



LCD TV | PLASMA TV OWNER'S MANUAL

42LB7DF
47LB7DF
32LG50D
37LG50D
42LG50D
47LG50D
52LG50FD
42LG70YD
47LG70YD
52LG70YD

42PG60D
50PG60D
50PG70FD
60PG70FD
42PG30D
50PG30D

Please read this manual carefully before operating your set and retain it for future reference.

Write the model number and serial number from the label on the back cabinet on the front or back of this manual.

SAC serviço de atendimento
ao consumidor

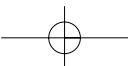
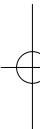
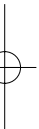
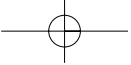
4004 5400 Capitais e Regiões Metropolitanas

0800 707 5454 Demais localidades

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EM CASO DE DÚVIDA, CONSULTE NOSSO SAC

P/NO : MFL41469203 (0805-REV02)



SAFETY INSTRUCTIONS

IMPORTANT SAFETY INSTRUCTIONS

Important safety instructions shall be provided with each apparatus. This information shall be given in a separate booklet or sheet, or be located before any operating instructions in an instruction for installation for use and supplied with the apparatus.

This information shall be given in a language acceptable to the country where the apparatus is intended to be used.

The important safety instructions shall be entitled "Important Safety Instructions". The following safety instructions shall be included where applicable, and, when used, shall be verbatim as follows. Additional safety information may be included by adding statements after the end of the following safety instruction list. At the manufacturer's option, a picture or drawing that illustrates the intent of a specific safety instruction may be placed immediately adjacent to that safety instruction :

Read these instructions.

Keep these instructions.

Heed all warnings.

Follow all instructions.



- 1 Do not use this apparatus near water.



- 2 Clean only with dry cloth.



- 3 Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.



- 4 Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.



- 5 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.



SAFETY INSTRUCTIONS

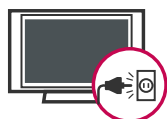
- 6** Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.



- 7** Only use attachments/accessories specified by the manufacturer.



- 8** Unplug this apparatus when unused for long periods of time.



- 9** 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.

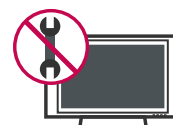


S3125A

- 10** Never touch this apparatus or antenna during a thunder or lightning storm.

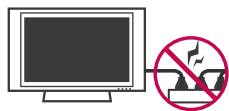
- 11** Do not allow a impact shock or any objects to fall into the product, and do not drop onto the screen with something. (You may be injured or the product can be damaged.)

- 12** Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has exposed to rain or moisture, does not operate normally, or has been dropped.



- 13** CAUTION concerning the Power Cord : Most appliances recommend they be placed upon a dedicated circuit; that is, a single outlet circuit which powers only that appliance and has no additional outlets or branch circuits. Check the specification page of this owner's manual to be certain.

Do not overload wall outlets. Overloaded wall outlets, loose or damaged wall outlets, extension cords, frayed power cords, or damaged or cracked wire insulation are dangerous. Any of these conditions could result in electric shock or fire. Periodically examine the cord of your appliance, and if its appearance indicates damage or deterioration, unplug it, discontinue use of the appliance, and have the cord replaced with an exact replacement part by an authorized servicer. Protect the power cord from physical or mechanical abuse, such as being twisted, kinked, pinched, closed in a door, or walked upon. Pay particular attention to plugs, wall outlets, and the point where the cord exits the appliance.



- 14** Outdoor Use Marking :
WARNING - To Reduce The Risk Of Fire Or Electric Shock, Do Not Expose This Appliance To Rain Or Moisture



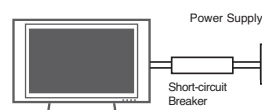
- 15** Wet Location Marking : Apparatus shall not be exposed to dripping or splashing and no objects filled with liquids, such as vases, shall be placed on or over apparatus.



16 GROUNDING

Ensure that you connect the earth ground wire to prevent possible electric shock. If grounding methods are not possible, have a qualified electrician install a separate circuit breaker.

Do not try to ground the unit by connecting it to telephone wires, lightening rods, or gas pipes.



- 17** DISCONNECTING DEVICE FROM MAINS
Main plug is the disconnecting device. The plug must remain readily operable.

