances the excitement of the game's sound.
- **PL** : You will experience a surround effect with just the front left and right speakers.

## Note

- You cannot use Dolby Pro Logic IIx mode for multi channel signals such as Dolby Digital and DTS.
- Pro Logic works only for PCM audio signals with sampling frequencies of 32KHz, 44KHz or 48KHz.
- Sound will not be output from the surround back speaker if the PCM audio signal is mono.

# Setting Dolby Pro Logic IIx effect

This function works only in Dolby PRO LOGIC IIx MUSIC Mode.



**1** Press **SETUP/MENU** button, and then press **ENTER** button.

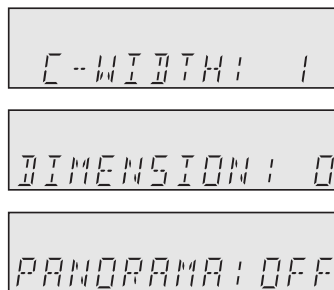
• “SETUP MODE” appears on the display and goes into Setup Mode.

**2** Press **◀▶** button to select the “**PL IIx MODE**”, and then press **ENTER** button.

**3** Press **◀▶** button.

• Each time you press this button, C-WIDTH → DIMENSION → PANORAMA will be selected in turn.

**4** Press **▲▼** button to set the Dolby Pro Logic IIx effect you want.



## To exit setup mode

• Wait for about 5 seconds or press **SETUP/MENU** button.  
“SETUP OFF” appears on the display and Setup Mode is exited.

## Using the **PL IIx EFFECT** button

**1** Press **PL IIx MODE** button to select ‘MUSIC’ Mode.

**2** Press **PL IIx EFFECT** button.

• Each time you press this button, C-WIDTH → DIMENSION → PANORAMA will be selected in turn.

**3** Press **▲▼** button to select Dolby Pro Logic IIx effect you want.

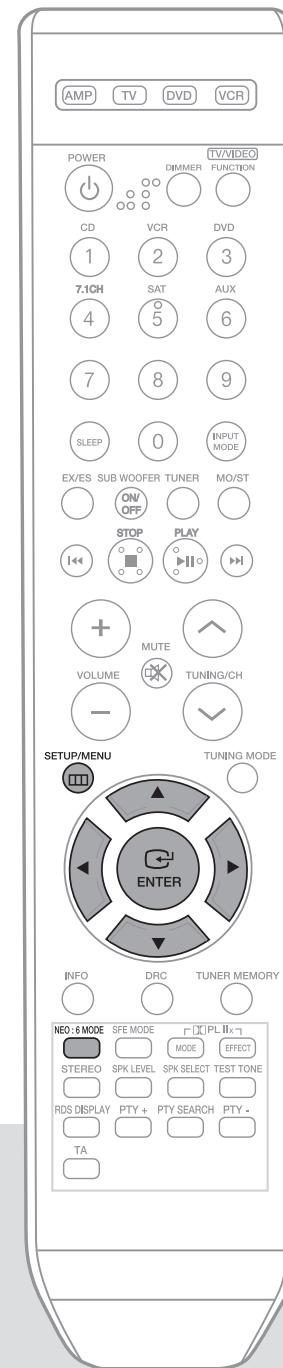
• C-WIDTH : You can set from 0 to 7.  
• DIMENSION : You can set from -7 to +7.  
• PANORAMA : You can set it ON or OFF.

## Dolby Pro Logic IIx effect

- **C-WIDTH** : This sets the width of the centre image. The higher the setting, the less sound comes from the centre speaker.
- **DIMENSION** : Incrementally adjusts the sound field (DSP) from the front or surround.
- **PANORAMA** : This mode extends the front stereo image to include the surround speakers for an exciting "wraparound" effect with side wall imaging.

# Setting NEO:6 mode

You can play back 2 channel sound over 6.1 channels when enjoying music or a movie.



## REMOTE CONTROL

Press **NEO:6 MODE** button.

• Each time you press this button, MUSIC → CINEMA will be selected in turn.

## MAIN UNIT

**1** Press **SURROUND** button briefly to select “NEO:6” mode.

• Each time you press this button, DPLIIx → NEO:6 → SFE → STEREO will be selected in turn.

**2** Press **SELECT** (▼, ▲) button.

• Each time you press this button, MUSIC → CINEMA will be selected in turn.

## To set the height of the center sound image

If your TV (or screen) is installed high on a wall, you can raise the center sound image of the front and center speakers to compensate.

**1** Press **SETUP/MENU** button, and then press **ENTER** button.

• “SETUP MODE” appears on the display and goes into Setup Mode.

**2** Press **◀▶** button to select the “NEO:6 MODE”, and then press **ENTER** button.

• “CEN -- IMG : 2” appears on the display.



**3** Press **▲▼** button to set the sound image you want.

• You can set the sound image from 0 to 5.  
• This parameter adjusts the height of the center image through the front and center speakers. “0” is the lowest while “5” is the highest.

## To exit setup mode

• Wait for about 5 seconds or press **SETUP/MENU** button.  
“SETUP OFF” appears on the display and Setup Mode is exited.

## NEO : 6 Mode

This mode decodes 2 channel signals to a high precision digital matrix decoder for 6.1 channel sound.

- **MUSIC** : NEO:6 MUSIC mode is optimized for music playback
- **CINEMA** : NEO:6 CINEMA mode is optimized for movie playback.

## Note

- NEO:6 mode cannot be used with DTS and Dolby Digital multi channel signals.
- Pro Logic works only for PCM audio signals with sampling frequencies of 32KHz, 44KHz or 48KHz.



