

INSIGNIA

IS-HC040917

DIGITAL HOME THEATER AMPLIFIER



User's Manual

Important Safety Instructions

NOTICE! !

Thank you for purchasing our product.

To assure the finest performance, please read this manual carefully. Keep it in a safe place for future reference.



CAUTION RISK OF SHOCK



CAUTION: To reduce the risk of electric shock, do not remove cover (or back). No user-serviceable parts inside. Only refer servicing to qualified service personnel.

Explanation of Graphical Symbols



The lightning flash & arrowhead symbol, within an equilateral triangle, is intended to alert you to the presence of danger.



The exclamation point within an equilateral triangle is intended to alert you to the presence of important operating and servicing instructions.

WARNING

To reduce the risk of fire or electric shock, do not expose this unit to rain or moisture.

Voltage

Voltages are 120V AC, 60Hz.

This device complies with Part 15 of the FCC Rules. Operation is subject of 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.

This Class B digital apparatus complies with Canadian ICES-003.

Wet Location Marking-C-UL

"Apparatus shall not be exposed to dripping or splashing and no objects filled with liquids, such as vases, placed on the apparatus".

1. Read Instructions - All the safety and operating instructions should be read before the appliance is operated.

2. Retain Instructions - The safety and operating instructions should be retained for future reference.

3. Heed Warnings - All warnings on the appliance and in the operating instructions should be adhered to.

4. Follow Instructions - All operating and use instructions should be followed.

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 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.

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 damage, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, or the apparatus does not operate normally or has been dropped.

Important Safety Instructions

15. Cleaning - Unplug this unit from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.

16. Power lines - An outdoor antenna should be located away from power lines.

17. Object and Liquid Entry - Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.

Note:

To CATV system installer's (U.S.A.): This reminder is provided to call the CATV system installer's attention to Article 820-40 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected as close to the point of cable entry as practical.

Setup and Maintenance of the Receiver

- Provide spaces for sufficient ventilation.
- Do not connect to the AC power cords until all apparatus are completed.
- Do not use your receiver immediately after transferring it from a cold place to a warm place due to the risk of condensation.
- Do not expose your receiver to water or excessively high temperatures.
- After having disconnected your receiver, clean the case with a soft cloth, or with a slightly damp leather chamois. Never use strong solvents.

Protect Your Receiver From Overheating

- Do not block ventilation holes. Arrange the receiver so that air can circulate freely.
- Do not stack the receiver and other components directly on top of each other.
- Allow adequate ventilation when placing your receiver a stand.
- Place an amplifier near the top shelf of the stand so heated air rising from it will not affect other components. If you have a satellite receiver, you should place it on the top shelf.

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Features

Six-channels Power Amplifier

- Standard stereo mode: 100W+100W(6 Ω RMS),
- Six channels mode:
 - Main channels: 100W+100W(6 Ω RMS),
 - Front center channel: 100W(6 Ω RMS),
 - Surround channels: 100W+100W(6 Ω RMS),
 - Surround center channel: 100W(6 Ω RMS).

Digital Sound-field Processing multi-mode

- Dolby Digital Decoder
- DTS Decoder
- Dolby Digital Surround EX Decoder
- DTS 96/24 Decoder
- DTS ES Discrete Decoder
- DTS-ES Matrix Decoder
- DTS Neo:6 Cinema
- DTS Neo:6 Music
- Dolby Pro Logic II Movie
- Dolby Pro Logic II Music
- 6 CH Stereo Mode
- 2 CH Stereo Bypass Mode
- 6 DSP modes: Live, Disco, Jazz, Classic, Hall, Rock

Features

Other

- Midnight Theater Mode: 2-Stage
- Automatic Audio Format Recognition
- Sources Format Display
- Bass Management system: Full Digital
- Pink Noise Generator for Speaker Balancing
- 6 channels input ports for external decoder input
- Tone Control (treble/bass)
- Quartz PLL Synthesized Digital Tuning system
- Digital AM/FM tuner with 64 station presets
- Auto Memory Preset (AM/FM separate)
- Manual Tuning
- Sleep Timer
- Remote control standby
- Headphone jack and speaker-on/off control
- 1 Subwoofer Signal line Output
- 7 analog inputs including built-in AM/FM tuner
- 1 stereo audio line output(pre output)
- 3 digital audio inputs (1 optical, 2 coaxial)
- 4 S-video inputs, 1 S-video output
- 4 composites video inputs, 1 composites output
- Fully functional remote control



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



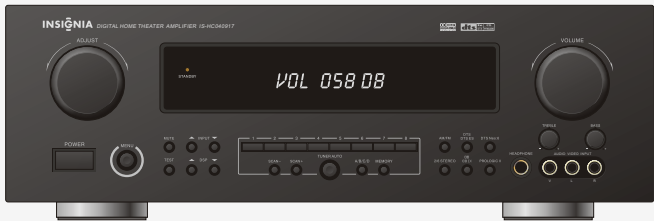
"DTS", and "DTS ES", "Neo:6" and "DTS 96/24" are
trademarks of Digital Theater Systems, Inc.

Getting Started

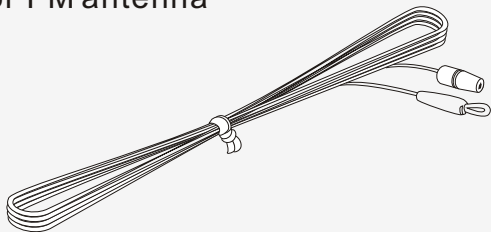
Fittings

You should receive the following items:

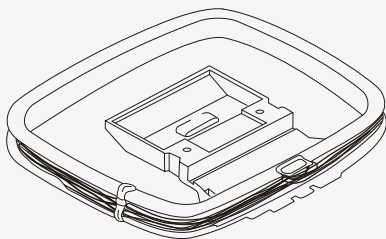
One receiver unit



Indoor FM antenna



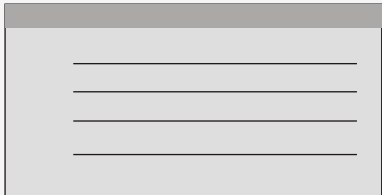
AM loop antenna



AAA,R3P,UM-4 batteries



Warranty Card



One Remote Control



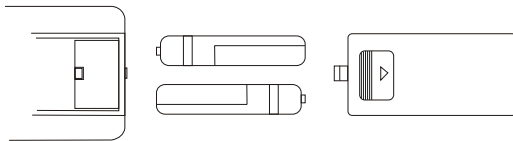
One instruction book



Installing batteries in the remote controller

Since the remote control will be used for many of this unit's control operations, you should begin by installing the supplied batteries.

1. Turn the remote control over and slide the battery compartment cover in the direction of the arrow.
2. Insert the batteries(AAA,R03P,UM-4 TYPE) according to the polarity markings on the inside of the battery compartment.
3. Close the battery compartment cover.



Notes About the Remote Control

Batteries Replacement

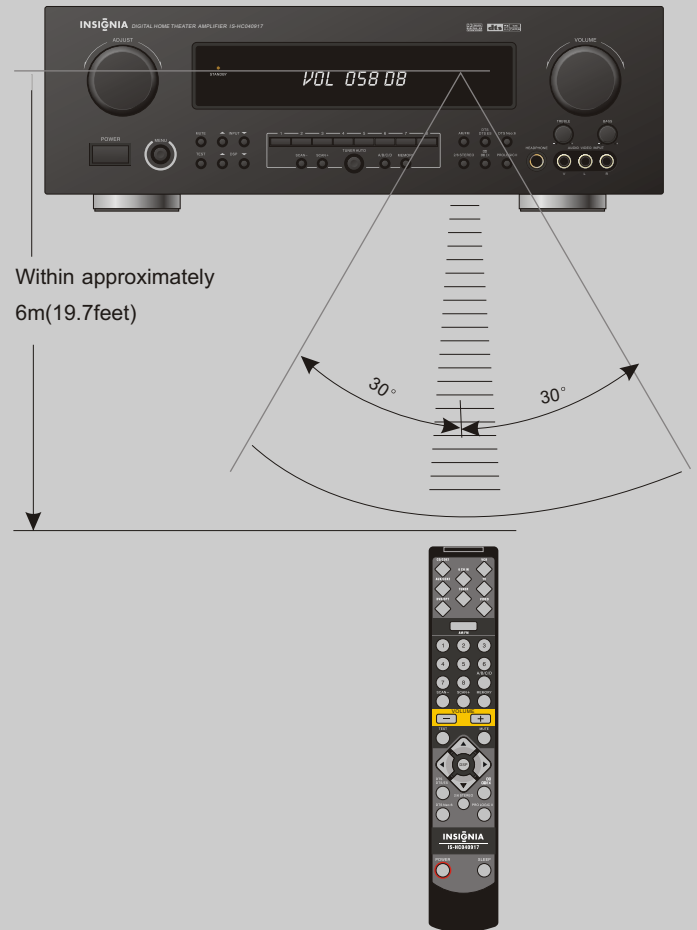
If you find that the remote control must be used closer to the main unit, the batteries are weak. Replace both batteries with new ones.

Notes

- Use AAA,R3P,UM-4 batteries.
- Be sure the polarities are correct.(See the illustration inside the battery compartment.)
- Remove the batteries if the remote control is not used for an extended period of time.
- If batteries leak, dispose of them immediately. Avoid touching the leaked material and contact with clothing, etc. Clean the battery compartment thoroughly before installing new batteries.

Getting Started

Remote Control Operation Range



Notes

- The area between the remote control and the main unit must be clear of large obstacles.
- Do not expose the remote control sensor to strong lighting, in particular an inverter type fluorescent lamp. Otherwise, the remote control may not work properly. If necessary, position the main unit away from direct lighting.

Getting Started

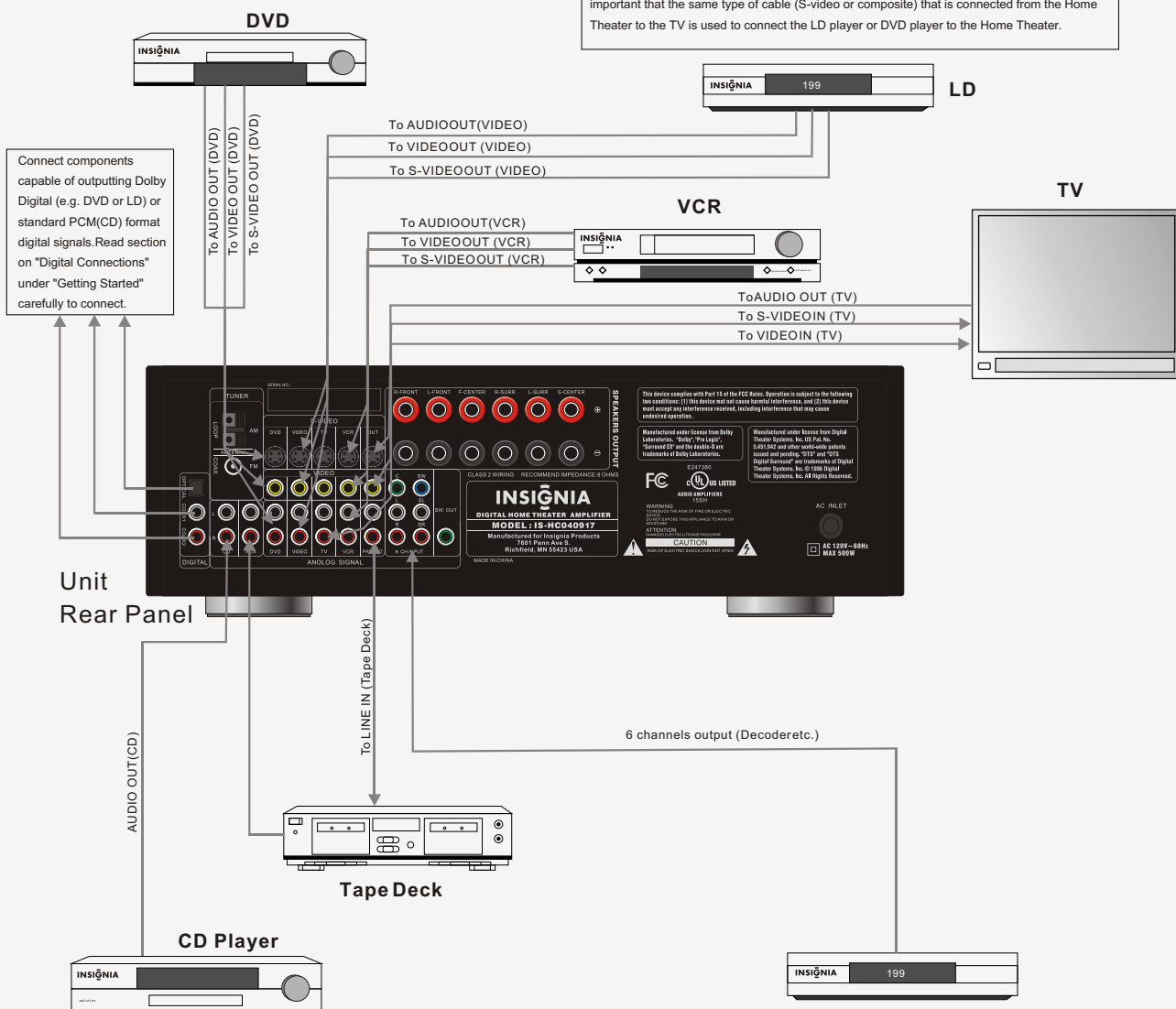
Connecting to Audio-Visual Components

If your video component has a S-Video jack included, you can make use of it to enjoy enhanced video quality by connecting it to the relevant S-Video jack at the rear panel of the receiver. One Video cable is needed for each component.

Note: Before plugging in the optical cable or S-Video cable, make sure to match the shape of the plug and jack, otherwise, you will not be able to plug in completely.

If you have a LD player, DVD player or CD player with a digital output, you can make use of an optical digital connecting cord(not supplied) or coaxial digital connecting cord (not supplied) to carry the audio portion of the signal and enjoy Dolby Digital sound quality. One optical or coaxial cable is needed for each LD player, DVD player or CD player. This receiver provides one optical and two coaxial digital inputs for the connection of your components. Please connect your components(e.g. LD, DVD, or CD) to the appropriate digital inputs and press **INPUT** button to match your connection.

Note:
Optical and coax cables carry only the audio portion of the signal. A video connection must also be established for a LD player and DVD player. S-video provides the best connection for the video portion of the signal. Composite video (yellow RCA connector) can also be used. It is important that the same type of cable (S-video or composite) that is connected from the Home Theater to the TV is used to connect the LD player or DVD player to the Home Theater.



If your CD player is equipped with digital optical jacks, use of optical cable is preferred. What you need is just one more optical digital connecting cord(not supplied). Plug it in the digital input jack of the receiver and select **OPTICAL**. You can enjoy better sound quality brought to you by the optical cable.

Note: This receiver has one digital optical jack only. Be sure that such connection does not prevent optical cable connection of other components.

See detailed on page 29 chapter "6 Channel External Input" under "Operating Your Receiver".

Getting Started

Digital Connections

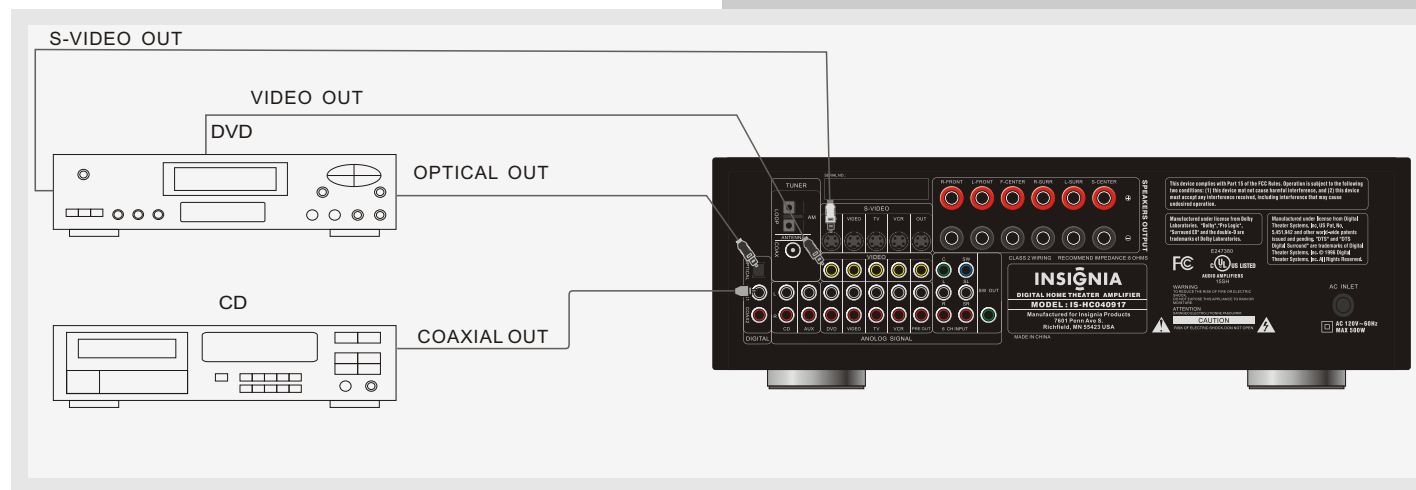
If your CD player, LD player, DVD player, TV/satellite tuner, etc., are equipped with coaxial or optical digital audio signal output terminals, they can be connected to this unit's COAXIAL or OPTICAL, or both terminals.