- 18** When mounting a TV it on the wall, make sure not to install TV by hanging power and signal cables on the back of the TV.
- It may cause fire, electric shock.

- 19** Keep the product away from direct sunlight.
- The product can be damaged.

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FEATURE OF THIS TV



SRS is a trademark of SRS Labs, Inc. TruSurround XT technology is incorporated under license from SRS Labs, Inc.



LG TV with this logo displays Full HD (high-definition) 1080p native resolution by receiving and processing a Full HD 1080p signal.



This TV can play MP3 music files and display JPEG images from a USB flash device.



With HDMI CEC support, this TV can control connected SIMPLINK devices via the TV's remote control.



This TV has 3 HDMI ports. HDMI is a single cable connection that provides the highest quality images and sound.



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



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



High-definition television. High-resolution digital television broadcast and playback system composed of roughly a million or more pixels, 16:9 aspect-ratio screens, and HE-AAC digital audio. A subset of digital television, HDTV formats include 1080i and 720p resolutions.



LG's own special digital image generator, consisting of a full digital image processor, six different main picture quality factors.



LG TV with this logo has ambient light sensor that adjusts the picture to fit room atmosphere.

FOR LCD TV

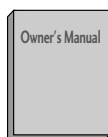
- If the TV feels cold to the touch, there may be a small "flicker" when it is turned on. This is normal, there is nothing wrong with TV.
- Some minute dot defects may be visible on the screen, appearing as tiny red, green, or blue spots. However, they have no adverse effect on the monitor's performance.
- Avoid touching the LCD screen or holding your finger(s) against it for long periods of time. Doing so may produce some temporary distortion effects on the screen.

On Disposal

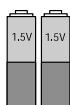
- a. The fluorescent lamp used in this product contains a small amount of mercury.
- b. Do not dispose of this product with general household waste.
- c. Disposal of this product must be carried out in accordance to the regulations of your local authority.

PREPARATION

Ensure that the following accessories are included with your TV. If an accessory is missing, please contact the dealer where you purchased the product.



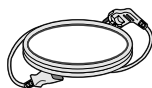
Owner's Manual



Batteries



Remote Control



Power Cord



Polishing Cloth

(This feature is not available for all models.)

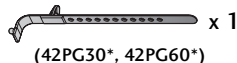
- * Only wipe spots on the exterior with the polishing cloth.
- * Do not wipe roughly when removing stain. Please be cautious of that excessive pressure may cause scratch or discoloration.

For Plasma TV models



Protection cover
(Refer to p.17)

(This accessories can be different from the figures shown here depending on your models.)



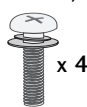
x 1



x 2

Cable Holder

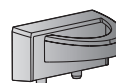
(Only 42PG30*, 42PG60*)



x 4

Bolts for stand assembly
(Refer to P.15)

(Only 42/50PG30*)



(Only 42PG60*)



(Only 50PG60*, 50/60PG70**)



Cable Management Clip

For LCD TV models

Only 42/47LB7DF

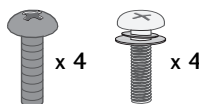


Cable Management Clip

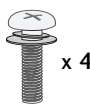


USB Extension Cable

Only 32/37/42/47/52LG50**, 42/47/52LG70**

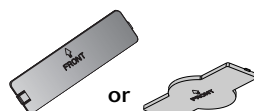


x 4



x 4

Bolts for stand assembly
(Refer to P.16)
(Except 47LG50**)



Protection cover
(Refer to p.17)

(This accessories can be different from the figures shown here depending on your models.)

(Only 32LG50*, 42LG70**)