# Setting EX/ES mode

When surround back speakers are connected, you can listen to 6.1 or 7.1 multi-channel sound using the built-in Dolby Digital Surround EX or DTS ES decoder. This function works when a Dolby Digital or DTS source (such as a DVD player) is input, and does not work with L.PCM and Dolby Digital 2 channel sources.



- 1 Press **SETUP/MENU** button, and then press **ENTER** button.  
• "SETUP MODE" appears on the display and goes into Setup Mode.
- 2 Press **◀▶** button to select the "EX/ES SETUP", and then press **ENTER** button.  
• "EX/ES : AUTO" appears on the display.
- 3 Press **▲▼** button to set the EX/ES you want.  
• Each time you press this button, EX/ES : AUTO → EX/ES : ON → EX/ES : OFF will be selected in turn.

EX/ES: AUTO  
EX/ES: ON  
EX/ES: OFF

## To exit setup mode

- Wait for about 5 seconds or press **SETUP/MENU** button.  
"SETUP OFF" appears on the display and Setup Mode is exited.

## Using the EX/ES button

Press **EX/ES** button.

- Each time you press this button, EX/ES : AUTO → EX/ES : ON → EX/ES : OFF will be selected in turn.
- The EX/ES button on the remote control is enabled only if the input source is of Dolby Digital or DTS.

## EX/ES Mode

- **AUTO** : If the unit receives an audio signal that it can recognize, it will select an optimal decoder for playback in 6.1/7.1 channel.  
If the amplifier does not recognize the audio signal, it will not play in 6.1/7.1 channel automatically.
- **ON** : Dolby Digital or DTS signal will be played in 6.1 / 7.1 channel using Dolby Digital Surround EX / DTS ES decoder.
- **OFF** : Dolby Digital Surround EX / DTS ES decoder will not be used for playback.

## Dolby Digital - EX

Movie soundtracks encoded with Dolby Digital EX will play audio over the surround back channels also.



- You cannot use Dolby Digital-EX in the system without Surround Back speakers connected.
- EX/ES Mode must be set to On when playing back discs encoded with 6.1 channel Dolby Digital-EX.
- Some discs encoded with Dolby Digital-EX do not contain an identification signal. In this case, set EX/ES to ON.

## DTS-ES (Discrete 6.1, Matrix 6.1)

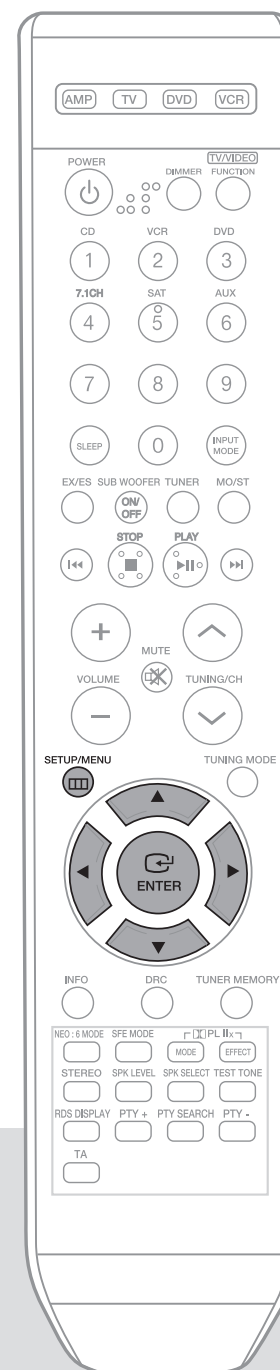
A surround back channel is added to the DTS 5.1 channel system, improving the sense of sound directionality and space. A built-in DTS-ES decoder has been equipped with this system that supports discs encoded with DTS-ES Direct and DTS-ES Matrix.



- You cannot use DTS-ES without surround back speakers connected.

# Setting Tone Control

This function allows setting up the tone quality of the front speaker.



- 1 Press **SETUP/MENU** button, and then press the **ENTER** button.  
• "SETUP MODE" appears on the display and goes into Setup Mode.
- 2 Press **◀▶** button to select the "TONE CONTROL", and then press the **ENTER** button.
- 3 Press **◀▶** button.  
• Each time you press this button, BASS → TREBLE → TONE : OFF will be selected in turn.  
• If it is set to TONE: OFF, the Tone Control function will be disabled.
- 4 Press **▲▼** button to set the tone control you want.  
• You can adjust it from -6 to +6dB by 1 step.  
• The sound gets smaller at -6dB and louder at +6dB.

## To exit setup mode

- Wait for about 5 seconds or press **SETUP/MENU** button.  
"SETUP OFF" appears on the display and Setup Mode is exited.



- Tone Control function is available only in the Stereo mode.

# SFE mode

The SFE (Sound Field Effect) function uses 7 different DSP sound field effects to digitally simulate actual music environments such as concert halls or cinemas.

# Stereo mode

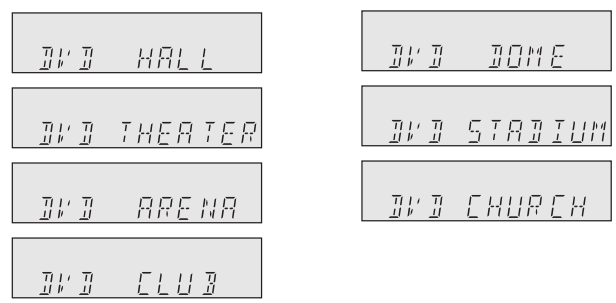
You can select this mode when listening to sound through the front left and right speakers and subwoofer.