Digital audio signals are transmitted with less loss than analog audio signals. In addition, digital audio signal connections are necessary, especially for an LD player, a DVD player or a CD player to send signals encoded with Dolby Digital or DTS to this unit.

To make an optical digital connection between this unit and an

external unit, remove the cover from each optical terminal, and then connect them by using a commercially available optical fiber cable that conforms to EIAJ standards. Other cables might not function correctly.

Even if you connect an audio/video unit to the OPTICAL (or COAXIAL) terminal of this unit, you must keep the unit connected with the same named analog audio signal terminals of this unit, because digital signal cannot be recorded by a tape deck or VCR connected to this unit. You can switch the selection of input signals between digital and analog easily.



Notes

- When you connect an audio/video unit to both of the digital and analog terminals of this unit, make sure to connect to both terminals of the same name.
- Be sure to attach the covers when the OPTICAL terminals are not being used, in order to protect the terminals from dust.
- In order to make this unit perform successful DTS-decoding the DTS bitstream must not be altered, manipulated or corrupted in the process of sending the DTS bitstream from the DIGITAL OUT terminal of an external unit to a digital signal input terminal of this unit.
- All digital audio signal input terminals are applicable to the sampling frequency of 32 kHz, 44.1 kHz and 48 kHz.

HINT



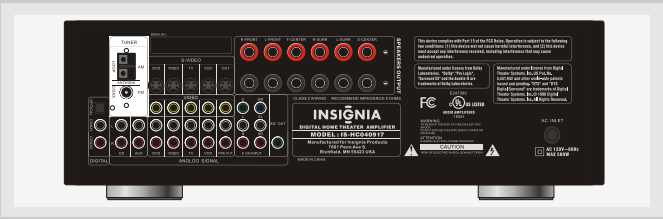
It's corresponding video and s-video input jack is DVD.

It's corresponding video and s-video input jack is VIDEO.

It's corresponding video and s-video input jack is TV.

Getting Started

Connecting the Antenna

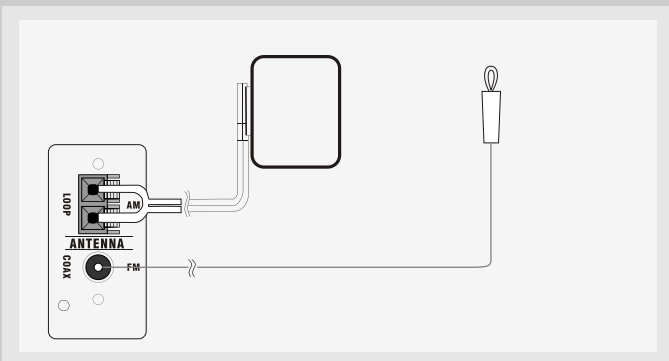


The AM and FM antennas connect to the AM and FM terminals on the system's back panel.

They must be hooked up in order to receive clear reception.

AM Loop Antenna and FM Indoor Antenna

1. Uncoil the Antenna wire.
2. Press down on the Antenna tab to open the terminal.



HINT

- For FM reception, extend antenna to its full length and arrange the Antenna Higher.
- For AM reception, rotate the antenna horizontally to get better reception.

AM Antenna wire Connection

1.

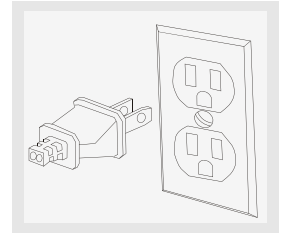


2.



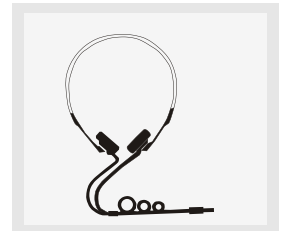
Connecting for Power

Make sure you connect all your other electronic components and the speakers before plugging your receiver into the outlet. Plug the power cord in the wall outlet, matching the wide blade of the plug with the wide slot in the outlet. Be sure to insert the plug completely.



Using Headphones

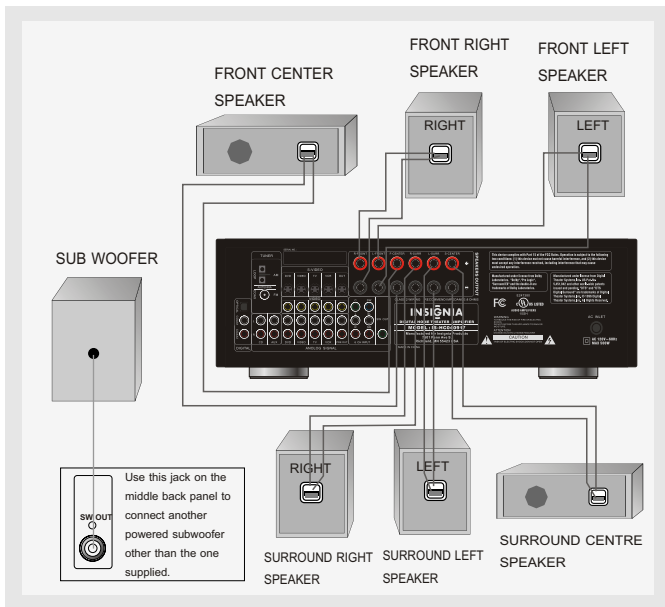
To listen privately through your audio system, use the HEADPHONE jack on the receiver. However, make sure you turn down the volume before you put on the headphones. Increase the volume to the desired level after headphones are in place.



Notes:

- Do not play your headset at a high volume. Hearing experts advise against continuous extended play.
- If you experience a ringing in your ears, reduce volume or discontinue use.
- Always turn down the volume before connecting your headphones.
- The speakers are turned off while the headphones plug is inserted in the HEADPHONE jack.
- When you connect a pair of headphones, the listening mode is set to Stereo, unless it's already set to 2 CH Stereo. When you disconnect the headphones, the previous listening mode is resumed.
- When the multichannel input is used, only the front left and right audio can be heard in the headphones.

Connecting the Speakers



MAKE SURE TO CONNECT 6-8 OHM SPEAKERS ONLY.

Speakers

You will need to use 7 speakers with the unit (Front Left, Front Right, Front Center, Surround Left, Surround center, Surround Right and subwoofer). In order to enjoy good surround effects all six speaker need to be connected to the receiver.

At least two front speakers (Front left and right) are required. For better sound quality, Center speaker, Surround speakers and Subwoofer should also be connected. Adding Center and Surround speakers will enhance surround effects. Adding a Subwoofer will increase bass response.

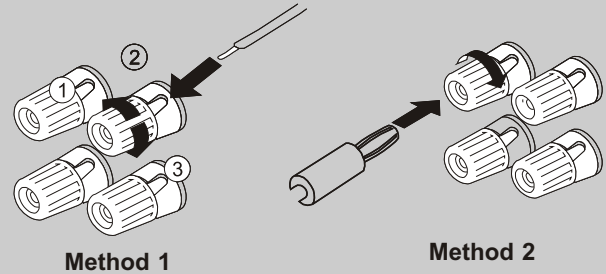
If you want to enjoy full range of sound effects, with small speakers, it is a must to use the subwoofer with the speakers to maintain adequate bass signal.

Connecting the Main ,Center, Rear Speaker

1. Loosen the knob.
2. Insert the bare wire. [Remove approx 5mm(1/4") insulation from the speaker wires.]
3. Tighten the knob and secure the wire.

Getting Started

Or you also may use banana plug.



Speaker Polarity

When connecting the speakers, make sure the polarities ("+" speaker wire to "+" on the receiver) of speaker wires and terminals are matched. If the cords are reversed, the sound will be distorted and will lack bass ("out of phase" effect).

Notes

- Do not let the bare speaker wires touch each other or any metal part of this unit. This could damage this unit or the speakers, or both.
- Connect the speakers terminals to your speakers with the wire of the proper gauge (keep as short as possible). If the connections are faulty, no sound will be heard from the speakers.

Connecting the Subwoofer

To connect your own powered subwoofer, a mono aural audio cord (not supplied) is needed (RCA terminal).

This receiver offers a high flexibility for user to use a large variety of speakers and subwoofers. For more information please refer to section "Speaker Setting" in "Operating Your Receiver" on page 20.

Getting Started

Positioning Your Speaker

① Left, Right(Front Speakers)

They carry primarily music and sound effects.

② Center

In surround mode, the center speaker carries much of the dialogue as well as music and effects. It should be set between the left and right speakers.

③ Surround Left, Right(Rear Speakers)

Their overall sound balance should be as close as possible to the front speakers. Proper placement is vital to establish an evenly distributed sound field.

④ Surround Center(surround center Speakers)

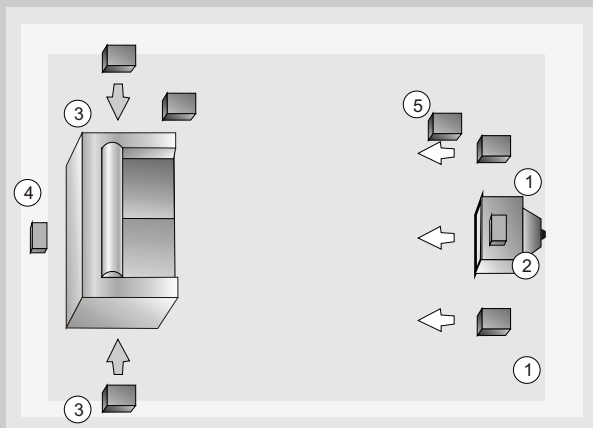
The surround center speaker supplements the surround speakers and provides for more realistic front-to-back transitions. Place the speaker directly behind the listening position and at the same height as the surround speakers.

⑤ Subwoofer

A subwoofer is designed to reproduce powerful low bass effects(explosions,the rumble of spaceships, etc.) which dramatically heightens involvement with the action on the screen. It is therefore recommended to connect subwoofer when small speakers are use.

Magnetic shielding

Speakers placed less than two feet from the TV set must be magnetically shielded in order to prevent picture distortion.It is not recommended to place the rear speakers near the TV set.



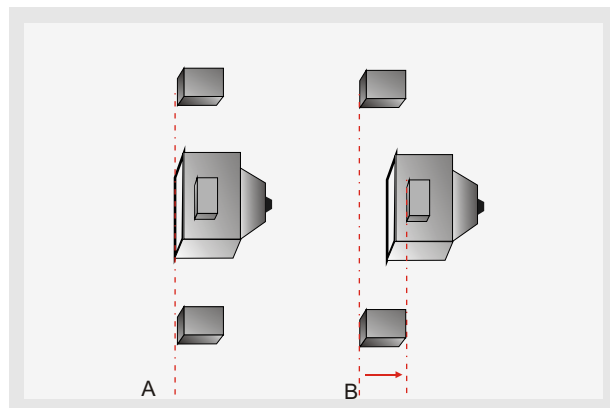
Courtesy Dolby Laboratories

Front Speaker Placement

Even if you can't duplicate ideal home theater setup exactly, the suggestions for speaker placement that follow will help you get good results.

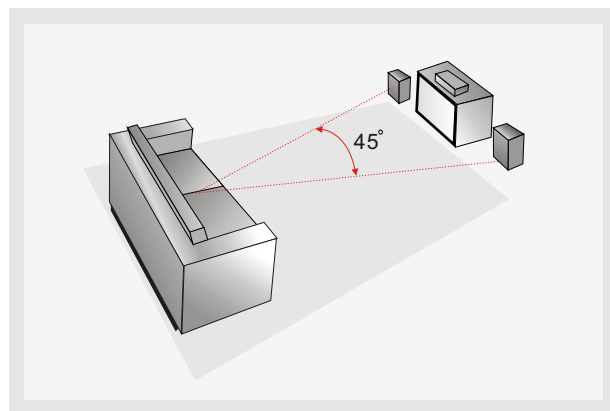
Alignment

Align the center speaker evenly with (A),or slightly behind (B), the left and right speakers, but not ahead of them.



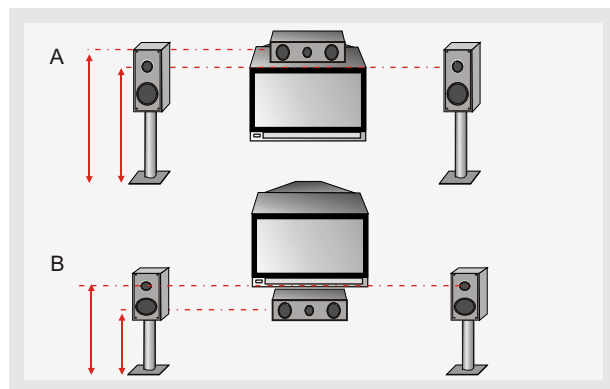
Angle

Placing the left and right speakers to form a 45-degree angle with your favorite viewing position will duplicate the soundtrack mixer's perspective.



Height

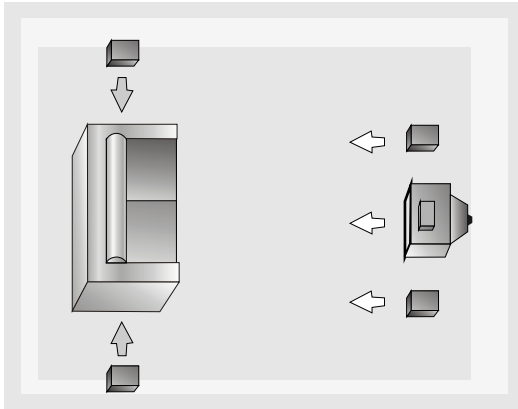
The mid-and high-frequency drivers of the three front speakers should be as possible to the same height. This often requires placing the center speaker directly atop(A) or beneath(B) the TV set.



Preferred Surround Placement

Location

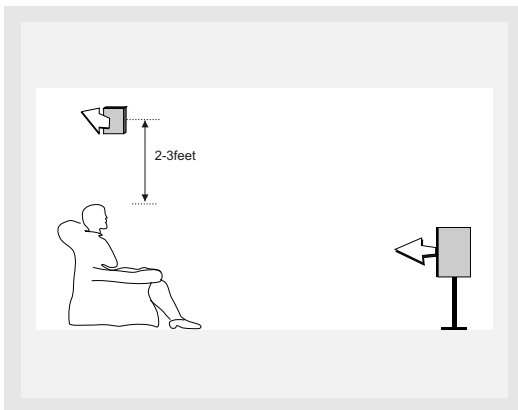
If possible, place surround speaker to either side of the listening area, not behind it.



Courtesy Dolby Laboratories

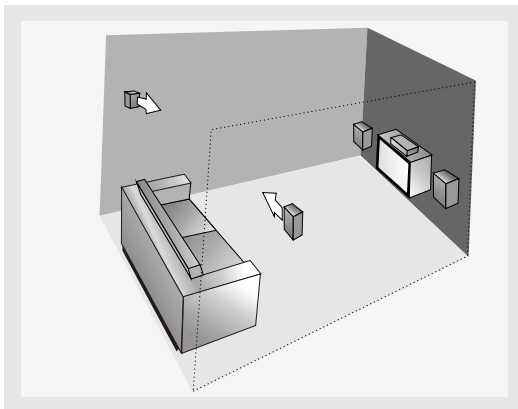
Height

If space permits, install surrounds 2-3 feet above viewers. This helps to minimize localization effects.



Courtesy Dolby Laboratories

Aiming surrounds straight across the room, not down at audiences, helps create a more open, spacious surround sound field.

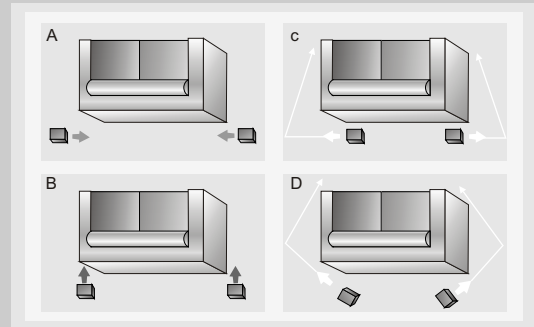


Courtesy Dolby Laboratories

Alternative Surround Placement

Rear wall

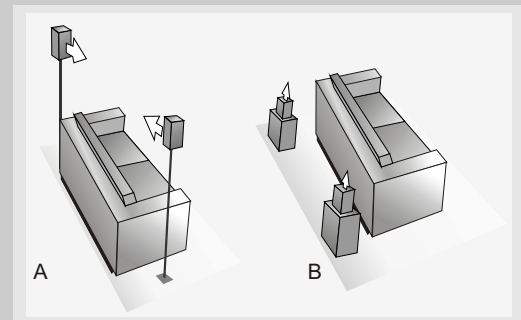
If rear wall mounting is the only choice, aim the speakers at each other (A), towards the front (B) or even towards the side-walls (C,D). Experiment with placement until surround sounds seem to envelop you, rather than coming from behind you.