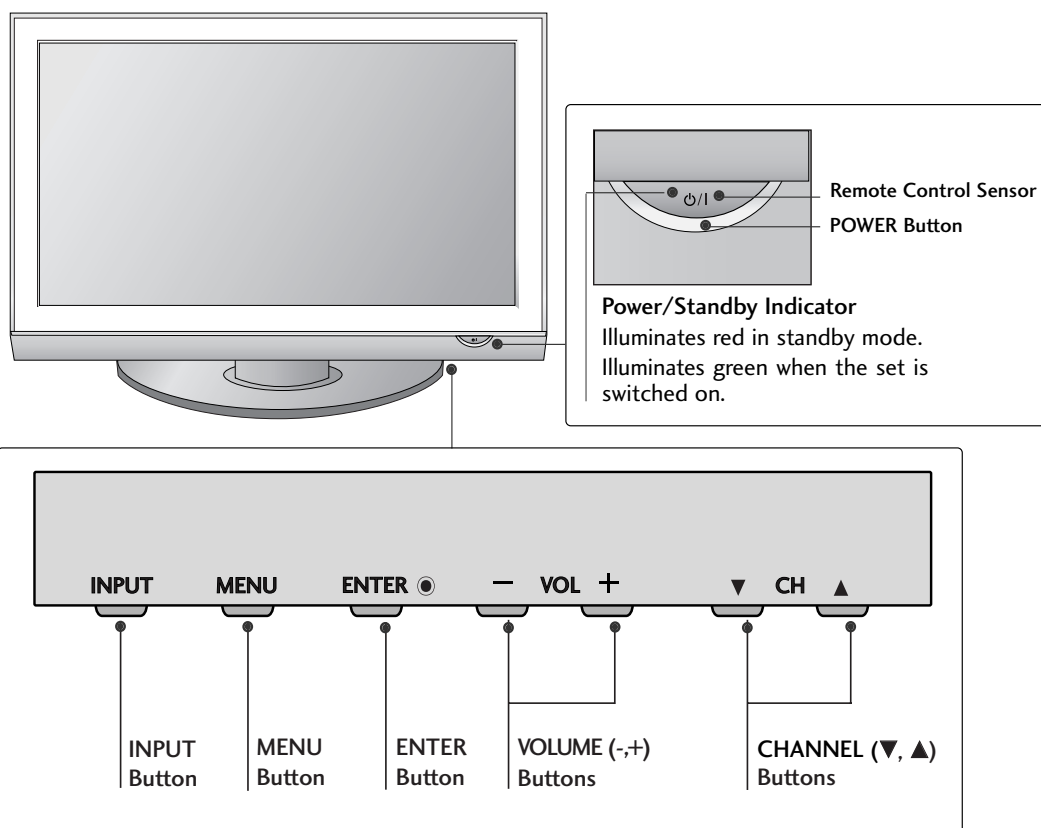
Screw for stand fixing
(Refer to P.17)