## REMOTE CONTROL

Press **SFE MODE** button.

- Each time you press this button, HALL → THEATER → ARENA → CLUB → DOME → STADIUM → CHURCH will be selected in turn.

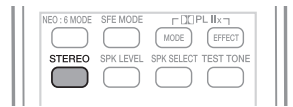


## MAIN UNIT

- 1 Press **SURROUND** button to select 'SFE' Mode.
  - Each time you press this button, DPLIIx → NEO:6 → SFE → STEREO will be selected in turn.
- 2 Press **SELECT**( , ) button.
  - Each time you press Select ( , ) button, HALL ↔ THEATER ↔ ARENA ↔ CLUB ↔ DOME ↔ STADIUM ↔ CHURCH will be selected in turn.

**To exit setup mode**

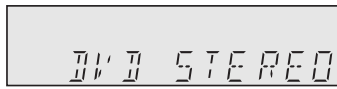
- Wait for about 5 seconds.



## REMOTE CONTROL

Press **STEREO** button.

- "STEREO" appears in the display and Stereo Mode is selected.



## MAIN UNIT

- Press **SURROUND** button to select 'STEREO'.
- Each time you press this button, DPLIIx → NEO:6 → SFE → STEREO will be selected in turn.
  - If you press the STEREO button on the player, it will switch to STEREO mode.
- To exit setup mode**
- Wait for about 5 seconds.

## Surround Mode and Input Signal Chart

o = active, – = inactive

Surround Mode	Input Signal	Decoding	Output Channel					Display Information	
			L/R	C	SL/SR	SBL/SBR	SubW	Display Signal Format	Channel Status
DOLBY (MUSIC, CINEMA, MATRIX, GAME, PRO LOGIC)	Dolby D Surr. EX	Dolby Digital 5.1	o	o	o	o	o	ix DIGITAL	L, C, R, SL, SR, SBL, SBR, SW
	Dolby D (5.1ch)	Dolby Digital 5.1	o	o	o	–	o	ix DIGITAL	L, C, R, SL, SR, SW
	Dolby D (2ch)	Pro Logic II x	o	o	o	o	o	ix DIGITAL	L, C, R, SL, SR, SBL, SBR, SW
	Dolby D (2ch Surr)	Pro Logic II x	o	o	o	o	o	ix DIGITAL	L, C, R, SL, SR, SBL, SBR, SW
	L.PCM (Audio)	Pro Logic II x	o	o	o	o	o	L.PCM	L, C, R, SL, SR, SBL, SBR, SW
	Analog	Pro Logic II x	o	o	o	o	o	ANALOGUE	L, C, R, SL, SR, SBL, SBR, SW
NEO:6 (MUSIC, CINEMA)	L.PCM (Audio)	Neo:6	o	o	o	o	o	L.PCM	L, C, R, SL, SR, SBL, SBR, SW
	Analog	Neo:6	o	o	o	o	o	ANALOGUE	L, C, R, SL, SR, SBL, SBR, SW
	Dolby D (2ch)	Neo:6	o	o	o	o	o	ix DIGITAL	L, C, R, SL, SR, SBL, SBR, SW
	Dolby D (2ch Surr)	Neo:6	o	o	o	o	o	ix DIGITAL	L, C, R, SL, SR, SBL, SBR, SW
SFE	Dolby D (2ch)	DD+SFE	o	o	o	–	o	ix DIGITAL	L, C, R, SL, SR, SW
	Dolby D (2ch Surr)	DD+SFE	o	o	o	–	o	ix DIGITAL	L, C, R, SL, SR, SW
	L.PCM (Audio)	SFE	o	o	o	–	o	L.PCM	L, C, R, SL, SR, SW
	Analog	SFE	o	o	o	–	o	ANALOGUE	L, C, R, SL, SR, SW
EX/ES	Dolby D Surr. EX	Dolby Digital EX	o	o	o	o	o	ix DIGITAL	L, C, R, SL, SR, SBL, SBR, SW
	Dolby D (5.1ch)	Dolby Digital EX	o	o	o	o	o	ix DIGITAL	L, C, R, SL, SR, SBL, SBR, SW
	DTS-ES	DTS-ES	o	o	o	o	o	dtS, ES	L, C, R, SL, SR, SBL, SBR, SW
	DTS (5.1ch)	DTS-ES	o	o	o	o	o	dtS	L, C, R, SL, SR, SBL, SBR, SW
STEREO	Dolby D (2ch)	Stereo	o	–	–	–	o	ix DIGITAL	L, R, SW
	Dolby D (2ch Surr)	Stereo	o	–	–	–	o	ix DIGITAL	L, R, SW
	L.PCM (Audio)	Stereo	o	–	–	–	o	L.PCM	L, R, SW
	L.PCM 96KHz	Stereo	o	–	–	–	o	L.PCM	L, R, SW
	Analog	Stereo	o	–	–	–	o	ANALOGUE	L, R, SW

L/R : front speaker (left/right) C : centre speaker SL/SR : surround speaker (left/right) SBL/SBR : surround back speaker (left/right)  
SW : subwoofer

**Note**

- Channel status displays are dependent on the speaker configuration.
- SFE mode works with 2-ch signals.

# Listening to radio

You can listen to the chosen band (FM) by using either automatic or manual tuning.