Courtesy Dolby Laboratories

NO Adjacent Walls

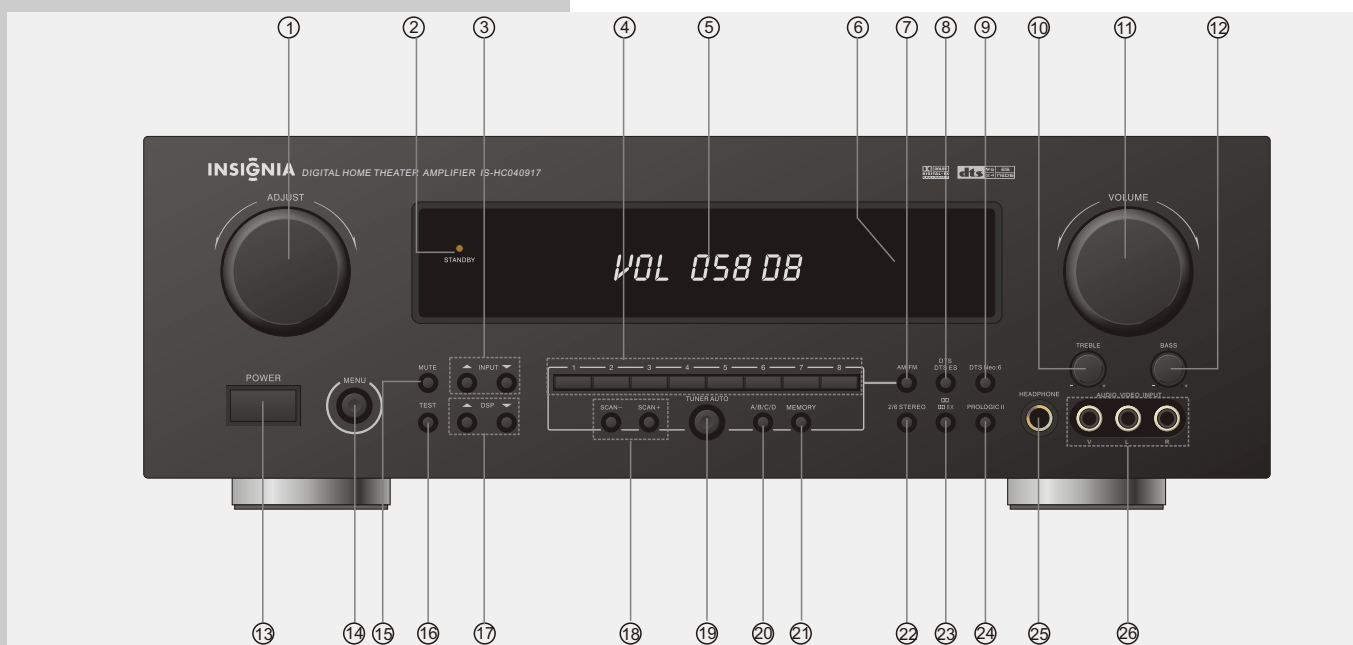
Surrounds can go on stands facing each other to approximate the preferred sidewall mounting(A), or to the sides or rear of the viewing area aimed upwards. In the latter case, they can go right on the floor, or preferably, a few feet off the floor such as on end tables(B).



Courtesy Dolby Laboratories

Operating Your Receiver

Panel Introduction



1.MENU adjustment knob

Press 14 **MENU** button on the panel or **MENU** ◀ or ▶ buttons on the remote to select a parameter, rotate the knob to adjust parameter selected.

Parameter increase when clockwise direction rotate the knob, parameter reduction when anti-clockwise direction rotate the knob.

Note:

- Default parameter is DIMMER.

2.Standby indicator

Lights up when this unit is standby.

3.INPUT selector

Press the buttons repeatedly to select the input source you want to listen to or watch.

4.Number 1-8 button

Press these buttons to select preset tuning channel.

5.Display window

Display a variety of information. e.g. Volume,DSP,source,listen mode and parameter etc.

6.Remote control sensor

Receives signals from the remote control.

7.FM/AM band switches button

Press the button to switch the reception band between FM and AM.

8.DTS & DTS ES mode selection button.

Notes: Input sources must be DTS or DTS ES-encoded.

9.DTS Neo:6 Cinema/Music mode selection button

10.Adjust music TREBLE parameter

Main channels TREBLE parameter increase when clockwise direction rotate the knob, main channels TREBLE parameter reduction when anticlockwise direction rotate the knob.

11.Master VOLUME control

Simultaneously controls volume for all output sounds; Front, Surround, Center, Subwoofer.

Volume increase when clockwise direction rotate the knob, volume reduction when anti-clockwise direction rotate the knob.

12.Adjust music BASS parameter

Main channels BASS parameter increase when clockwise

direction rotate the knob, main channels BASS parameter reduction when anticlockwise direction rotate the knob.

13.POWER switch

Press this switch to turn on the power. Press the switch again to turn off the power.

14.MENU selector button

Press the button to select a parameter of MENU. Rotate "1" "ADJUST " knob to adjust parameter selected.

15.MUTE

Mute the sound. Press again to restore the audio out to the previous volume level.

16.TEST

Outputs the test tone to adjust the speaker levels.

As well as a reset button, see page 40 "Resetting Factory Presets".

17.DSP mode selection button

6 DSP modes: Live, Disco, Jazz, Classic, Hall, Rock.

18.Tuning scan button

Press the SCAN+ side to tune in to a higher Frequency.
Press the SCAN- side to tune in to a lower frequency. Press and keep two second minutes, scan automatically.

19.TUNER automatically tuning button

Hold down the button for more than 3 seconds to start automatic preset tuning(AM/FM is detached).

20.A/B/C/D

Selects one of the 4 preset station groups (A to D) when the unit is in tuner mode.

21.Stores a station in the memory

Use the button to enter a station to memory.

22.2 channels stereo mode & 6 channels stereo mode selection button.

23.Dolby Digital & Dolby Digital Surround EX mode

selection button.

Note:

- Input sources must be Dolby digital or Dolby Digital Surround EX-encoded.

24.Dolby Pro logic II Cinema/Music mode selection button

25.Headphone jack

Allows you enjoy for private listening with headphones.When you connect headphones,no signals are output to all speakers.

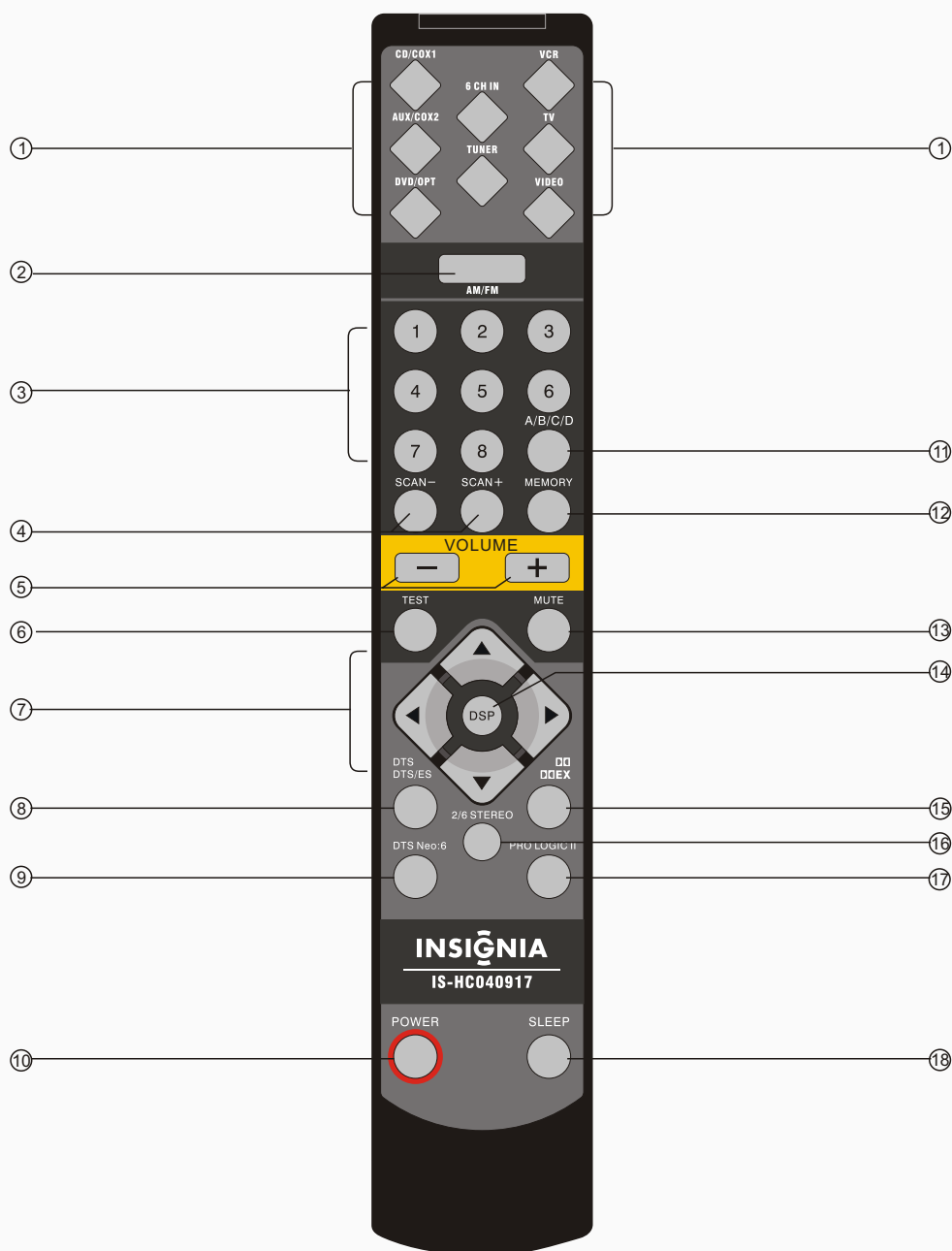
26.VIDEO AUDIO input jacks

Input audio and Video signals from a portable external source such as a game console. To reproduce source signals from these jacks, select VIDEO as the input source.

Operating Your Receiver

Your Remote Control

Please be sure you have inserted the batteries into the remote control.



Remote Control Function

1. Input selector

Selects the input source you want to listen to or watch.

2. FM/AM band switches button

Press the button to switch the reception band between FM and AM.

3. Number 1-8 button

Press these button to select preset tuning channel.

4. Tuning scan button

Press the SCAN+ side to tune in to a higher Frequency.
Press the SCAN- side to tune in to a lower frequency. Press and keep two second minutes, scan automatically.

5. Master volume

Controls the output level of all audio channels.

6. TEST

Outputs the test tone to adjust the speaker levels.

7. SET MAIN MENU button

Press these buttons to turn the unit into the SET MAIN MENU mode.

Select an item of menu by using the ◀ or ▶ buttons. the name item of menu will be displayed on the display, then press the ▲ or ▼ buttons (or turn **ADJUST** knob on the panel) to adjust or set it' parameter or range.

8. DTS & DTS ES mode selection button

Note:

- Input sources must be DTS or DTS ES-encoded.

9. DTS Neo:6 Cinema/Music mode selection button

10. POWER

Press this button to set this in the standby mode. Press again turn on the power of this unit.

11. A/B/C/D

Selects one of the 4 preset station groups (A to D), when the unit is in tuner mode.

12. Stores a station in the memory

13. MUTE

Mute the sound. Press again to restore the audio out to the previous volume level.

14. DSP mode selection button

6 DSP modes: Live, Disco, Jazz, Classic, Hall, Rock.

15. Dolby Digital & Dolby Digital Surround EX mode selection button

Note:

- Input sources must be Dolby digital or Dolby Digital Surround EX-encoded.

16. 2 channels stereo mode & 6 channels stereo mode selection button

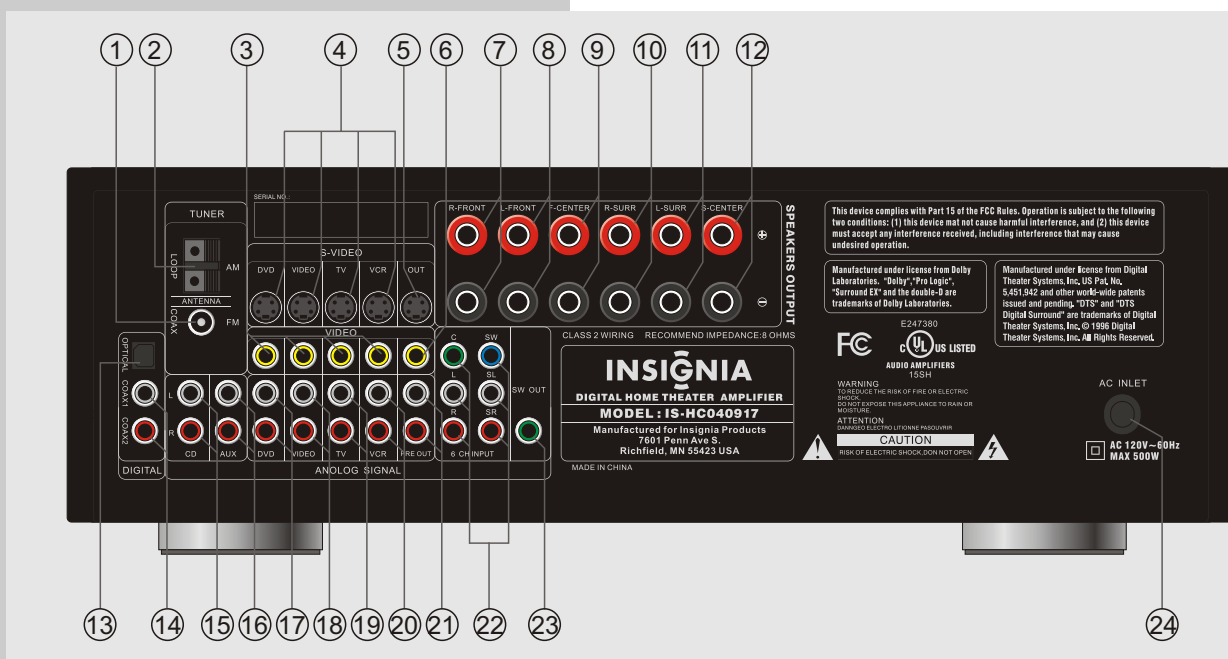
17. Dolby Pro logic II Movie/Music mode selection button

18. SLEEP button

Sets the sleep time: 10min, 20min, 30min, 40min, 50min, 60min, 70min, 80min, 90min, 100min, 110min, 120min.

Operating Your Receiver

Rear Panel Introduction



1.FM antenna input

2.AM antenna input

3.Video input jacks

Note: using corresponding analog audio jack.

4.S-Video input jacks

Note: using corresponding analog audio jack.

5.S-Video output jack

6.Video output jack

7.Front Right channel speaker terminals

8.Front Left channel speaker terminals

9.Front center channel speaker terminals

10.Rear right channel speaker terminals

11.Rear left channel speaker terminals

12.Surround center channel speaker terminals

13.Digital audio optical jack

Note:

- DVD analog signal (DVD RCA) input, Optical (DVD digital signal), DVD Video and DVD S-Video, they belong to the same that input signal group.

14.Digital coaxial jacks

Notes:

- VIDEO analog signal (VIDEO RCA) input, COAX1 (VIDEO digital signal), VIDEO Video and VIDEO S-Video belong to the same that input signal group.
- TV analog signal (TV RCA) input, COAX2 (TV digital signal), TV Video, TV S-Video belong to the same that input signal group.

15.CD Analog Audio input jacks

16.AUX Analog Audio input jacks

17.DVD Analog Audio input jacks

18.VIDEO Analog Audio input jacks

19.TV Analog Audio input jacks

20.VCR Analog Audio input jacks

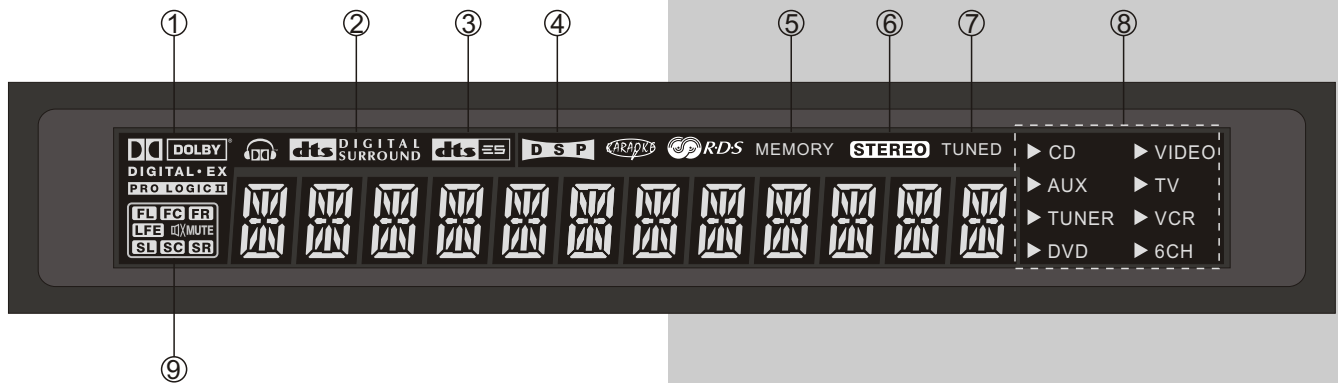
21.PRE Audio output jacks

22.6 CH signal input jacks

23.Subwoofer signal output jack

24.AC 120V/60Hz power input plug

Display



1.DOLBY DIGITAL/DIGITAL.EX/PRO LOGIC II

Lights up when a Dolby Digital signal is input to this unit.
Lights up when a Dolby Digital EX signal is input to this unit.
Lights up when you select Dolby Pro logic II mode.