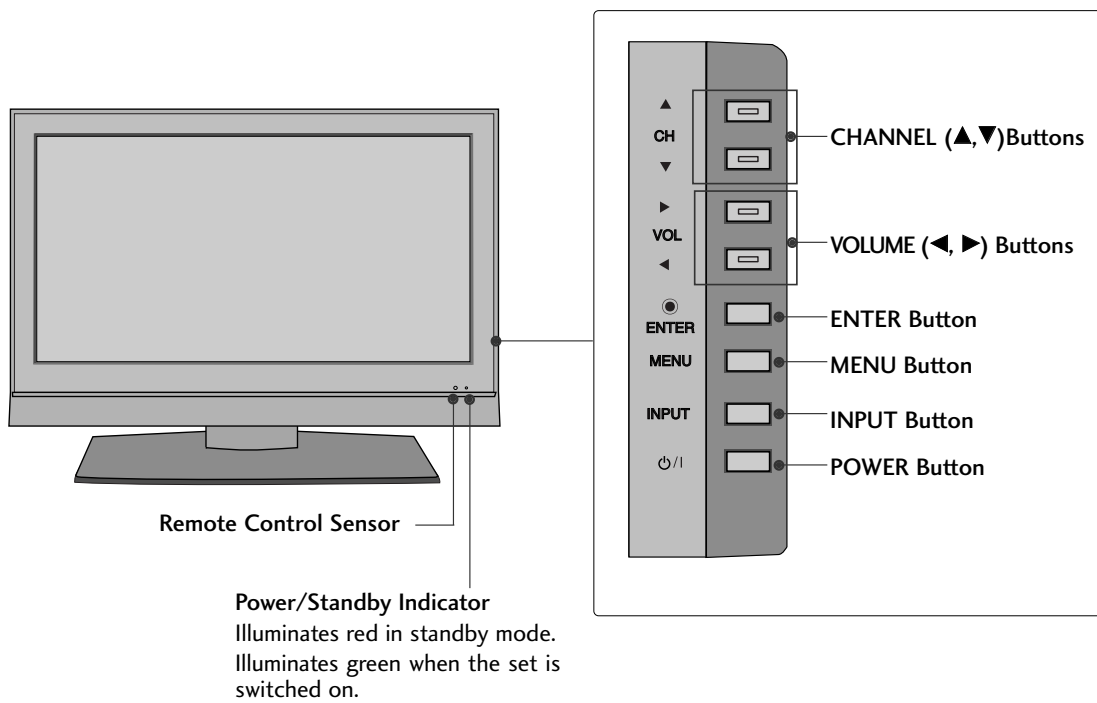
PREPARATION

FRONT PANEL INFORMATION

- Image shown may differ from your TV.
- **NOTE:** If your TV has a protection tape attached, remove the tape. And then wipe the TV with a cloth (If a polishing cloth is included with your TV, use it).