## REMOTE CONTROL

**1** Press **TUNER** button.

**2** Selected frequency.

- Automatic tuning 1 :
  - 1) Press **TUNING MODE** button to select PRESET.
  - 2) Press **TUNING/CH** ( **▼**, **▲** ) button to select the preset frequency.
- Automatic tuning 2 :
  - 1) Press **TUNING MODE** button to select MANUAL
  - 2) Press and hold **TUNING/CH** ( **▼**, **▲** ) button to automatically tune in frequency.
- Manual tuning :
  - 1) Press **TUNING MODE** button to select MANUAL.
  - 2) Press **TUNING/CH** ( **▼**, **▲** ) button briefly to increase or decrease the frequency step by step.

## MAIN UNIT

**1** Press **FUNCTION** button to select FM.

**2** Select the frequency.

- Automatic tuning 1 :
  - 1) Press **TUNING MODE** button to select PRESET.
  - 2) Press **TUNING/CH** ( **▼**, **▲** ) button to select the preset frequency.
- Automatic tuning 2 :
  - 1) Press **TUNING MODE** button to select MANUAL
  - 2) Press and hold **TUNING/CH** ( **▼**, **▲** ) button to automatically tune in frequency.
- Manual tuning :
  - 1) Press **TUNING MODE** button to select MANUAL.
  - 2) Press **TUNING/CH** ( **▼**, **▲** ) button briefly to increase or decrease the frequency step by step.

### To Listen to mono/stereo

Press **MO/ST** button on the remote.

- Each time you press this button, STEREO → MONO will be selected in turn.
- If you select MONO in the area with weak reception, it will help to reduce noise.
- This function works only with the Remote Control.

# Presetting radio Stations

You can preset up to 30 FM stations.

E.g.: Setting station FM 89.10 in preset 2 .

**1** Press **TUNER** button.

**2** Press TUNING MODE button to select MANUAL and then press **TUNING/CH** ( **▼**, **▲** ) button to select 89.10.

- Refer to step 2, page 36, to tune in automatically and manually.

**3** Press **TUNER MEMORY** button.

- Tuner number will blink on the display.

**4** Press **TUNING/CH** ( **▼**, **▲** ) button to select preset 2.

- You can select from presets 1 to 30.

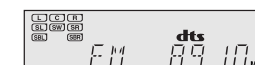
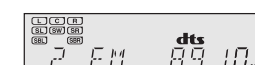
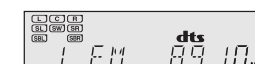
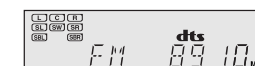
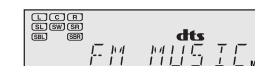
**5** Press **TUNER MEMORY** button.

- Tuner number will disappear and station 89.10 will be saved in preset 2.

**6** To preset other stations, repeat steps 2 to 5.

### To Listen to Preset Station

- Press **TUNING MODE** button of the remote control to select the PRESET and press **TUNING/CH** ( **▼**, **▲** ) button.



# About RDS broadcasting

## Using the RDS (Radio Data System) to receive FM stations

RDS allows FM stations to send an additional signal along with their regular program signals. For example, the stations send their station names, as well as information about what type of program they broadcast, such as sports or music, etc.

**When tuned to an FM station which provides the RDS service, the RDS indicator lights up on the display.**

### • Description on RDS function

- 1. PTY (Program Type)** : Displays the type of programme currently being broadcast
- 2. PS NAME (Program Service Name)** : Indicates the name of broadcasting station and is composed of 8 characters.
- 3. RT (Radio Text)** : Decodes the text broadcast by a station (if any) and is composed of maximum 64 characters.
- 4. CT (Clock Time)** : Decodes the real time clock from the FM frequency.
  - Some stations may not transmit PTY, RT or CT information therefore this may not be displayed in all cases.
- 5. TA (Traffic Announcement)** : When this symbol flashes it shows that the traffic announcement is in progress.

### Note

- RDS may not operate correctly if the station tuned is not transmitting RDS signal properly or if the signal strength is weak.

## What information can RDS signals provide?

You can see the RDS signals the station sends on the display.

### TO show the RDS signals

**Press RDS DISPLAY while listening to an FM station.**

Each time you press the button, the display change to show you the following information :

→ PS NAME → RT → CT → Frequency

**PS (Program Service)** : While searching, "PS" appears and then the station names will be displayed. "NO PS" appears if no signal is sent.

**RT(Radio Text)** : while searching, "RT" appears and then text messages the station sends will be displayed. "NO RT" appears if no signal is sent.

**Frequency** : station frequency (non-RDS service)

### About characters shown in the display

When the display shows PS, or RT signals, the following characters are used.

- The display window cannot differentiate upper case and lower case letters and always uses upper case letters.
- The display window cannot show accented letters, "A," for instance, may stands for accented "A's" like "Ä, Â, Ã, Ä, Å and Æ."

### Note

- If searching finishes at once, "PS", and "RT" will not appear on the display.

## PTY (Program Type) indication and PTY-SEARCH function

One of the advantages of the RDS service is that you can locate a particular kind of programme from the preset channels by specifying the PTY codes.

### To search for a programme using the PTY codes

#### Before you start, remember...

- The PTY Search is only applicable to preset stations.
- To stop searching any time during the process, press PTY SEARCH while searching.
- There is a time limit in doing the following steps. If the setting is cancelled before you finish, start from step 1 again.
- When pressing the buttons on the primary remote control, make sure that you have selected the FM station using the primary remote control.