2.DTS DIGITAL SURROUND

Lights up when a DTS signal is input to this unit.

3.DTS ES

Lights up when a DTS ES signal is input to this unit.

4.DSP

Lights up when you select a DSP mode.

5.MEMORY

Blinks to show that a station can be stored.

6.STEREO

lights up when this unit is receiving a strong signal for a FM stereo broadcast while the AUTO indicator is lit.

7.TUNED

Lights up when this unit is tuned into a station.

8.INPUT SOURCE INDICATOR

It's front trigon is Lighted when a source is selected.

9.Output speaker Indicator

The speaker is Lighted up when a signal is output from the speaker output.

FL:Front Left channel

FC:Front Center channel

FR:Front Right channel

LFE:Subwoofer channel

SL:Surround left channel

SC:Surround center channel

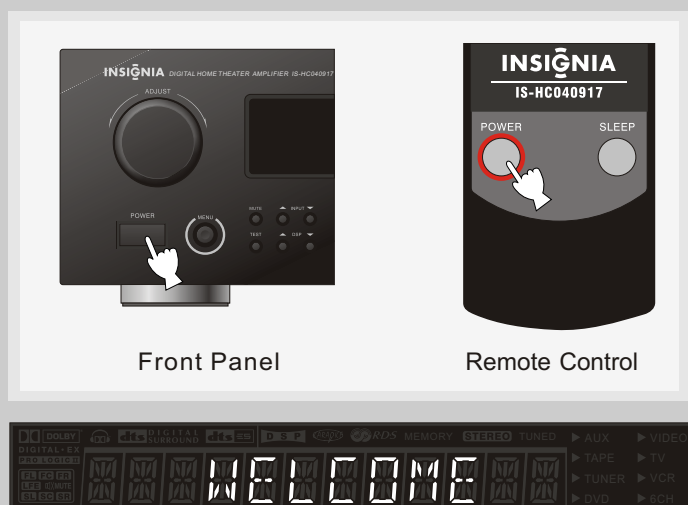
SR:Surround right channel

MUTE: Blinks when the MUTE function is on.

Operating Your Receiver

Switching On / Off

To turn on **POWER** switch on the panel, the unit is standby mode, standby indicator light on the display is red, then, press either button on the panel or **POWER** button on the remote control. "**WELCOME**" will be display on the display and left direction moving. Stop three seconds when the word pass the middle of display(flash three times),then left direction moving and enter working mode.



STANDBY: when the receiver is on, press **POWER** button on the remote once to activate the standby mode (only by remote).

Note:

- In standby mode, this unit consumes a small amount of power in order to receive infrared-signals from the remote control.

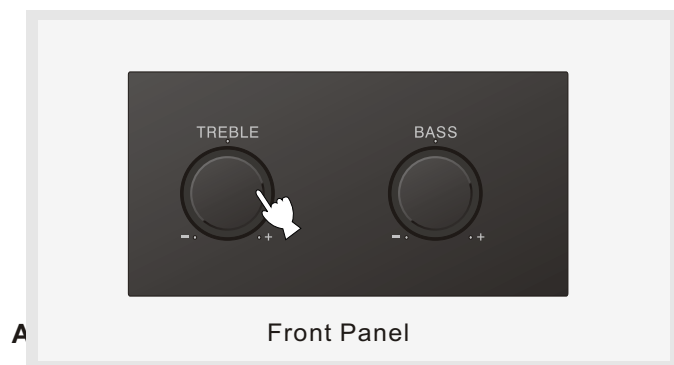
POWER OFF: Press **POWER** switch on the panel to turn off the unit .

To Adjust the Tone

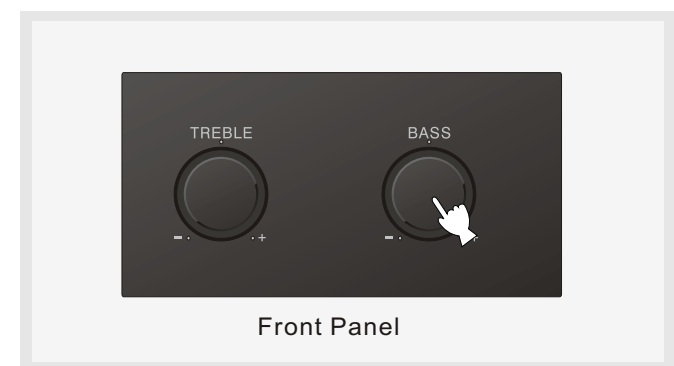
You can adjust the tonal quantity of your front left and right speakers or headphones(when connected).

Adjust High-frequency of Main Speakers

Turn the **TREBLE** knob on the panel to adjust high-frequency of main speaker. The parameter is increased when clockwise direction rotate the knob. The parameter is decreased when anticlockwise direction rotate the knob.



Turn the **BASS** knob on the front panel to adjust low-frequency of main speaker. The parameter is increased when clockwise direction rotate the knob. The parameter is decreased when anticlockwise direction rotate the knob.



Speaker Setting(Speaker Mode Settings)

Use this feature to select suitable output modes for your speaker configuration.

1.Main Speakers

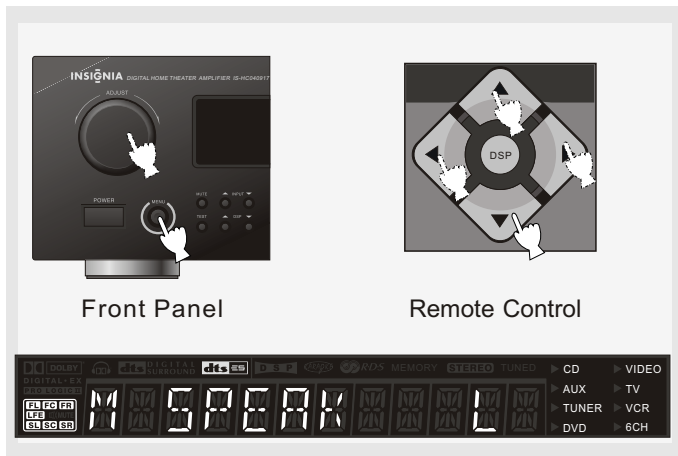
Use the **MENU** button on the panel or the **Left** and **Right** ◀ or ▶ buttons on the remote to select "M SPEAK", and turn the **ADJUST** knob on the panel or use the **Up** and **Down** ▲ or ▼ buttons on the remote to select position.

Choices:**LARGE**,**SMALL**.

Initial setting:**LARGE**.

LARGE:If your main speakers have a high ability for bass reproduction. In this position, full range signals present at the main channels are output from the main speakers.

SMALL: If your main speakers do not have a high ability for bass reproduction. However, if your system does not include a subwoofer, do not select this position. In this position, low bass signals are output from the subwoofer speaker(100Hz).



2.Front Center Speaker

Use the **MENU** button on the panel or the **Left** and **Right** ◀ or ▶ buttons on the remote to select "FC SPEAK", and turn the **ADJUST** knob on the panel or use the **Up** and **Down** ▲ or ▼ buttons on the remote to select position.

Choices:**LARGE**,**SMALL**,**NONE**.

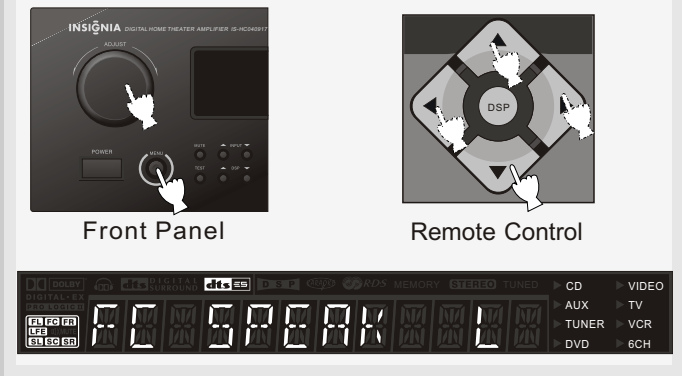
Initial setting:**LARGE**.

LARGE:Select this if the front center speaker is approximately the same size as the main speakers. The entire range of the front center signal is directed to the front center speaker.

SMALL:Select this position if your front center speaker is smaller than the main speakers. In this position, low bass signals (100 Hz) at the front center channels are output from the subwoofer speaker, or output from left and right main speaker if the subwoofer speaker is in "N" position.

NONE:

Select this position if your system does not include a front center speaker. All of the front center channel signal are directed to the main speakers.



3.Surround Left and Right Speakers

Use the **MENU** button on the panel or the **Left** and **Right** ◀ or ▶ buttons on the remote to select "S SPEAK", and turn the **ADJUST** knob on the panel or use the **Up** and **Down** ▲ or ▼ buttons on the remote to select position.

Choices:**LARGE**,**SMALL**,**NONE**.

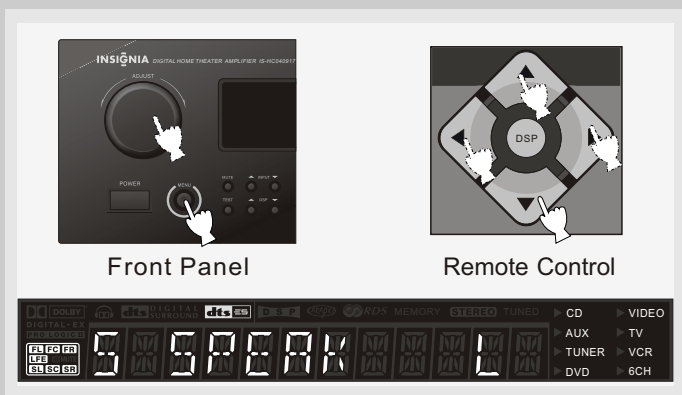
Initial setting:**LARGE**.

LARGE:Select this position if you have large surround left and right speakers or if a surround subwoofer is connected to your surround speakers. The entire range of the front center signal is directed to the surround left and right speakers.

SMALL:Select this position if your surround left and right speakers do not have a high ability for bass reproduction. In this position, low bass signals (100 Hz) at the surround left and right channels are output from the subwoofer speaker, or output from left and right main speaker if subwoofer speaker is in "N" position.

NONE:Select this position if your system does not include the surround left and right speakers. All of the surround left and right channel signals are directed to the main speakers.

Operating Your Receiver



4.Surround Center Speaker

Use the **MENU** button on the panel or the **Left** and **Right** ◀ or ▶ buttons on the remote to select "SC SPEAK ", and turn the **ADJUST** knob on the panel or use the **Up** and **Down** ▲ or ▼ buttons on the remote to select position.

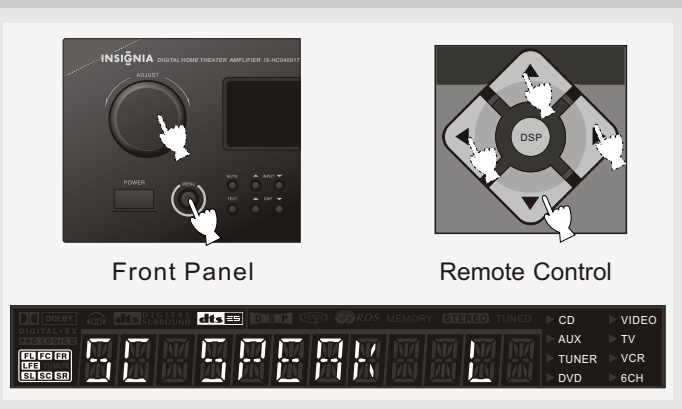
Choices:**LARGE**,**SMALL**,**NONE**.

Initial setting:**LARGE**.

LARGE:Select this position if you have large surround center speaker.The entire range of the surround center signal is directed to the surround center speaker.

SMALL:Select this if your surround center speaker does not have a high ability for bas reproduction. In this position, low bass signal (100 Hz) at the surround center channel is output from the subwoofer speaker, or output from left and right main speaker if subwoofer speaker is in "N" position.

NONE:Select this position if your system does not include the surround center speakers. All of the surround center channel signal are directed to the surround left and right speakers.



5.Subwoofer Speaker

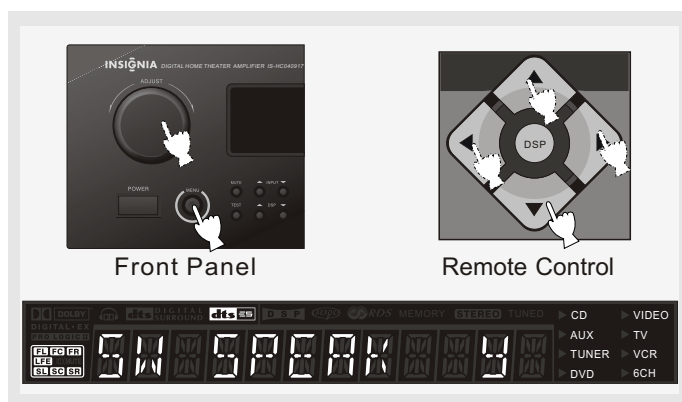
Use the **MENU** button on the panel or the **Left** and **Right** ◀ or ▶ buttons on the remote to select "SW SPEAK ", and turn the **ADJUST** knob on the panel or use the **Up** and **Down** ▲ or ▼ buttons on the remote to select position.

Choices:**YES**,**NONE**.

Initial setting:**YES**.

YES: Select this position if your system includes a subwoofer.

NONE:Select **NONE** position if your system does not include a subwoofer speaker.



Notes:

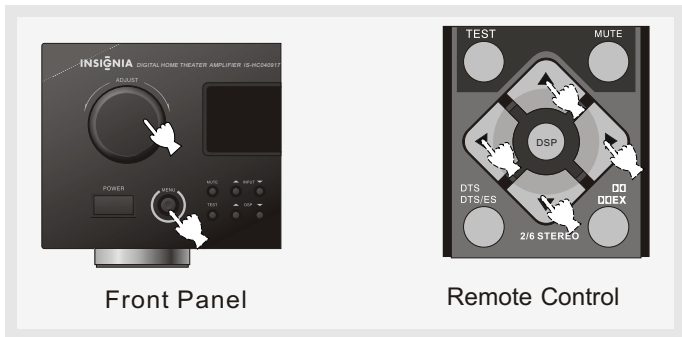
- To avoid LFE signal is lost in your system.The main speakers is selected "LARGE" position automatically if your subwoofer speaker is selected "NONE" position.
- When 6 CH INPUT is selected as the input source,all speakers setting are not affected.

Adjusting Speaker Output Levels

Use this feature to adjust speaker output levels.

1.Front Left Channel Level

Use the **MENU** button on the panel or the **Left** and **Right** ◀ or ▶ buttons on the remote to select "FL 00dB", and turn the **ADJUST** knob on the panel or use the **Up** and **Down** ▲ or ▼ buttons on the remote to set the level.



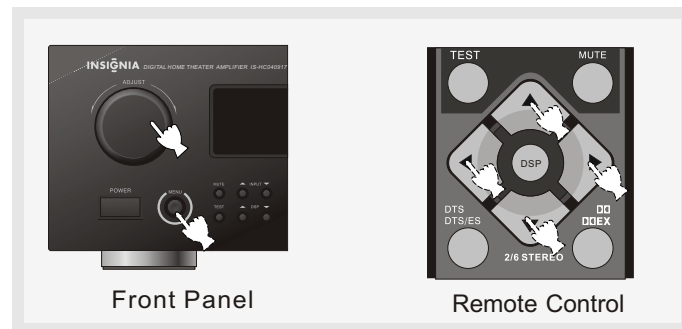
The name of the currently selected speaker and its volume appear on the display, as shown.



The level can be adjusted from -10dB to +10dB in 1 dB steps.
Initial setting:0dB.

2.Front Center Channel Level

Use the **MENU** button on the panel or the **Left** and **Right** ◀ or ▶ buttons on the remote to select "FC 00dB", and turn the **ADJUST** knob on the panel or use the **Up** and **Down** ▲ or ▼ buttons on the remote to set the level.



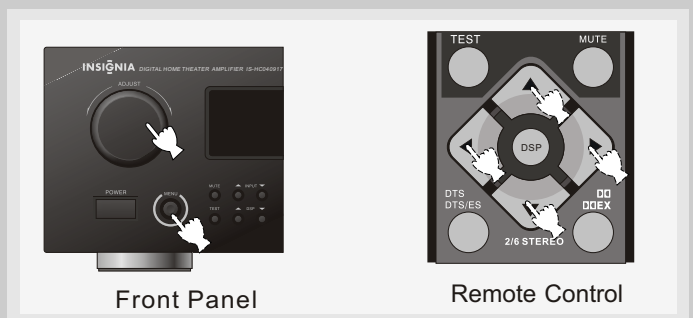
The name of the currently selected speaker and its volume appear on the display, as shown.