Plasma TV Models

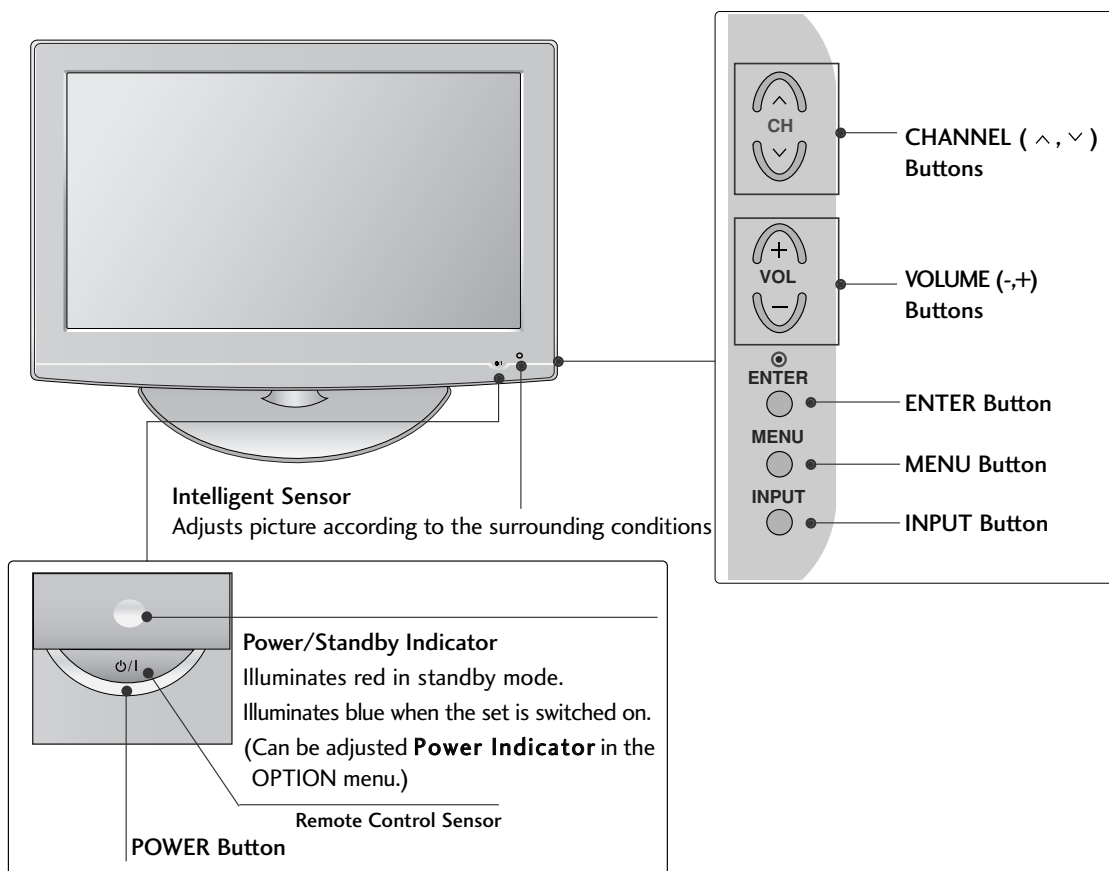


LCD TV Models : 42/47LB7DF

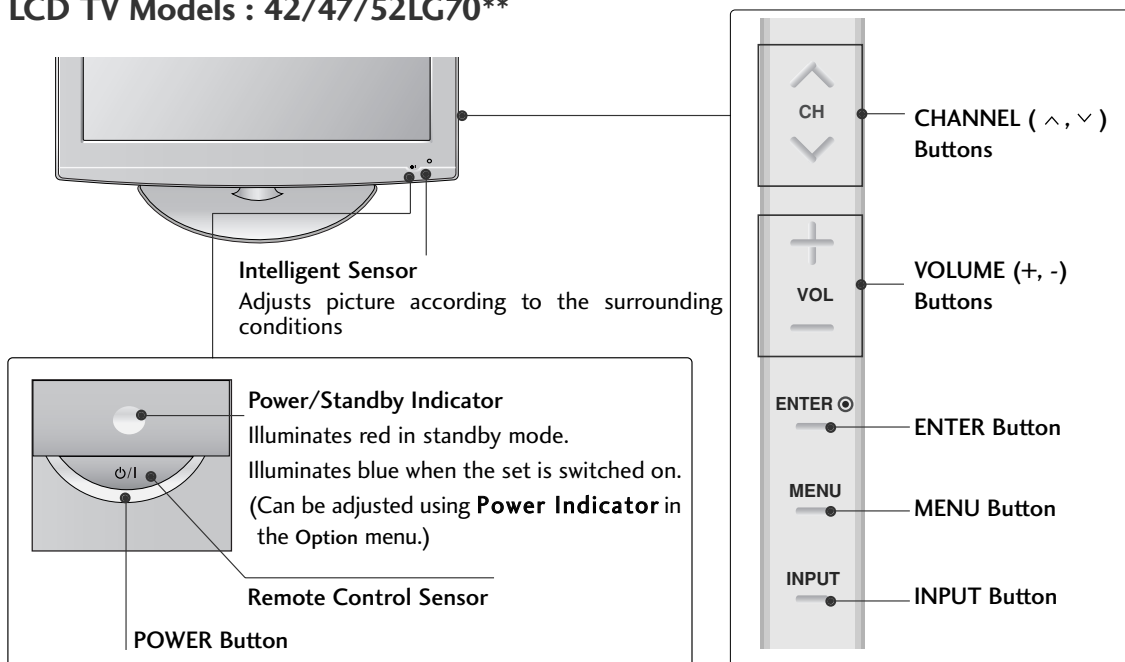
PREPARATION

LCD TV Models : 32/37/42/47/52LG50**

PREPARATION



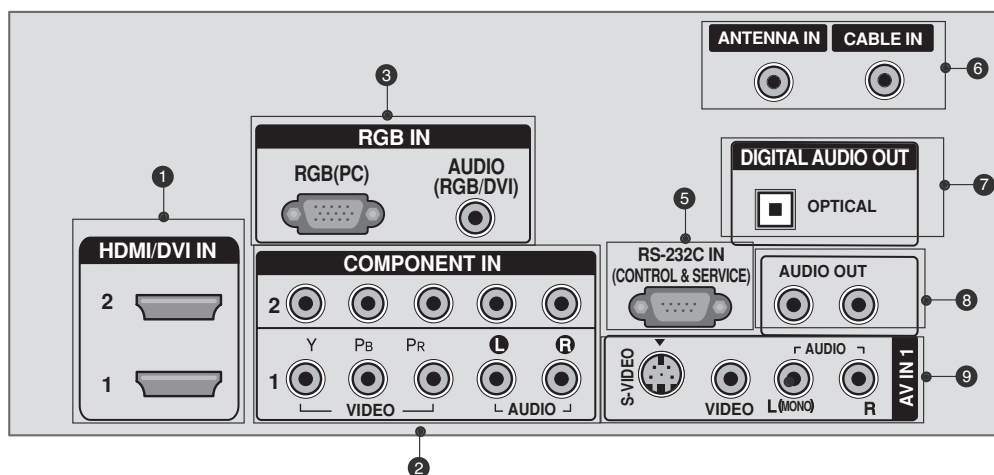
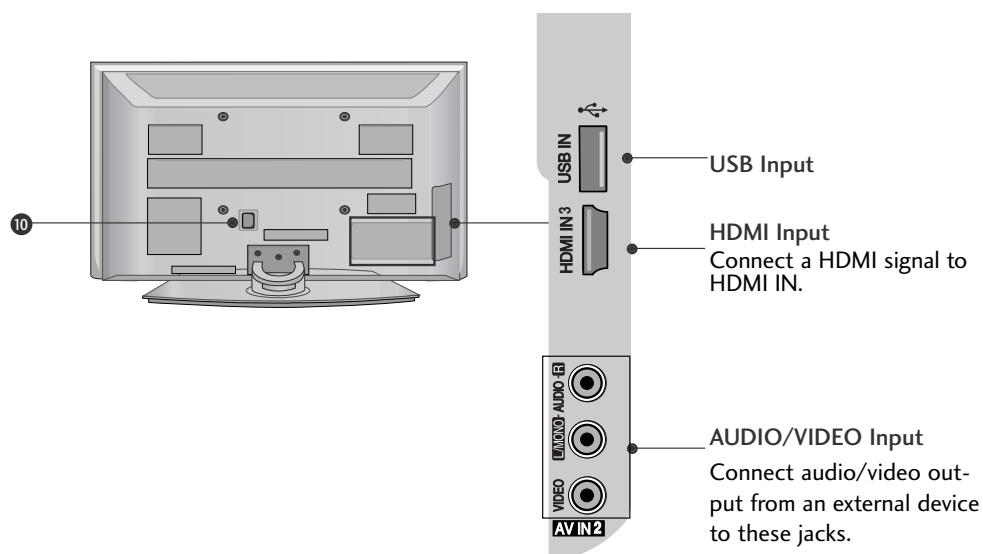
LCD TV Models : 42/47/52LG70**