- 1 Press PTY SEARCH while listening to an FM station.
- 2 Press the PTY-or PTY+until the PTY code you want appears on the display.
  - The display gives you the PTY codes described to the right.
- 3 Press PTY SEARCH again, while the PTY code selected in the previous step is still on the display.
  - The centre unit searches 15 preset FM stations, stops when it finds the one you have selected, and tunes in that station.

Display	Program Type
NEWS	• News including an announced opinion and report
AFFAIRS	• Several subjects including current affairs, documentary, discussion and analysis.
INFO	• Information including weights and measures, returns and forecasts, matters interesting the customer, medical information, etc.
SPORT	• Sports
EDUCATE	• Education
DRAMA	• Drama, radio serial etc.
CULTURE	• Culture : national or local culture including the religious problem, social science, language, theatre, etc.
SCIENCE	• Natural science and technology
VARIED	• Others: lectures, entertainment programmes (quiz and game shows), interviews, comedy and satirical plays etc.
POP M	• Pop music
ROCK M	• Rock music
M.O.R.M	• Current contemporary music considered to be "easy listening."
LIGHT M	• Light classical music - classical music and instrumental and chorus music
CLASSICS	• Heavy classical music - orchestra music, symphony, chamber music and opera
OTHER M	• Other music - jazz, R&B country music
WEATHER	• Weather
FINANCE	• Finance
CHILDREN	• Children's programmes
SOCIAL A	• Social affairs
RELIGION	• Religion
PHONE IN	• Phone in
TRAVEL	• Travel
LEISURE	• Leisure
JAZZ	• Jazz music
COUNTRY	• Country music
NATION M	• National music
OLDIES	• Oldies music
FOLK M	• Folk music
DOCUMENT	• Documentary



# Convenient functions

## Sleep timer function

You can set the time that this unit will shut itself off.

Press the **SLEEP** button.

• SLEEP : OFF → 15 → 30 → 45 → 60 → 90 → 120 M (MIN) will be selected in turn.

### To check sleep timer

Press **SLEEP** button.

- The remaining time before this unit will shut itself off is shown on the display.
- Pressing the button again changes the sleep time from what you set previously.

### To cancel sleep timer

- Press **SLEEP** button until “SLEEP : OFF” appears on the display.

## Mute function

This function is useful when answering a doorbell or telephone call.

Press the **MUTE** button.

- **MUTE** appears on the display.

### To output sound again

Press **MUTE** button again.

- **MUTE** will disappear and sound will output.

#### Note



- SLEEP, Mute and the Adjust Display function can only be operated with the remote control.

## Reset function

### REMOTE CONTROL

- 1 Press the **MUTE** button.  
• **MUTE** appears on the display.
- 2 Press “0” button five times and then press **ENTER** button.  
• “INITIAL : NO” appears on the display.
- 3 Press **▲▼** buttons to select “YES”.  
• The unit will turn off after 5 seconds.

### MAIN UNIT

- 1 Turn off the power and hold the **SELECT(▲)** button for longer than 5 seconds.  
• **POWER STANDBY** indicator will flash.

#### Caution!

- Using the **RESET** function will erase all stored settings.
- Do not use this unless necessary.





# Convenient functions (cont'd)

## Adjust the display

You can adjust the brightness of the display.

Press the **DIMMER** button.

- Each time you press this, the brightness changes as follows : DARK → BRIGHT.

## Using headphones

Use headphones (not supplied) for private listening pleasure.

Connect the headphones to the headphone jack and listen to music.



- Do not turn the volume up too high when you use headphones as it may damage your hearing.



# Operating your TV with the remote control

GB

**1** Press **POWER** button to turn on the TV.

**2** Press **TV** button to set the remote to TV mode.

**3** Point the remote control toward the TV.

**4** While holding down **POWER** button, enter the code corresponding to your brand of TV.

- If there is more than one code listed for your TV in the table, enter one at a time to determine which code works.
- If the code matches the TV's code, the TV will be turned off.

**5** If TV is turned on or off when you press the power button of the remote control, the setting is completed.

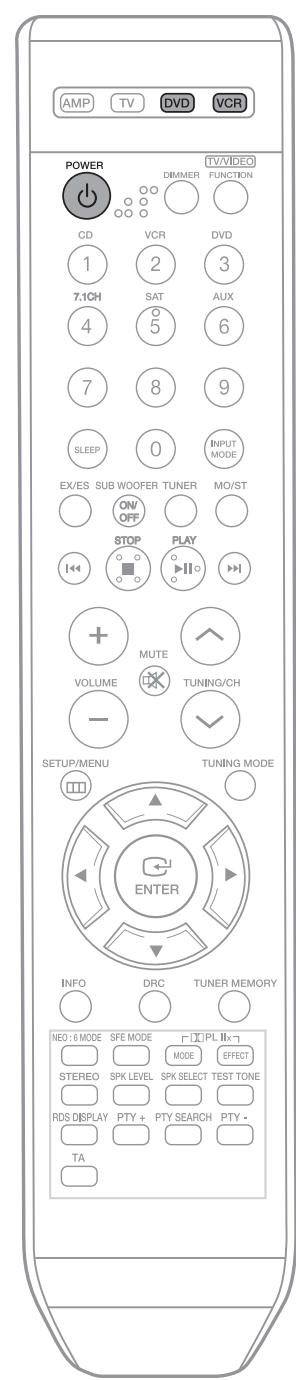
- You can use the TV POWER, VOLUME, CHANNEL, MENU and Numeric buttons (0~9).