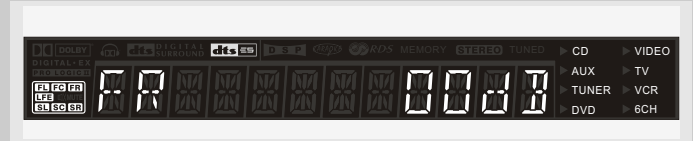
The level can be adjusted from -10dB to +10dB in 1 dB steps.
Initial setting:0dB.

3.Front Right Channel Level

Use the **MENU** button on the panel or the **Left** and **Right** ◀ or ▶ buttons on the remote to select "FR 00dB", and turn the **ADJUST** knob on the panel or use the **Up** and **Down** ▲ or ▼ buttons on the remote to set the level.



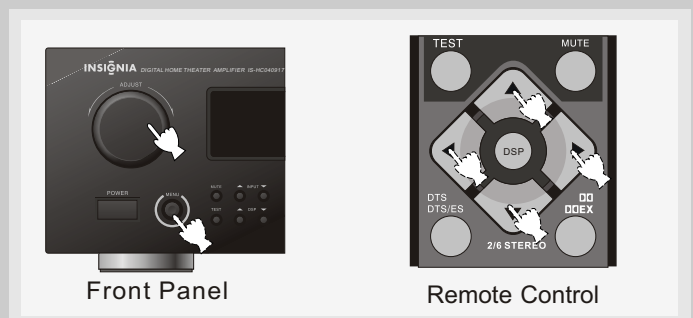
The name of the currently selected speaker and its volume appear on the display, as shown.



The level can be adjusted from -10dB to +10dB in 1 dB steps.
Initial setting:0dB.

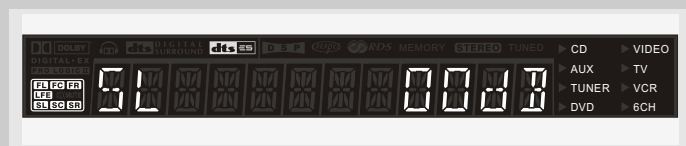
4.Surround Left Channel Level

Use the **MENU** button on the panel or the **Left** and **Right** ◀ or ▶ buttons on the remote to select "SL 00dB", and turn the **ADJUST** knob on the panel or use the **Up** and **Down** ▲ or ▼ buttons on the remote to set the level.



Operating Your Receiver

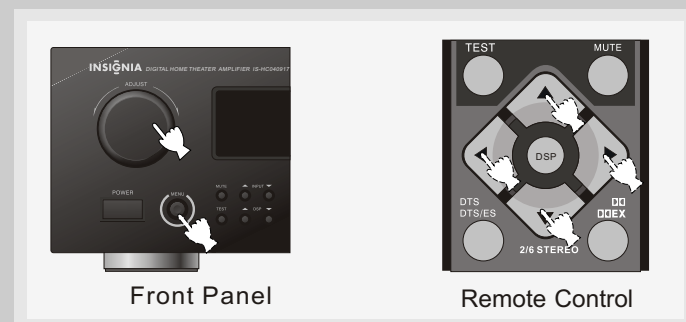
The name of the currently selected speaker and its volume appear on the display, as shown.



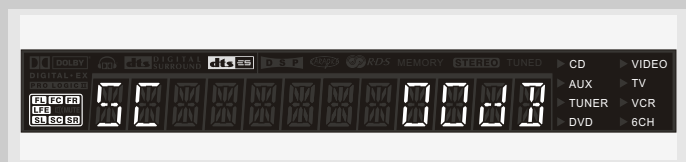
The level can be adjusted from -10dB to +10dB in 1 dB steps.
Initial setting:0dB.

5.Surround Center Channel Level

Use the **MENU** button on the panel or the **Left** and **Right** ◀ or ▶ buttons on the remote to select "SC 00dB", and turn the **ADJUST** knob on the panel or use the **Up** and **Down** ▲ or ▼ buttons on the remote to set the level.



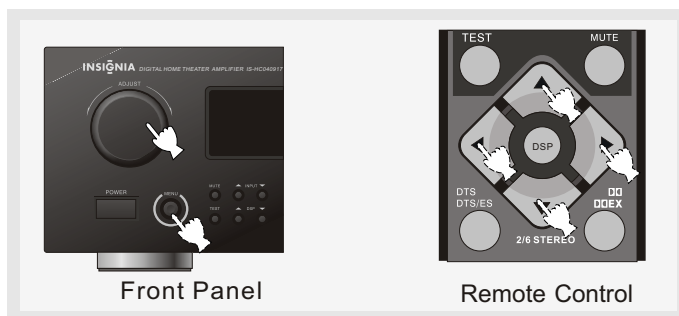
The name of the currently selected speaker and its volume appear on the display, as shown.



The level can be adjusted from -10dB to +10dB in 1 dB steps.
Initial setting:0dB.

6.Surround Right Channel Level

Use the **MENU** button on the panel or the **Left** and **Right** ◀ or ▶ buttons on the remote to select "SR 00dB", and turn the **ADJUST** knob on the panel or use the **Up** and **Down** ▲ or ▼ buttons on the remote to set the level.



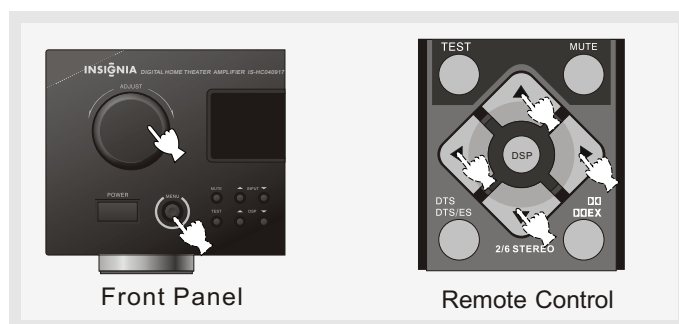
The name of the currently selected speaker and its volume appear on the display, as shown.



The level can be adjusted from -10dB to +10dB in 1 dB steps.
Initial setting:0dB.

7.Subwoofer Channel Level

Use the **MENU** button on the panel or the **Left** and **Right** ◀ or ▶ buttons on the remote to select "SW 00dB", and turn the **ADJUST** knob on the panel or use the **Up** and **Down** ▲ or ▼ buttons on the remote to set the level.



The name of the currently selected speaker and its volume appear on the display, as shown.



The level can be adjusted from -10dB to +10dB in 1 dB steps.
Initial setting:0dB.

Note:

- When adjusting the level of an active subwoofer system, you may also need to adjust the subwoofer's own volume control.

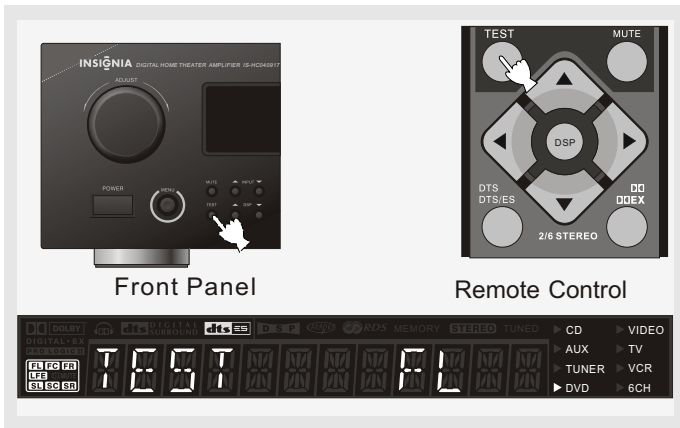
Speaker Level Calibration

Here you can adjust the level of each speaker with the built-in test tone so that the volume of each speaker is the same at the listening position.

Note:

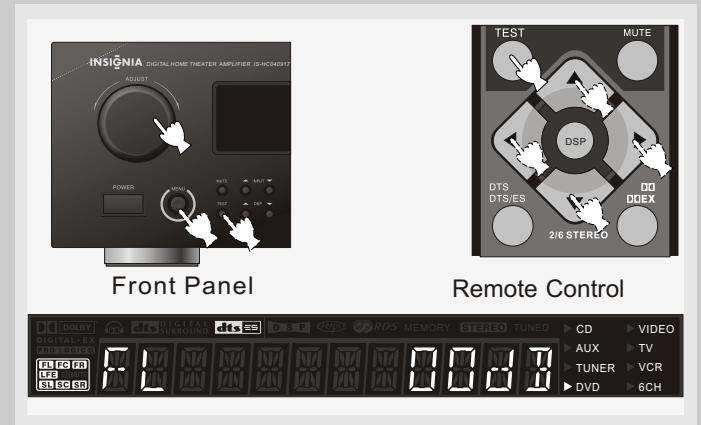
- The speakers cannot be calibrated while the output of this unit is muted, while a pair of headphones is connected, or when using the multichannel input.

1. Press the **TEST** button on the remote control or panel, you will hear a test tone (like pink noise) from front left speaker, then front center speaker, then front right speaker, then surround right speaker, surround center, then surround left speaker, and then the subwoofer speaker.



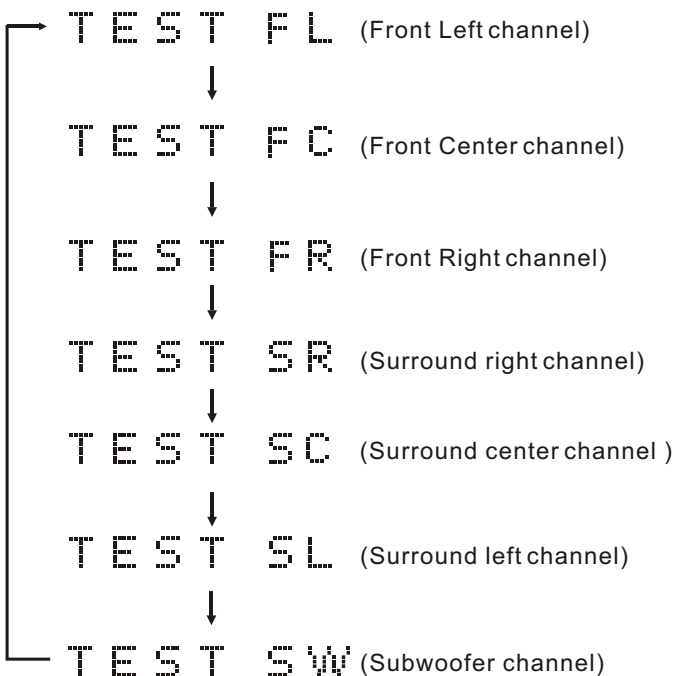
2. Use the **MENU** button on the panel or the **Left** and **Right** ◀ or ▶ buttons on the remote to select the speaker you want to adjust.

Turn the **ADJUST** knob on the panel or use the **Up** and **Down** ▲ or ▼ buttons on the remote to set the volume. The volume can be adjusted from -10 to +10 dB in 1 dB steps.



3. Repeat step 2 until the volume of the test tone from each speaker is the same.

4. After adjustment, press **TEST** again on the remote control or panel to exit testing mode.



Operating Your Receiver

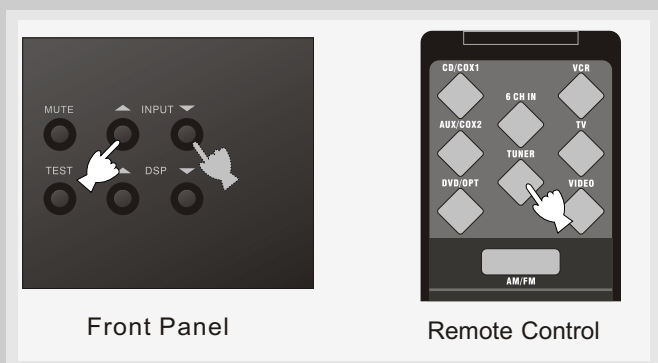
Selecting the Input Source

This section explains how to select the input source (i.e., The AV component that you want to listen to or watch).

This unit has one set exterior decode 6 channel input, six way analog inputs, three way digital (one is optical, two are coaxial) inputs. All these sound sources can be selected on the panel or remote control.

1. Press **INPUT** buttons on the panel repeatedly to select an input source. This unit is with CD, COAX1, AUX, COAX2, TUNER, DVD, OPTICAL, VCR, TV, VIDEO, 6 CH IN sources.

Every time you press the source button, the input setting (e.g. DVD/OPTI) will be shown on display.



2. Press direct corresponding source button on the remote to select a source.

On the remote control, CD and COAX 1, AUX and COAX 2, DVD and OPTICAL are all double function buttons. If you want to select a digital source by remote control, please press corresponding button.

3. DVD analog signal (DVD RCA) input, Optical (DVD digital signal), DVD Video and DVD S -Video, they belong to the same that input signal group.

VIDEO analog signal (VIDEO RCA) input, COAX1 (VIDEO digital signal), VIDEO Video and VIDEO S -Video belong to the same that input signal group.

TV analog signal (TV RCA) input, COAX2 (TV digital signal), TV Video, TV S -Video belong to the same that input signal group.

Switch Synchro Audio/Video Sources

If you have two or more video devices in your system, please use Audio/Video signal synchro switch function.

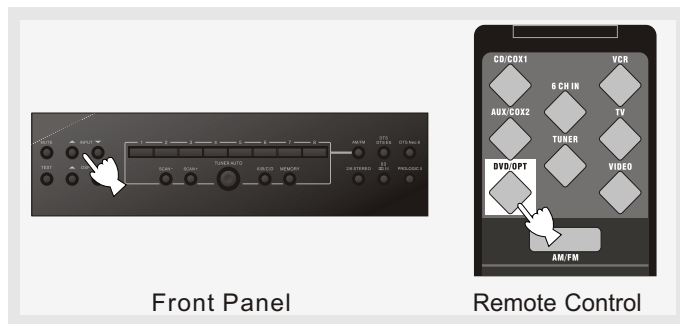
Connect each Video/Audio source's group to this unit's same group's input jacks.

The following table lists all the input sources and shows which sources are the same group:

ANALOG AUDIO INPUT JACK	DIGITAL INPUT JACK	VIDEO INPUT JACK	S-VIDEO INPUT JACK
CD	/	/	/
AUX	/	/	/
TUNER	/	/	/
DVD	OPT	DVD	DVD
VIDEO	COAX1	VIDEO	VIDEO
TV	COAX2	TV	TV
VCR	/	VCR	VCR
6 CH IN	/	DVD	DVD

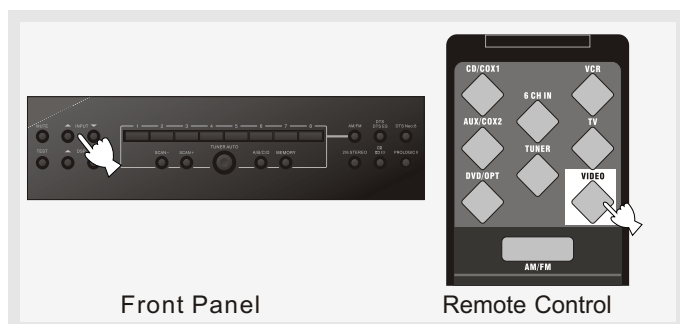
Example1:

If you connect a DVD player to the DVD input (audio + video) jacks and then press the **DVD** button, you will be able to have the sound and image from the DVD player.



Example 2:

Based on the example 1, the DVD is playing, if a video source (Audio, Video) is connected to VIDEO input jacks of this unit, the **VIDEO** button is pressed, the image and sound from the VIDEO source will replace the DVD.

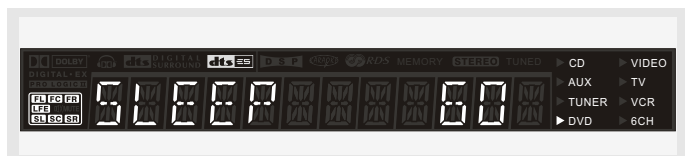


SLEEP

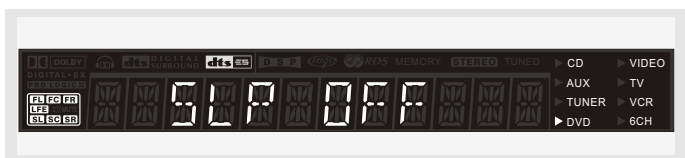
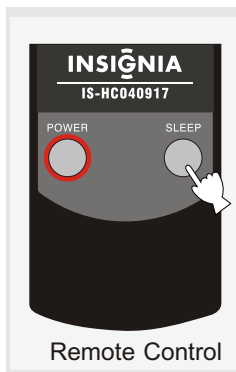
Use the built-in SLEEP timer to automatically turn this unit into the standby mode after the time you set elapses. The SLEEP timer is useful when you plan to fall asleep while this unit is playing back or recording a source.



1. Press the **SLEEP** button repeatedly until the desired SLEEP time appears on the display. From 10 minutes to 120 minutes.