BACK PANEL INFORMATION

- Here shown may be somewhat different from your TV.

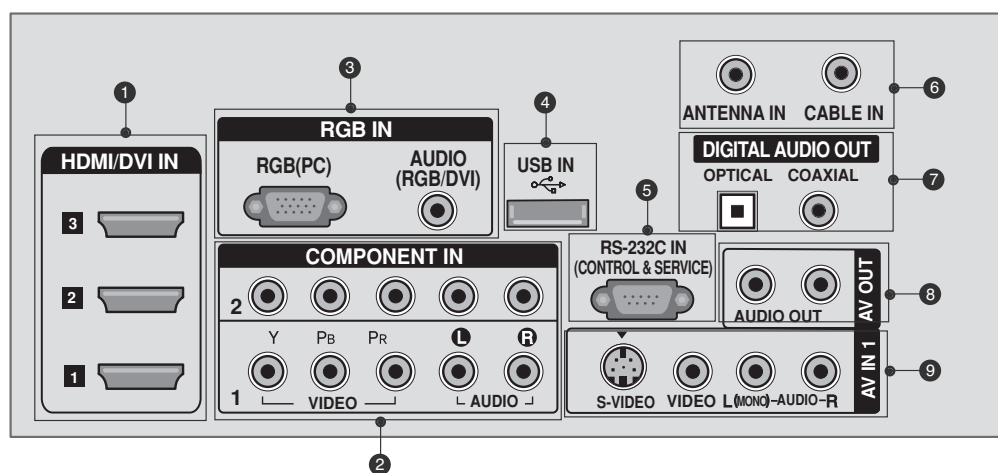
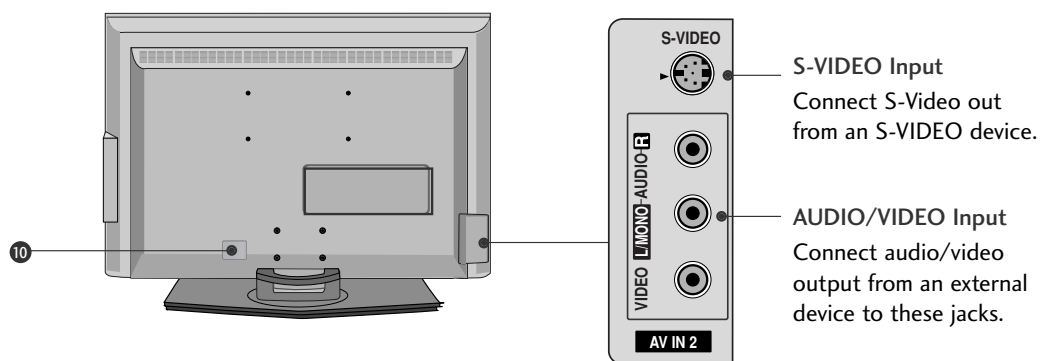
Plasma TV Models