- The remote control may not work on some brands of TVs. Also, some operations may not be possible depending on your brand of TV.
- The remote control will work with Samsung TVs by default.

MISCELLANEOUS

TV Brand Code List					
Brand	Code Number	Brand	Code Number	Brand	Code Number
ADMIRAL (M.WARDS)	056, 057, 058	LUXMAN	018	SYLVANIA	018, 040, 048, 054, 059, 060, 062
AMARK	001, 015	LXI (SEARS)	019, 054, 056, 059, 060, 062, 063, 065, 071	SYMPHONIC	061, 095, 096
ANAM	001, 002, 003, 004, 005, 006, 007, 008, 009, 010, 011, 012, 013, 014	MAGNAVOX	015, 017, 018, 048, 054, 059, 060, 062, 072, 089	TATUNG	006
AOC	001, 018, 040, 048	MARANTZ	040, 054	TECHWOOD	018
BELL & HOWELL (M.WARDS)	057, 058, 081	MATSUI	054	TEKNIKA	003, 015, 018, 025
BROCCSONIC	059, 060	MGA	018, 040	TMK	018, 040
CANDLE	018	MITSUBISHI/MGA	018, 040, 054, 059, 060, 075, 101	TOSHIBA	019, 057, 063, 071, 101, 107, 109, 110, 111, 113
CETRONIC	003	MTC	018	VIDTECH	018
CITIZEN	003, 018, 025	NEC	018, 019, 020, 040, 059, 060	VIDECH	059, 060, 069
CINEMA	097	NIKEI	003	WARDS	015, 017, 018, 040, 048, 054, 060, 064
CLASSIC	003	ONKING	003	YAMAHA	018
CONCERTO	018	ONWA	003	YORK	040
CONTEC	046	PANASONIC	006, 007, 008, 009, 054, 066, 067, 073, 074	YUPITERU	003
CORONADO	015	PENNEY	018	ZENITH	058, 079
CRAIG	003, 005, 061, 082, 083, 084	PHILCO	003, 015, 017, 018, 048, 054, 059, 062, 069, 090	ZONDA	001
CROSLEX	062	PHILIPS	015, 017, 018, 040, 048, 054, 062, 072, 112, 114, 117, 118	DONGYANG	003, 054
CROWN	003	PIONEER	063, 066, 080, 091	LOWE	054
CURTIS MATHES	059, 061, 063	PORTLAND	015, 018, 059	FINLUX	054, 109, 114
CXC	003	PROTON	040	YOKO	054
DAEWOO	002, 003, 004, 015, 016, 017, 018, 019, 020, 021, 022, 023, 024, 025, 026, 027, 028, 029, 030, 032, 034, 035, 036, 040, 048, 059, 090, 099, 100	QUASAR	006, 066, 067	LOEWE OPTA	054, 114
DAYTRON	040	RADIO SHACK	017, 048, 056, 060, 061, 075	PHONOLA	054, 112, 114
DYNASTY	003	RCA/PROSCAN	018, 059, 067, 076, 077, 078, 092, 093, 094	RADIOLA	054, 112
EMERSON	003, 015, 040, 046, 059, 061, 064, 082, 083, 084, 085	REALISTIC	003, 019	SCHNEIDER	054
FISHER	019, 065, 103	SAMPO	040	AKAI	103
FUNAI	003	SAMSUNG	000, 015, 016, 017, 040, 043, 046, 047, 048, 049, 054, 059, 060, 098	GRUNDIG	108, 109, 113, 119, 120, 121
FUTURETECH	003	SANYO	019, 061, 065, 101, 102, 103, 104	BLAUPUNKT	108
GENERAL ELECTRIC (GE)	006, 040, 056, 059, 066, 067, 068	SCOTT	003, 040, 060, 061	SIEMENS	108
HALL MARK	040	SEARS	015, 018, 019	CGE	113
HITACHI	015, 018, 050, 059, 069	SHARP	015, 057, 064, 101, 105, 106, 115	IMPERIAL	113
INKEL	045	SIGNATURE 2000 (M.WARDS)	057, 058	MIVAR	113
JC PENNY	056, 059, 067, 086	SONY	050, 051, 052, 053, 055, 101	SABA	114
JVC	070	SOUNDESIGN	003, 040	BANG & OLUFSEN	114
KTV	059, 061, 087, 088	SPECTRICON	001	BRIONVEGA	114
KEC	003, 015, 040	SSS	018	FORMENTI	114
KMC	015			METZ	114
LG (GOLDSTAR)	001, 015, 016, 017, 037, 038, 039, 040, 041, 042, 043, 044, 054, 086			WEGA	114
				RADIOMARELLI	114
				SINGER	114
				SINUDYNE	114
				TELEFUNKEN	116



- 1

Press **POWER** button to turn on the DVD (VCR).
- 2

Press **DVD** button to set the remote to DVD mode.  
• If you operate VCR, press VCR button to set the remote to VCR mode.
- 3

Point the remote control toward the DVD (VCR).
- 4

While holding down **POWER** button, enter the code corresponding to your brand of DVD (VCR).  
  
• If there is more than one code listed for your DVD (VCR) in the table, enter one at a time to determine which code works.  
• If the code matches the DVD (VCR)'s code, the DVD (VCR) will be turned off.
- 5


If DVD (VCR) is turned on or off when you press the power button of the remote controller, the setting is completed.  
  
• You can use DVD (VCR) POWER, VOLUME, PLAY, PAUSE, STOP, SKIP, MENU and Numeric button (0~9).