2. To cancel the SLEEP: Press the **SLEEP** button repeatedly until **SLEEP OFF** appears on the display(VFD).

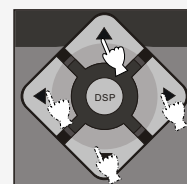


Setting the Display Brightness

Use the **MENU** button on the panel or the **Left** and **Right** ◀ or ▶ buttons on the remote to select "DIMMER 8" item. Turn the **ADJUST** knob on the panel or use the **Up** and **Down** ▲ or ▼ buttons on the remote to select a mode of dimmer.



Front Panel



Remote Control



Automatic Audio Format Recognition

When a digital source is playing, the receiver will automatically recognise source format to enter to the proper surround mode and light output speaker indicator on the left-hand side of the display(VFD).

It is important to know, however that not all DTS or Dolby Digital sources are encoded with the full complement of five channels plus LFE*. Output speaker indicator show how many and which speaker you have enabled and the letters inside output speaker indicator show which channel is present in the source information.

*LFE stands for Low Frequency Effect. The indication "LFE" appears if the digital source contains LFE information. In this case, the bass signal will be delivered to the subwoofer, offering more dynamic deep bass sound effects.

The Rule for Listen Mode Display

This unit detects digital signal sources and selects the corresponding playback mode automatically, but can be manually changed to a different playback mode. The new mode will remain in effect until a differently formatted source is played. For instance, if you play a DTS - encoded DVD, DTS decoding mode is automatically selected. If you manually change to DTS STEREO mode, the unit will remain in DTS STEREO mode until you change the mode manually or play a differently formatted source.

Operating Your Receiver

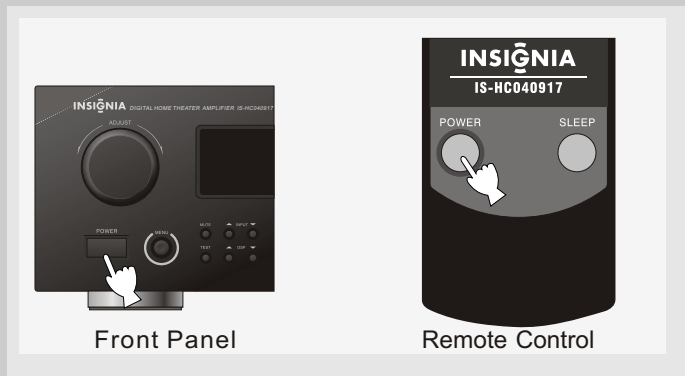
Operating the Radio

The receiver has a built-in tuner that allows for AM/FM radio function.

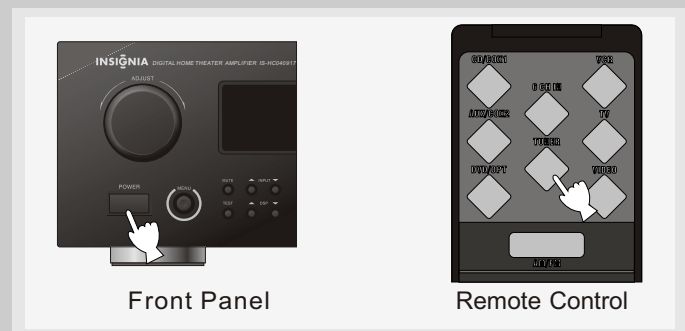
There are 2 way to tune;automatic and manual. Automatic tuning is effective when station signals are strong and there is no interference.If signal from the station you want to select is weak,you must tune in to it manually.

Manual tuning

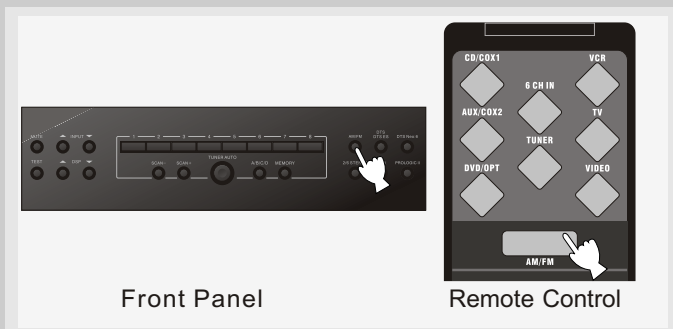
- 1.Connect the FM and AM antennae accordingly (see page 9 "Connecting the Antenna").
2. Press the **POWER** switch to turn on the receiver.



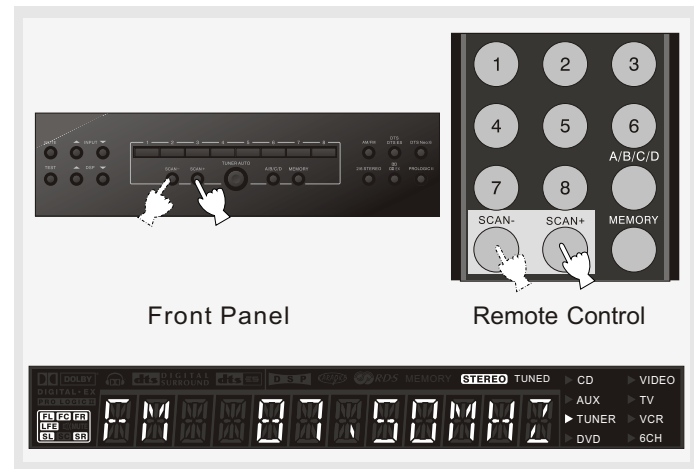
3. Press the **TUNER** button on the remote or **INPUT** buttons on front panel to select TUNER as the input source.



- 4.Press the **FM/AM** button on the front or the remote control to select the reception band.

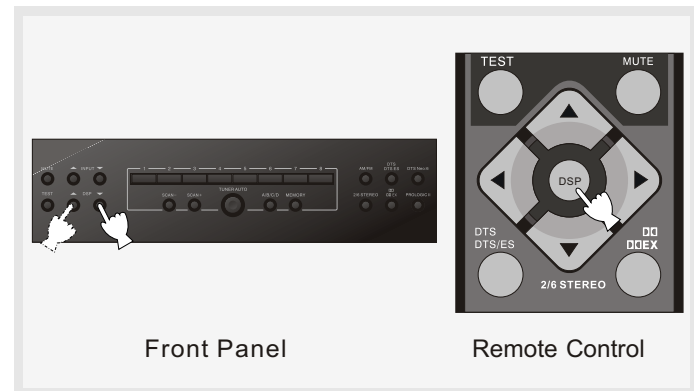


- 5.Tune by pressing **SCAN +** or **SCAN -** repeatedly until the desired station is found. Alternatively, you can press and hold **SCAN +** or **SCAN -** for about one second to activate the automatic search function.In this mode, the receiver will automatically tune frequencies until it finds a station.When a FM station broadcast stereo sound, the **STEREO** indicator lights up.



6. Repeat steps 5 to tune another radio station.

- 7.Select sound effect if needed by pressing preset DSP sound or other available listen modes,



NOTES

1. If there is interference, modify the location of the antenna until the optimal sound is heard. TV and other electronic devices could be the cause of interferences so try to position the antenna away from them.

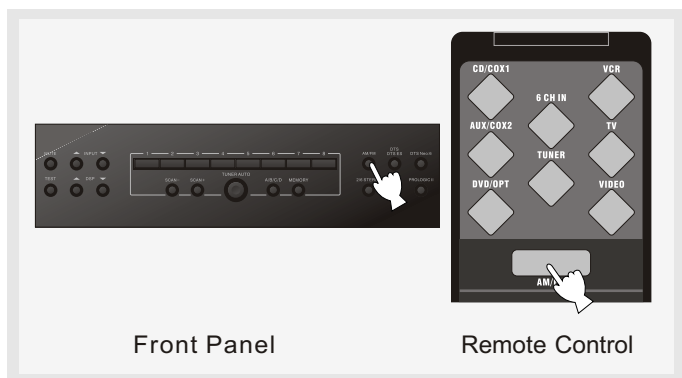
2. Weak signal can affect the "auto Search function". Adjust the antenna for better reception for more efficient search.

Storing Radio Stations:

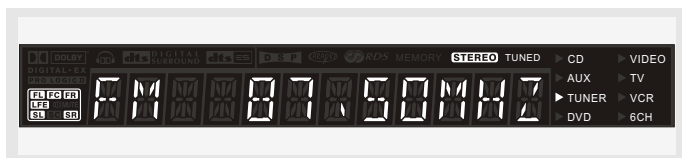
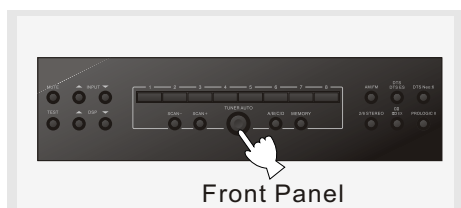
Automatic Preset Storing:

1. Press the **TUNER** button on the remote or **INPUT** buttons on front panel to select TUNER as the input source.

2. Press the **FM/AM** button on the front panel or the remote to select the reception band.



3. Press and hold **TUNER AUTO** button for 3 seconds on the panel to begin automatic tuning.



4. Radio frequencies will be browsed and radio stations stored automatically as A1, A2, A3, A4, A5 etc. When all available radio stations are stored or if all 32 memory locations are full, the auto preset will stop.

NOTE

Weak signal can affect the "Automatic Preset Storing function" efficiency. Adjust the antenna for the best reception for more efficient search.

Operating Your Receiver

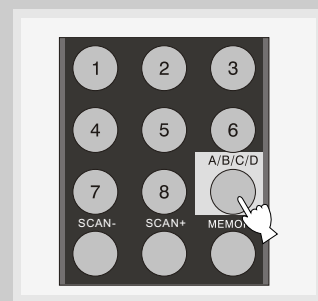
Manually Presetting Station

1. Press the **FM/AM** button on the front panel or the remote to select the reception band.

2. Tune to a radio station (see "Manual tuning" on page 28 above for details).

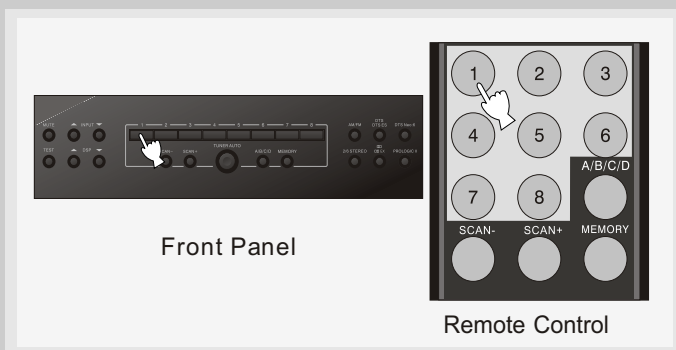


3. Press the **MEMORY** button on the panel or remote, the "MEMORY" indicator on the display lights up.



4. Press A/B/C/D button on the remote or panel repeatedly to select a preset station group (A to D) while the "MEMORY" indicator is lighting, e.g. "A".

5. While the "MEMORY" indicator is still on, press 1-8 button to select a preset station number. For example, selecting group "A" electing group "A" in step 4 and number "1" in step 5 would save the station as "A1."



6. Repeat steps 2 to 5 to store other stations.

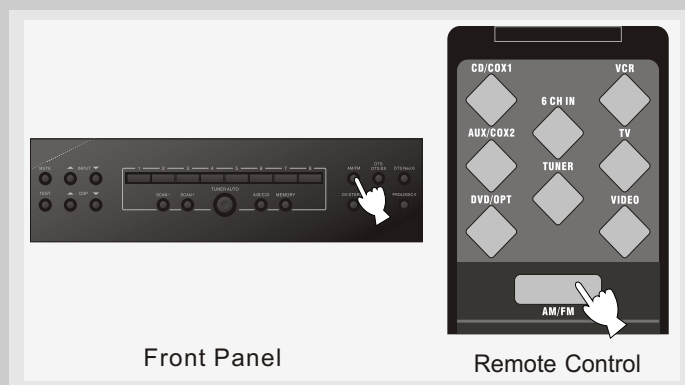
NOTE

*A new setting can be programmed in place of the former one.
This memory is forever before reset.*

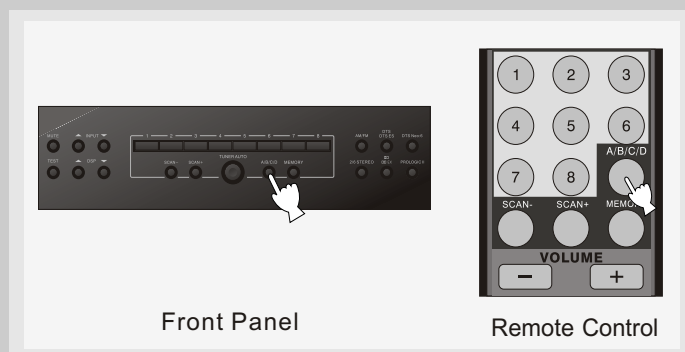
Operating Your Receiver

Retrieving Preset Stations

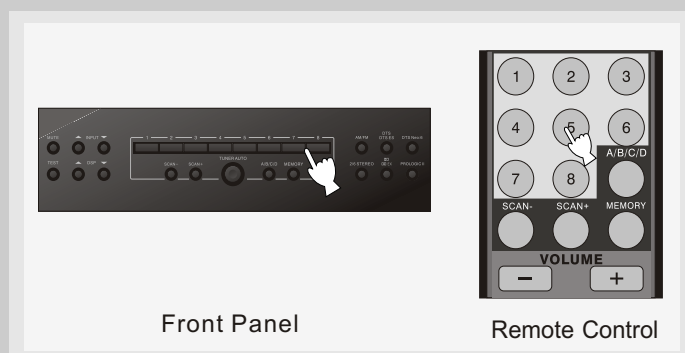
1. Press the **FM/AM** button on the front panel or the remote to select the reception band.



2. Press **A/B/C/D** button on the panel or remote to select the group of preset station that you are the desired.



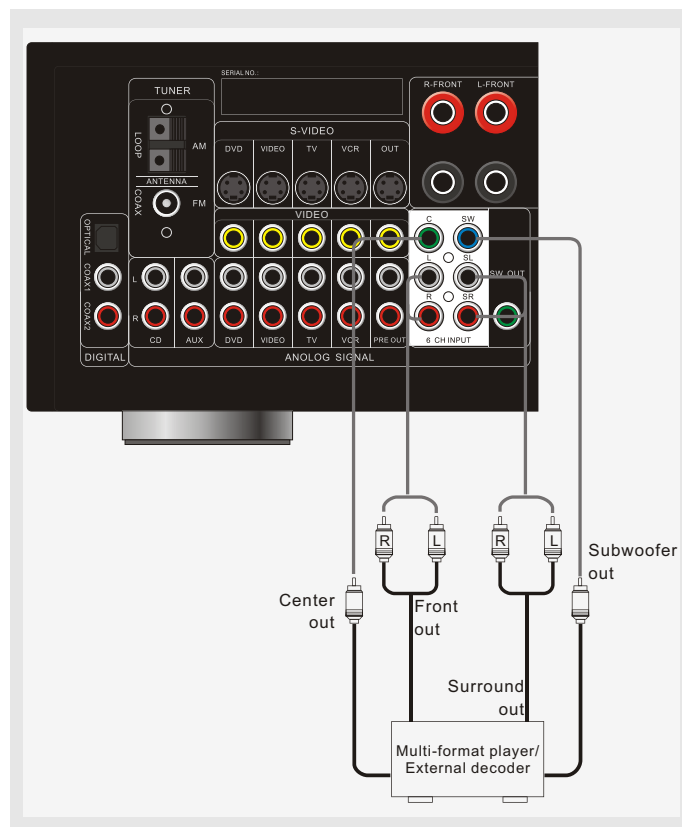
3. Press the numeric button 1-8 on the remote control or panel to select the number of preset station that you are the desired.



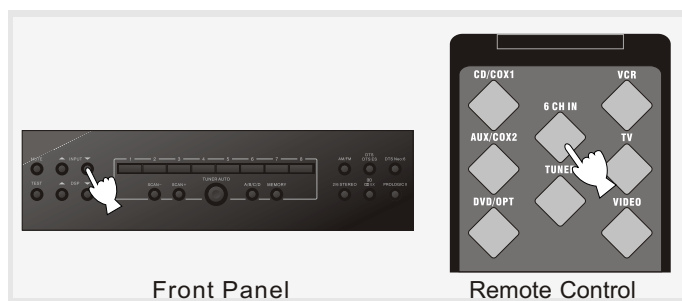
4. In the same way, You can select other stations stored.

6 Channel External Input

An external decoder (DTS, Dolby digital, etc...) or a device with built-in multi-channel decoder and 6 channel output connector (DVD player, TV...) can be connected to the 6 CH input. It is therefore possible to play any future 6 channels coding (SACD, DVD Audio) thanks to this connection. The external decoder device will send the separated audio information to the receiver that will then amplify the signal and send to appropriate speakers.



To activate 6 channel input, press **INPUT** on the front panel or press **6 CH IN** on the remote control.



Note:

- With 6 channel input, all DSP Surround Mode (2 CH Stereo, 6-CH Stereo, Dolby Pro logic or Dolby Digital, Dolby Digital Surround EX, DTS, DTS ES) cannot be activated.