PREPARATION

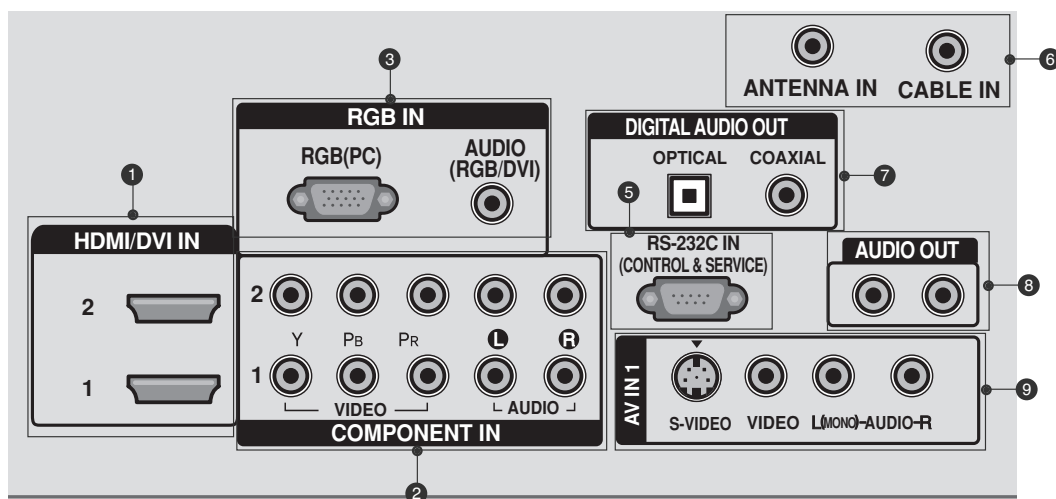
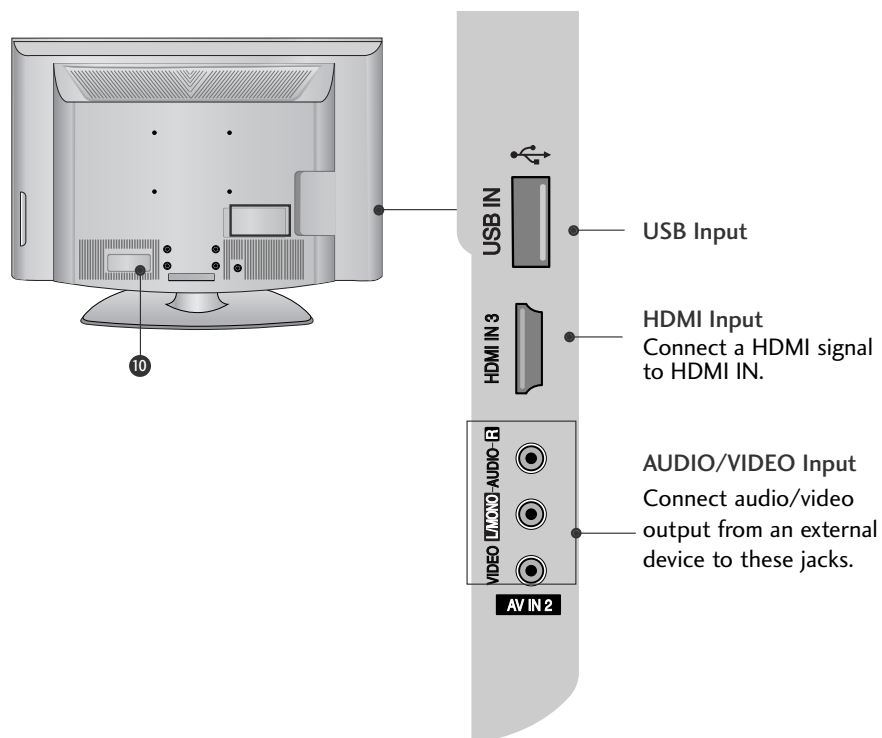
LCD TV Models : 42/47LB7DF

PREPARATION



LCD TV Models : 32/37/42/47/52LG50**, 42/47/52LG70**

PREPARATION



PREPARATION

PREPARATION

1 HDMI/DVI IN

Connect a HDMI signal to 1, 2 (or 3).
Or DVI (VIDEO) signal to the 1, 2 or 3 port with a DVI to HDMI cable.