**Note**

- The remote control may not work on some brands of DVD (VCR). Also, some operations may not be possible depending on your brand of DVD (VCR).
- The remote control will work with Samsung DVD (VCR) by default.

## VCR Brand Code List

Brand	Code Number	Brand	Code Number	Brand	Code Number
ADMIRAL (M.WARDS)	043, 106	MEI	001, 033	TASHIRO	050
AWIA	044, 045, 046	MEMOREX	001, 025, 033, 054, 091, 100	TATUNG	047, 052, 092
AKAI	088, 089, 090			TEAC	044, 047, 052, 092
ANAM	001, 002, 003, 004, 005, 033	MINOLTA	020, 021, 062	TECHNICS	001, 033, 049, 091
AOC	091	MITSUBISHI/MGA	068, 069, 070, 101, 102	TEKNIKA	001, 025, 033
AUDIODYNAMIC	019, 047, 092	MTC	072	TOSHIBA	006, 051
BELL & HOWELL (M.WARDS)	048, 093	MULTITECH	044, 057, 069	TOTEVISION	025, 072
BROKSONIC	092, 094, 095	NEC	019, 047, 052, 057, 092	TAEKWANG	087
CANON	001, 033, 049, 091	OLYMPIC	049, 091	UNITECH	072
CAPEHART	011	OPTIMUS	101	VECTORRESEARCH	019
CITIZEN	050	ORION	103	VIDEO CONCEPTS	019
CRAIG	050, 072, 096	PANASONIC	001, 004, 033, 049, 067, 091, 107	VIDEOSONIC	072
CRITERION	051	PENNEY	019, 020, 072	WARDS	001, 020, 031, 032, 033, 043, 050, 054, 072, 100, 105, 106, 109
CURTIS MATHES	001, 031, 032, 033, 044, 091	PENTAX	001, 020, 021, 033, 062	YAMAHA	019, 047, 048, 052, 092,
DAEWOO	006, 007, 008, 009, 010, 011, 012, 013, 014, 015, 016, 017, 018, 046, 051, 091	PHILCO	001, 033, 046, 049, 091, 094	ZENITH	019, 047, 048, 052, 092
DAYTRON	011	PHILIPS	001, 030, 033, 049, 050, 066, 091	DVD Brand Code List	
DBX	019, 047, 052, 092	PILOT	025		
EMERSON	025, 031, 032, 044, 046, 094, 095, 097, 098, 099	PIONEER	049	Brand	Code Number
FISHER	009, 048, 053, 054, 055, 100	PORTLAND	011	DENON	003, 032
FUNAI	044	QUASAR	001, 033, 049, 067, 091, 107, 108	DOONON	019
GENERALELECTRIC (GE)	001, 031, 032, 033, 056, 091	RICO	036	DMTECH	017
GO VIDEO	059, 060, 061	RCA/PROSCAN	001, 020, 021, 031, 032, 033, 049, 051, 062, 066, 070, 091, 104	FISHER	002
HARMANKARDON	019			GE	006
HITACHI	020, 021, 049, 054, 062, 100	REALISTIC	001, 009, 025, 033, 044, 048, 054, 091, 101, 105	HARMANKARDON	012
HQ	051			JVC	010, 013
INSTANT REPLAY	001, 033, 049, 091	SAMSUNG	000, 006, 031, 032, 057, 058, 071, 072, 073, 074, 075, 076, 077, 078, 079, 080, 081	KENWOOD	008
JCL	001, 033			LG	001
JCP	025	SANYO	008, 009, 046, 048, 050, 054, 058, 093, 100	MAGNAVOX	004
JC PENNY	047, 048, 052, 062, 091, 092			MITSUBISHI	005, 016
JVC	001, 033, 047, 052, 063, 064, 065, 092	SANSUI	092	ONKYO	004, 014
KENWOOD	047, 050, 052, 092	SCOTT	006, 051, 054, 057, 069, 070, 100, 101	OPTIMUS	011
LG (GOLDSTAR)	019, 020, 021, 022, 023, 024, 025, 026, 027, 028, 029, 030, 050	SEARS	020, 021, 025	PANASONIC	021
LXI (SEARS)	020, 025, 044, 048, 050, 053, 054, 055, 062, 100	SHARP	043, 105, 106	PROSCAN	006
MAGIN	072	SINGER	096	PHILIPS	004, 023
MAGNAVOX	001, 031, 032, 033, 049, 066, 067, 091	SIGNATURE 2000 (M.WARDS)	043, 044, 054, 100, 106	PIONEER	007, 011, 022, 025
MARANTZ	001, 019, 033, 047, 052, 092, 110	SHINTOM	096	RCA	006
MARTA	025, 050	SONY	034, 035, 036, 037, 038, 039, 040, 041, 042, 082, 083, 084, 085, 086	SAMSUNG	000, 027
		STS	020	SANYO	002
		SYLVANIA	001, 033, 044, 049, 066, 091	SONY	015, 020
		SYMPHONIC	044	THETA DIGITAL	011
		TANDY	009	TOSHIBA	004, 018
				YAMAHA	009, 033
				ZENITH	004, 024
				TAEGWANG	026
				PS2	028
				X-BOX	029
				APEX	030
				MARANTZ	031