About the Listening Modes

With its built-in surround-sound decoders and DSP programs, the AV receiver can transform your home listening room into a movie theater or concert hall.

If you connect surround center speakers will be used for 6.1-channel surround playback.

The AV receiver's surround indicators show which speakers are active in each listening mode.



FL:Front Left Speaker

SL:Surround Left Speaker

FC:Front Center Speaker

SC:Surround Center Speaker

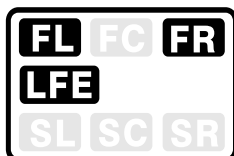
FR:Front Right Speaker

SR:Surround Right Speaker

LFE:Subwoofer

2 Stereo

The selected input source is processed as a stereo signal and output by the front left and right speakers and the subwoofer.



Under any format source:Tuner,Analog signals,PCM CDs,Dolby Prologic,Dolby Digital,Dolby Digital Surround EX,DTS,DTS ES, DTS 96/24,this mode can be selected.

6 Stereo

The selected input source is processed as a 6 stereo signals and output by the front left,center and right speakers,surround left,surround center, surround right and the subwoofer.



Under any format source:Tuner,Analog signals,PCM CDs,Dolby Prologic,Dolby Digital,Dolby Digital Surround EX,DTS,DTS ES, DTS 96/24,this mode can be selected.

Advanced Sound Control

Dolby Pro Logic II Movie



Use this mode with DVDs and videos that bear the Dolby Surround logo or TV programs that feature Dolby Surround.You can also use this mode with stereo movies or TV programs and the AV receiver will create a 5.1 surround mix from the 2-channel stereo.



Under Tuner, Analog signals, PCM CDs, Dolby pro logic, format source this mode can be selected.

Dolby Pro Logic II Music



Use this mode to add 5.1 surround to stereo sources such as music CDs and DVDs.



Under Tuner, Analog signals, PCM CDs, Dolby pro logic format source this mode can be selected.

Dolby Digital



With this format you can experience the same superb sound that you get at a movie theater or concert hall. Use this mode with DVDs that bear the Dolby Digital logo.



Under Dolby Digital,Dolby Digital Surround EX format source this mode can be selected.

Dolby Digital Surround EX



With an added surround center channel,this 6.1 channel format offers a heightened sense of space, for added realism with moving sounds,such as those that rotate 360 degrees or pass overhead.Dolby Digital Surround EX material can also be played on conventional 5.1 channel systems,in which case the surround center channel audio is split between the surround left and right channels..Use this mode with DVDs that have a 5.1-

Advanced Sound Control

channel soundtrack and bear the Dolby Digital logo.



Under Dolby Digital,Dolby Digital Surround EX format source, this mode can be selected.

DTS



This digital surround format offers a surround sound experience with exceptional fidelity. It uses compressed digital audio data, with six discrete channels (5.1), and the ability to handle large amounts of audio data while remaining faithful to the original. DTS provides very high-quality sound. You'll need a DTS compatible DVD player in order to enjoy DTS material. Use this mode with DVDs, LDs, or CDs that bear the DTS logo.



Under DTS,DTS ES format source,this mode can be selected.

DTS 96/24



This mode provides higher audio quality.Use it with CDs, LDs , and DVDs that bear the DTS 96/24 logo.



When you play DTS 96KHz/24bit-encoded DVD/ CDs, this unit automatically switches to DTS 96/24 listen mode.

DTS-ES Discrete



This is DTS with an added surround center channel for 6.1 surround sound. Use it with program material recorded in DTS 6.1 format. With the additional surround center channel,this format offers 6.1 fully independent digital channels,providing a realistic sense of movement and space. Use it with program material DTS 6.1,such as CDs,DVDs,or LDs that bear the DTS-ES logo.



Under DTS,DTS ES format source,this mode can be selected.

DTS-ES Matrix



This is DTS with an added surround center channel for 6.1 surround sound. Use it to provide 6.1 channel surround playback with program material recorded in DTS 5.1 format. Since DTS 5.1 program material contains surround center channel information,all channels can be reconstructed for 6.1-channel playback. Use this mode with CDs, DVDs, or LDs that bear the DTS or DTS-ES logo.



Under DTS,DTS ES format source,this mode can be selected.

Neo:6



This mode provides 6.1-channel playback from 2-channel sources. It offers six full-bandwidth channels with excellent separation. There are two modes of operation: Cinema mode for movies, and Music mode for listening to music. Cinema mode simulates the realistic sense of movement that you get with 6.1-channel surround sound sources.Use this mode with videos, DVDs, and TV programs that feature stereo sound. Music mode uses the surround channels to simulate a natural sound field that cannot be produced with conventional stereo. Use this mode with stereo material such as music CDs.



Under Tuner, Analog signals, PCM CDs, format source this mode can be selected.

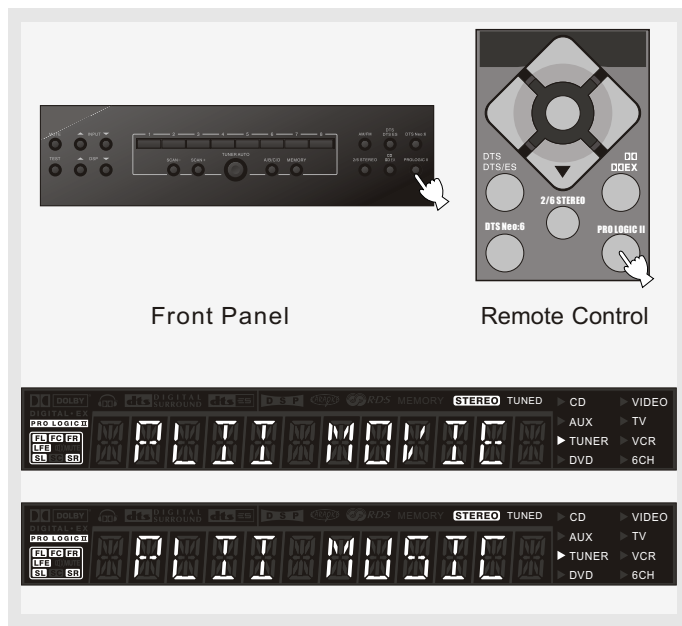
Sound Enhancement Systems

This receiver is equipped with several built-in sound enhancement systems.

Dolby Pro Logic II

1. Dolby Pro Logic II has two modes: MOVIE for movies and MUSIC for 2-channel audio sources.

2. When you play PCM-encoded music CDs, tuner or other 2-channel sources, you can press the **PRO LOGIC II** button to switch between DOLBY PRO LOGIC II MUSIC and DOLBY PRO LOGIC II MOVIE listen modes.



Dolby Digital and Dolby Digital Surround EX

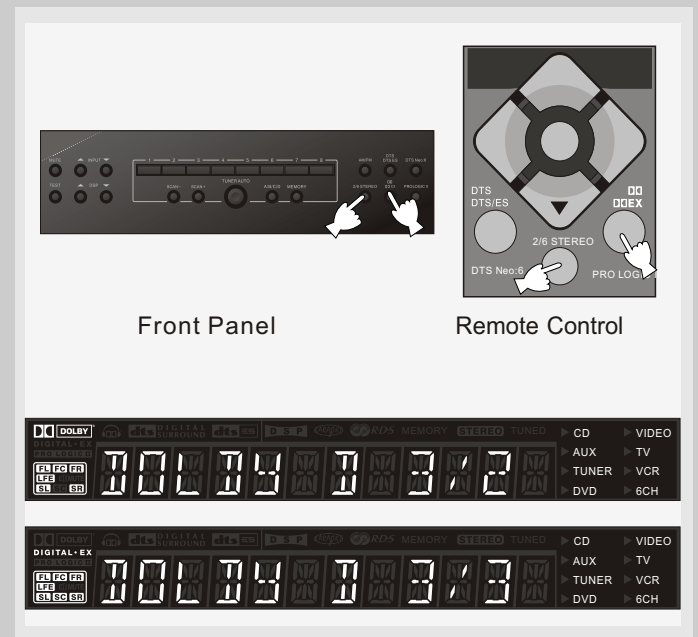
1. When you play Dolby Digital Surround EX-encoded or Dolby Digital-encoded DVD/CDs, this unit automatically switches to Dolby Digital Surround EX or Dolby Digital listen mode.

2. Use the **DD EX** button to switch between Dolby Digital Surround EX and Dolby Digital listen modes.

3. Dolby Digital is none of surround center, Dolby Digital EX has surround center signal.

4. Press the **2/6 STEREO** button to switch between DOLBY STEREO or 6CH STEREO listen modes.

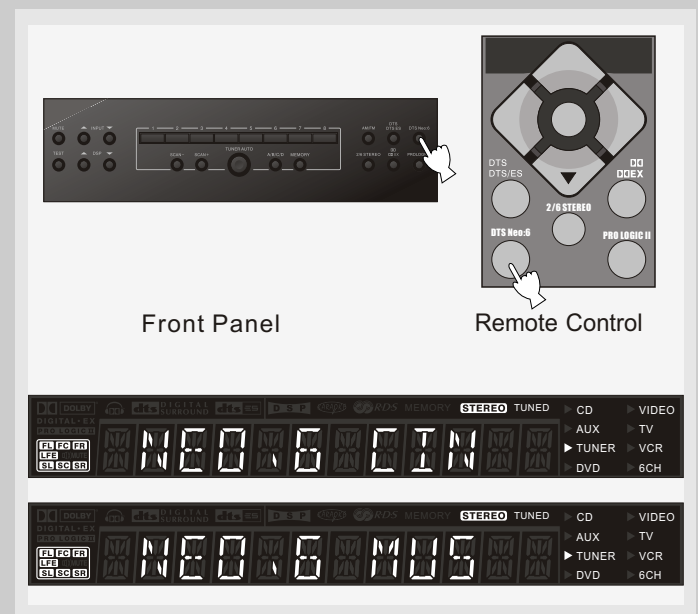
Advanced Sound Control



DTS Neo:6

1. Neo:6 has two modes: DTS Neo:6 CINEMA and DTS Neo:6 MUSIC.

2. When you play PCM-encoded music CDs, tuner or other 2-channel sources, you can press the **DTS Neo:6** button to switch between DTS Neo:6 CINEMA and DTS Neo:6 MUSIC listen modes.



Advanced Sound Control

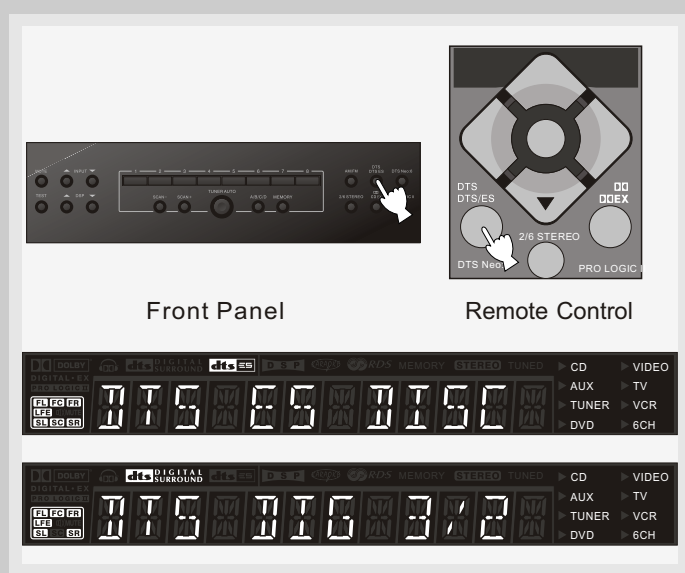
DTS/DTS ES

1. When you play DTS ES-encoded or DTS-encoded DVD/CDs, this unit automatically switches to DTS or DTS ES listen mode.

2. Press the **DTS/DTS ES** button to switch between DTS and DTS ES listen modes.

3. DTS is none of surround center, DTS ES has surround center signal.

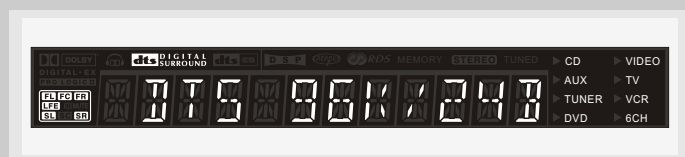
4. Press the **2/6 STEREO** button to switch between DTS STEREO and 6CH STEREO listen modes.



DTS 96/24

1. When you play DTS 96KHz/24bit - encoded DVD/CDs, this unit automatically switches to DTS 96/24 listen mode.

2. Press the **2/6 STEREO** button to switch between DTS STEREO and 6CH STEREO listen modes.



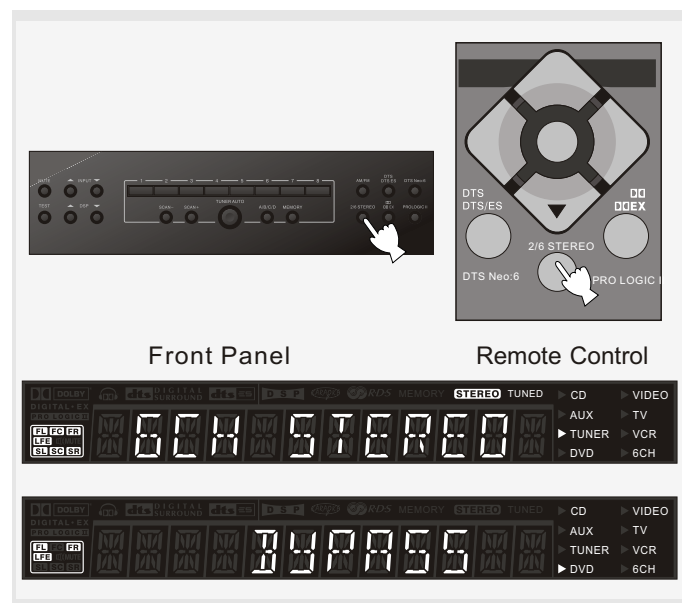
2/6 Channel Stereo

Under any format source, e.g. Tuner, Analog signals, PCM CDs, Dolby pro logic, Dolby Digital, Dolby Digital Surround EX, DTS, DTS ES, DTS 96/24 etc. You can use the **2/6 STEREO** button

to switch between 2 and 6 channel stereo listen modes.

2 CH Stereo mode: only output from front Right, front Left and subwoofer.

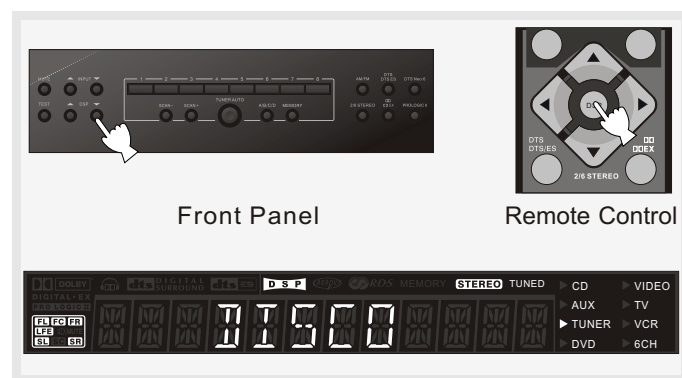
6 CH stereo mode: six channels output are the same signals.



DSP(Digital Sound Field Processor)

1. When you play PCM-encoded music CDs, tuner or other 2-channel analog signals sources, you can press the DSP buttons repeatedly to switch between different sound field effect modes:

- LIVE
- DISCO
- JAZZ
- CLASSIC
- HALL
- ROCK



Note:

- When you play Dolby Digital, Dolby Digital Surround, DTS, DTS ES and DTS 24/96-encoded sources, not available.

Adjusting the DTS, Dolby Digital LFE Level

This adjustment is effective only when DTS, DTS ES, DOLBY DIGITAL or DOLBY DIGITAL SURROUND EX is decoded and the signals of the selected source encoded with DTS, DTS ES, DOLBY DIGITAL and DOLBY DIGITAL SURROUND EX contain LFE signals.

Adjusts the output level at the LFE (low frequency effect) channel. If the LFE signals are mixed with signals of other channels and they are output from the same speakers, the ratio of LFE signals to other signals can be adjusted.

DOLBY DIGITAL,DOLBY DIGITAL SURROUND EX LFE level control range: -10dB to 00 dB.

Preset value: 00dB.

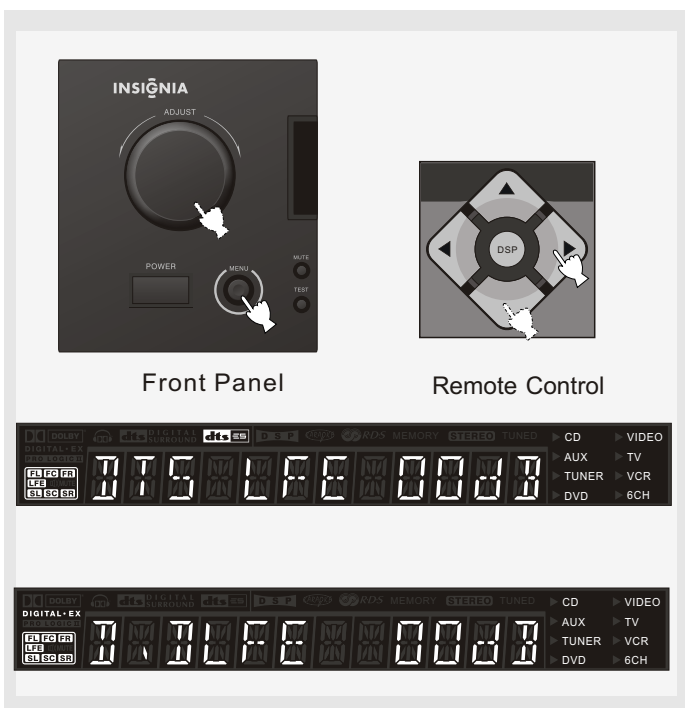
DTS,DTS ES LFE level control range: -10dB to 00 dB.

Preset value: 00dB.

1.Play source which-encoded you want to adjust the LFE level.

2.Use the **MENU** button on the panel or the **Left** and **Right** ◀ or ▶ buttons on the remote so that "XX LFE XXdB" appears on the front panel display.

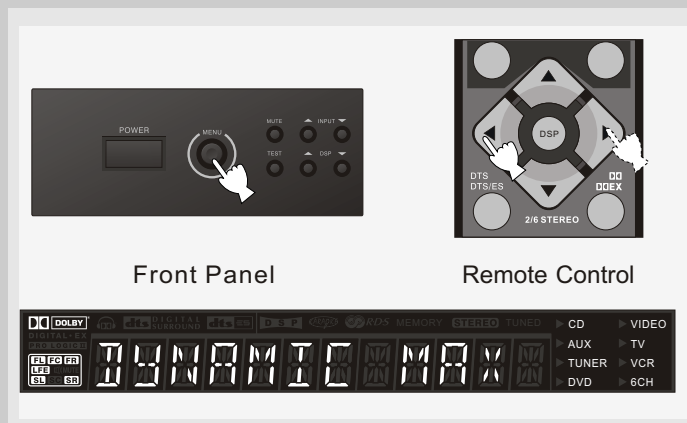
3.Turn the **ADJUST** knob on the panel or use the **Down** and **Up** ▼ or ▲ buttons on the remote to adjust LFE level.



Dynamic Range(Night Mode)

By using Dynamic Range Compression technology, you can enjoy enhanced sound quality by Dolby digital at night without interrupting your roommates or neighbors. While enjoying a Dolby Digital enabled component(DVD,DVB),you can activate Night Mode by pressing **MENU** button on the remote control or panel,and this mode will compress the difference in volume between normal voices and sounds like explosions.

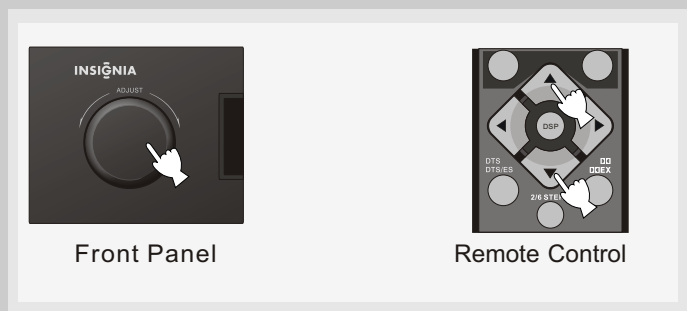
Use the **MENU** button on the panel or the **Left** and **Right** ◀ or ▶ buttons on the remote to select the parameter of dynamic range.



2.Turn the **ADJUST** knob on the panel or use the **Down** and **Up** ▼ or ▲ buttons on the remote to setparameter required.

Choices:MAX(maximum),STD(standard),MIN(minimum).

Initial setting:STD(standard).



Notes:

- Night Mode can be functioned ONLY during Dolby Digital,Dolby Digital EX playback.
- To play Dolby Digital,Dolby Digital EX,DTS,DTS ES, you MUST Connect the DVD to your receiver with DIGITAL signal (Coaxial or Optical).the Sound Source (DVD software)MUST be Dolby Digital,Dolby Digital EX,DTS,DTSES encoded.

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Adjusting the Delay Time

You can adjust the time difference between the beginning of the sound from the main speakers and the beginning of the sound effect from the surround and center speakers. The larger the value, the later the sound effect is generated. The delay time can be individually adjusted to all listen modes.

All listen modes center delay control range:0-5ms,Initial is 2 ms.

All listen modes surround delay control range: 0-15ms, Initial is 15ms.

1.Select a listen mode you want to adjust the delay time while playing a sources.

2.Use the **MENU** button on the panel or the **Left** and **Right** ◀ or ▶ buttons on the remote so that "DELAY" appears on the front panel display.

3.Turn the **ADJUST** knob on the panel or use the **Down** and **Up** ▼ or ▲ buttons on the remote to adjust delay time.



Adjusting the Parameter Settings for Pro Logic II MUSIC

Changing Parameter settings

You can adjust the values of PRO LOGIC II MUSIC parameters so the sound fields are recreated accurately in your listening room.

1.Select PRO LOGIC II MUSIC listen mode.

2.Use the **MENU** button on the panel or the **Left** and **Right** ◀ or ▶ buttons on the remote to select parameter you want to adjust.Turn **ADJUST** knob on the panel or use the **Down** and **Up** ▼ or ▲ buttons on the remote to change parameter value.

3.Repeat step 2 above to change other parameters.



PRO LOGIC II MUSIC Parameter Descriptions

PANORAMA

Function:Turning the function on extends the front stereo image to include the surround speakers for wraparound effect.

Choices:OFF/ON. initial setting is OFF.

DIMENSION

Function:Gradually adjusts the soundfield either towards the front or towards the rear.

Control range:-3 (towards the rear) to +3 (towards the front), initial setting is 0.

C WIDTH (CenterWidth)

Function:Adjusts the center image from all three front speakers to varying degrees, the larger the value, adjusts the center image towards the main left and right speakers.

Control range:0 (center channel sound is output only from center speaker) to 7 (center channel sound is output only from main left and right speakers), initial setting is 3.

Refer to the chart below when this unit does not function properly. If the problem you are experiencing is not listed below or if the instruction below does not help, set this unit to the standby mode, disconnect the power cord, and contact the nearest authorized our authorization dealer or service center.

General

Problem	Cause	Remedy
This unit fails to turn on when STANDBY/ON(or SYSTEM POWER) is pressed, or enters in the standby mode soon after power has been turned on.	The power cord is not connected or the plug is not completely inserted.	Connect the power cord firmly.
	The protection circuitry has been activated.	Make sure all speaker wire connections on this unit and on all speakers are secure and that the wire for each connection does not touch anything other than its respective connection.
	This unit has been exposed to a strong external electric shock (such as lightning and strong static electricity.)	Set this unit in the standby mode. disconnect the power cord, plug it back in after 30 seconds, then use it normally.
No sound.	Display is disordered. due to external disturb, not natural use etc.	Reset this unit, see page 40 "Resetting Factory Presets".
	Incorrect input or output cable connections.	Connect the cables properly. If the problem persists, the cables may be defective.
	No appropriate input source has been selected.	Select an appropriate input source with INPUT, 6 CH INPUT or the input selector buttons.
	Speaker connections are not secure.	Secure the connections.
	The volume is turned down.	Turn up the volume.
	The sound is muted.	Press MUTE or any operation buttons of this unit to cancel a mute and adjust the volume.
	The signals this unit cannot reproduce are being received from a source component e.g.: a CD-ROM.	Play a source whose signals this unit can reproduce.

Troubleshooting

Problem	Cause	Remedy
The sound suddenly goes off.	The protection circuitry has been activated because of a short circuit, etc.	Check that the speaker wires are not touching each other and then turn this unit back on.
	The sleep timer has turned the unit off.	Turn on the power, and play the source again.
	The sound is muted.	Press MUTE to cancel a mute.
Only the speaker on one side can be heard.	Incorrect cable connections.	Connect the cables properly. If the problem persists, the cables may be defective.
Only the center speaker outputs substantial sound.	When playing a monaural source with a pro-logic II listen mode the source signal is directed to the center channel, and the front and surround speakers output effect sounds.	
No sound from the effect speakers.	The sound field programs are turned off.	Select "6 stereo", another DSP mode or appropriate listen mode.
	You are using a source or program combination that does not output sound from all channels.	Try another sound field program.
No sound from the center speakers.	The output level of the center speaker is set to minimum.	Raise the level of the center speaker.
	"CENTER" in "Speaker Setting" is set to NONE.	Select the appropriate setting for the center speaker.
	2ch Stereo has been selected.	Select "6 stereo", another DSP mode or appropriate listen mode.
No sound from the surround speakers.	The output level of the surround speakers is set to minimum.	Raise the output level of the surround speakers.
	"SURR LR" in "Speaker Setting" is set to NONE.	Select the appropriate setting for the surround left and right speakers.
	A monaural source is being played with "2 STEREO".	Press "DSP" or "2/6 STEREO" to turn on the sound fields or select "6 CH STEREO" mode.
No sound from the surround center speaker.	"Surround center" in "Speaker Setting" is set to NONE.	Select the appropriate setting for the surround center speaker.
	The source or the listen selected mode does not contain surround center signals.	Select "6 stereo" or another appropriate listen mode.
NO sound from the subwoofer.	"SW" in "Speaker Setting" is set to "NONE" when a Dolby Digital or DTS or other source signal is being played.	Select "SW" is "YES".
	The source does not contain low bass signals.	

Problem	Cause	Remedy
Dolby Digital or DTS sources cannot be played.(Dolby Digital or DTS indicator in the front panel display does not light up.)	The connected component is not set to output Dolby Digital or DTS digital signals.	Make an appropriate setting following the operations instructions for your component.
	No appropriate digital input source has been selected.	Select an appropriate digital input source with the input selector buttons.
A "humming" sound can be heard.	Incorrect cable connections.	Firmly connect the audio plugs. If the problem persists, the cables may be defective.
The volume level cannot be increased, or the sound is distorted.	The component connected to the PRE OUT(REC)jacks of this unit is turned off.	Connect the component to other analog input jacks of this unit.
The sound effect cannot be recorded.	It is not possible to record the sound effect with a recording component.	
A source cannot be recorded by an recording component.	The source component is not connected to this unit's analog the PRE OUT jacks.	Connect the recording component to the analog the PRE OUT jacks.
This unit does not operate properly.	The internal microcomputer has been frozen by an external electric shock (such as lightning or excessive static electricity)or by a power supply with low voltage.	Disconnect the AC power cord from the outlet and then plug it in again after about 30 seconds.
		Reset this unit, see page 40 "Resetting Factory Presets".
"Pa Pa" ringing from relay	Speaker cables are short circuited.	Make sure all speaker cables are connected correctly.
There is noise interference from digital or high-frequency equipment, or this unit.	This unit is too close to the digital or high-frequency equipment.	Move this unit further away from such equipment.
The picture is disturbed.	The video source uses scrambled or encoded signals to prevent dubbing.	
No picture to monitor,	Video signal is not input in correct source.	Change to a correct source.
	Video cable is bad.	Change a connecting cable.
This unit suddenly is turned off automatically. No sound, No any display.	The internal temperature becomes too high and the overheat protection circuitry has been activated.	Wait about 1 hour for this unit to cool down and then turn it back on.

■ Tuner

	Problem	Cause	Remedy
FM	FM stereo reception is noisy.	The characteristics of FM stereo broadcasts may cause this problem when the transmitter is too far away or the antenna input is poor.	Check the antenna connections. Try using a high-quality directional FM antenna. Use the manual tuning method.
	There is distortion, and clear reception cannot be obtained even with a good FM antenna.	There is multipath interference.	Adjust the antenna position to eliminate multipath interference.
	The desired station cannot be tuned in with the automatic tuning method.	The signal is too weak.	Use a high-quality directional FM antenna. Use the manual tuning method.
AM	Previously preset stations can no longer be tuned in.	This unit has been disconnected for a long period.	Preset the stations again.
	The desired station cannot be tuned in with the automatic tuning method.	This signal is weak or the antenna connections are loose.	Tighten the AM loop antenna connections and orient it for best reception. Use the manual tuning method.
	There are continuous crackling and hissing noises.	Noises result from lightning, fluorescent lamps, motors, thermostats and other electrical equipment.	Use an outdoor antenna and a ground wire. This will help some what, but it is difficult to eliminate all noise.
	There are buzzing and whining noises.	A TV set is being used nearby.	Move this unit away from the TV.

■ Remote Control

Problem	Cause	Remedy
The remote control does not work nor function properly.	Wrong distance angle.	The remote control will function within a maximum range of 6 m (20 feet) and no more than 30 degrees off axis from the front panel.
	Direct sunlight or lighting (from an inverter type of fluorescent lamp, etc.) is striking the remote control sensor of this unit.	Reposition this unit.
	The batteries are weak.	Replace all batteries.
	No batteries installed.	Install the batteries before attempting to operate the remote. Be sure to match the + and - ends of each battery to the symbols shown in the remote battery compartment.

Resetting Factory Presets

If you want to reset all of your unit's parameters for any reason, do the following. This procedure completely resets ALL parameters. including the "Speaker Setting", level, assign and tuner presets.



- 1.Be sure POWER of this unit is off.
- 2.Press and hold **TEST** button on the front panel, then press **POWER** button on the front panel.
- 3.Unclench **TEST** button until "**SYSTEM RESET**" is displayed on the display.



- 4.The unit is reset to its factory presets.

Playback Mode Display Abbreviations and Full Working Names

NO.	Display Ab.	Full working name
1	DTS DIG DSND	DTS DIGITAL SURROUND
2	DTS ES MTX	DTS ES MATRIX
3	DTS ES DISC	DTS ES DISCRETE
4	Neo. 6 MUS	Neo: 6 MUSIC
5	Neo. 6 CIN	Neo: 6 CINEMA
6	DOLBY D	DOLBY DIGITAL
7	DOLBY DEX	DOLBY DIGITAL SURROUND EX
8	PRO II MUSIC	DOLBY PROLOGIC II MUSIC
9	PRO II MOVIE	DOLBY PROLOGIC II MOVIE
10	D-D STEREO	DOLBY DIGITAL 2CH STEREO
11	D-D 6 STEREO	DOLBY DIGITAL 6CH STEREO

Available Selection All Listening Modes

- BYPASS(2 CH STEREO)
- 6 CH STEREO
- DOLBY DIGITAL
- DOLBY DIGITAL EX
- DOLBY PROLOGIC II MOVIE
- DOLBY PROLOGIC II MUSIC
- DTS
- DTS ES
- DTS 96/24
- Neo:6 CINEMA
- Neo: 6 MUSIC

When you play PCM-encoded music CDs or analog signals (include tuner),the following listen modes are available.

- BYPASS(2 CH STEREO)
- 6 CH STEREO
- DOLBY PROLOGIC II MOVIE
- DOLBY PROLOGIC II MUSIC
- Neo:6 CINEMA
- Neo: 6 MUSIC

When you play DOLBY DIGITAL or DOLBY DIGITAL SURROUND EX-encoded DVD/CDs,the following listen modes are available.

- DOLBY STEREO(2 CH STEREO)
- 6 CH STEREO
- DOLBY DIGITAL
- DOLBY DIGITAL EX

When you play DTS or DTS ES-encoded DVD/CDs, the following listen modes are available.

- DTS STEREO(2 CH STEREO)
- 6 CH STEREO
- DTS
- DTS ES
- DTS 96/24

When you play DTS 96KHz/24bit-encoded DVD/ CDs, this unit automatically switches to DTS 96/24 listen mode.In addition, the following listen modes are available.

- DTS STEREO(2 CH STEREO)
- 6 CH STEREO
- DTS 96/24

AMPLIFIER SECTION:

Main Channels.....	100W X 2(6 ohm 1% THD @ 1kHz)
Other Channels.....	100W X 4 (6 ohm 1% THD @ 1kHz)
Subwoofer channel.....	Line Out
Muting Attenuation.....	65dB
Frequency Response.....	20Hz to 20 kHz 1.5 dB
Signal to Noise Ratio.....	75dB (Bypass mode)

VIDEO SECTION:

Input (Sensitivity/Impedance).....	1Vp-p/75ohm
Output (Level/Impedance).....	1Vp-p/75 ohm
Frequency Response.....	10Hz to at +/- 3dB
Signal to noise ratio.....	40dB
Crosstalk @ 3.58MHz.....	40dB

AM TUNER SECTION:

Tuning Range.....	520 to 1710 kHz
Step.....	10kHz
Frequency Response.....	80Hz - 2kHz +/-6dB
Usable Sensitivity.....	55dBu@ S/N 20dB
Signal to Noise.....	38dB
Image Ratio.....	27dB @ 1000kHz
IF Rejection.....	35dB

FM TUNER SECTION:

Tuning Range.....	87.5 to 108.0MHz
Step.....	0.05MHz
Frequency Response.....	40Hz - 15kHz +/-3dB
Quieting.....	24dBu
Signal to Noise.....	60dB(stereo) / 65dB(mono)
Image Ratio.....	40dB
IF Rejection.....	50dB

Specifications and features are subject to change without notice.



IS-HC040917

DIGITAL HOME THEATER AMPLIFIER

Manufactured for Insignia Products

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