 Symptom	Check	Remedy
The unit will not turn on.	• Is the power cord plugged into the outlet?	• Connect the power plug to the outlet.
A function does not work when the button is pressed.	• Is there static electricity in the air?	• Disconnect the power plug and connect it again.
Sound is not produced.	• Are the speakers and external components connected properly?	• Connect them correctly.
	• Is the Mute function on?	• Press Mute button to cancel the function.
	• Is the volume set to minimum?	• Adjust the volume.
	• Is the speaker setup set incorrectly to NONE?	• Refer to pages 20~21 to select LARGE, SMALL or YES.
	• Do you see the message of "NOT SUPPORT" in playing a MPEG audio file?	• The file format of MPEG is not supported. Change the audio format of the source device (Blu-RAY Player) to PCM.
Picture does not appear on a TV when the function is selected.	• Is the external component connected properly?	• Connect it correctly.
Remote controller does not work.	• Are the batteries drained?	• Replace with new batteries.
	• Is the distance between remote control and main unit too great?	• Operate at close distance.
The sound from the left/right channels is reversed.	• Are the left/right speaker or left/right input/output cables connected properly?	• Check the left/right channel and connect it/them correctly.
Can't receive radio broadcasts.	• Is FM antenna connected properly?	• Connect the antenna correctly.
		• If the input strength of antenna signal is weak, install the FM antenna in a place with good reception.
There is no sound from surround speakers.	• Is the surround speaker connected properly?	• Refer to pages 12~13 to connect them properly.
	• Is SURR (surround) incorrectly set to NONE in speaker setup?	• Refer to pages 20~21 to select LARGE or SMALL.
	• Is surround mode set to stereo?	• Refer to pages 29~35 to select proper Surround Mode.
There is no sound from centre speaker	• Is the centre speaker connected properly?	• Refer to pages 10~11 to connect it properly.
	• Is CEN (centre) incorrectly selected to NONE in speaker setup?	• Refer to pages 20~21 to select LARGE or SMALL.
	• Is the surround mode selected to stereo?	• Refer to pages 29~35 to select other Surround Modes.





## Before calling for service (cont'd)

### Symptom

### Check

### Remedy

There is no sound from surround back speakers

- Are the surround back speakers connected properly?
- Is the S.BACK(Surround Back) selected to NONE in Speaker Setup?
- Is Surround Mode set to EX/ES?

- Refer to pages 10~11 to connect it properly.
- Refer to pages 20~21 to select LARGE or SMALL.
- Refer to page 32 to set Surround Mode to EX/ES.

Can't select EX/ES mode.

- Is S.BACK(Surround Back) selected to NONE in Speaker Setup?
- Is the input signal selected properly?

- Refer to pages 20~21 to select LARGE or SMALL.
- Use 7.1 channel external component.

Can't select Dolby Pro Logic IIx mode.

- Is the input signal selected properly?

- Select 2 channel Dolby Digital, PCM, and Analogue input signal.

Can't select NEO:6 mode.

- Is the input signal selected properly?

- Use PCM and Analogue input signal.

There is no sound when playing a DTS encoded DVD.

- Is Digital input selected?

- Check whether the DVD player is properly connected and refer to page 24 to select the digital input.

### Product protection function

#### Heat protection

- The protection function will come on if the main unit or power transformer overheats.  
"PROTECTION" will appear in the display .  
This function will come on :
  - If speaker terminal is shorted
  - If speaker cable is shortedIf there is no problem when you turn the unit on again after turning it off, PROTECTION mark will disappear on the display and the unit will work properly.



#### Note

- If PROTECTION appears on the display, check whether the speaker terminal is shorted and then turn on the unit



## Specifications

GENERAL	Power supply		230V, 50 Hz
	Standby power consumption		0.9W
	Power consumption	Main unit	100W
		Subwoofer	90W
	Weight		5.8 kg
	Dimensions (W x H x D)		430 x 145 x 350 mm
	Operating temperature range		+5°C~+35°C
FM TUNER	Operating humidity range		10%~75%
	Frequency response		87.5~108.0MHz
	Usable sensitivity		12dBf
	S/N ratio		MONO/STEREO 55/55dB
	Distortion		MONO/STEREO 0.3/0.8%
	Stereo separation		30dB
	Tuner output level		1kHz, 75kHz Dev
AMPLIFIER	Rated output		20Hz~20kHz/THD = 10%
	Front speaker(left+right)		4 Ω 100W/CH
	Center speaker		4 Ω 100W/CH
	Surround speaker(left+right)		4 Ω 100W/CH
	Surround back		4 Ω 100W/CH
	Input sensitivity/impedance		450mV/47kΩ
	S/N ratio (analog input)		80dB
	Separation (1kHz)		60dB
FREQUENCY RESPONSE	Analog input		20Hz~20kHz(±3dB)
	Digital input/96kHz PCM		20Hz ~44kHz(±3dB)
VIDEO OUTPUT	TV format		NTSC/PAL
	Input level/impedance		1Vp-p/75 Ω
	Output level/impedance		1Vp-p/75 Ω
	Video frequency response		5Hz to 10kHz(-3dB)
	S/N ratio		60dB

SPEAKERS	Speaker system	Front / Surround / Surround back	Centre	Subwoofer speaker
	Impedance	4Ω x 6	4Ω	8Ω
	Rated input	100W	100W	150W
	Maximum input	200W	200W	300W
	Dimensions (W x H x D)	100 x 270 x 97 mm	300 x 90 x 94 mm	311 x 378 x 443 mm
	Weight	1.4 Kg / 1.2 Kg / 1.2 Kg	1.4 Kg	14.4 Kg

\* S/N ratio, distortion, separation and usable sensitivity are based on measurement using AES (Audio Engineering Society) guidelines.