2 COMPONENT IN

Connect a component video/audio device to these jacks.

3 RGB (PC)

Connect the output from a PC.

AUDIO (RGB/DVI)

Connect the audio from a PC or DTV.

4 USB INPUT

5 RS-232C IN (CONTROL & SERVICE) PORT

Connect to the RS-232C port on a PC.

6 ANTENNA IN/CABLE IN

Connect over-the air signals to this jack.

Connect cable signals to this jack.

7 DIGITAL AUDIO OUT (or DIGITAL AUDIO OUT COAXIAL)

Connect digital audio to various types of equipment.

Note: In standby mode, these ports do not work.

8 AUDIO OUT

Connect analog audio to various types of equipment.

9 AV (Audio/Video) IN 1

Connect audio/video output from an external device to these jacks.

S-VIDEO

Connect S-Video out from an S-VIDEO device.

10 Power Cord Socket

For operation with AC power.

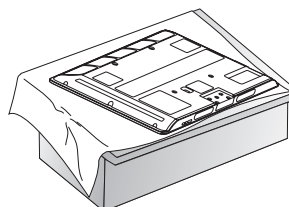
Caution: Never attempt to operate the TV on DC power.

STAND INSTALLATION

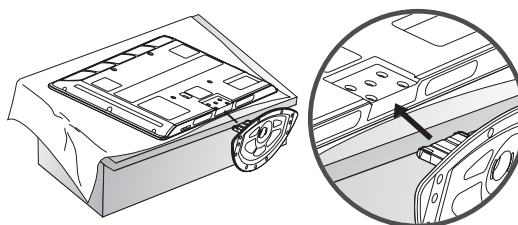
■ Image shown may differ from your TV

Plasma TV Models : Only 42PG60*, 42PG30*

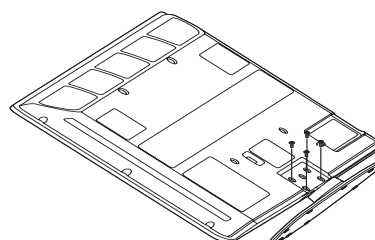
- 1 Carefully place the TV screen side down on a cushioned surface to protect the screen from damage.



- 2 Assemble the TV as shown.



- 3 Fix the 4 bolts securely using the holes in the back of the TV.



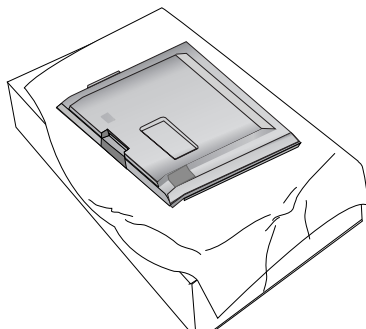
! NOTE

- ▶ When assembling the desk type stand, check whether the bolt is fully tightened. (If not tightened fully, the product can tilt forward after the product installation). If you tighten the bolt with excessive force, the bolt can deviate from abrasion of the tightening part of the bolt.

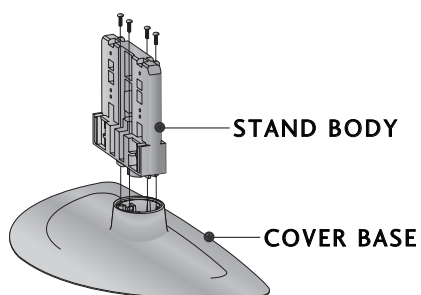
PREPARATION

LCD TV Models : 32/37/42/52LG50**, 42/47/52LG70**

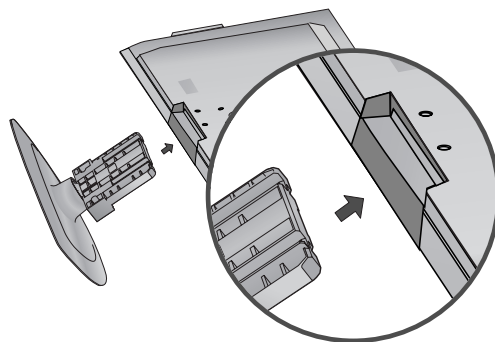
- 1** Carefully place the TV screen side down on a cushioned surface to protect the screen from damage.



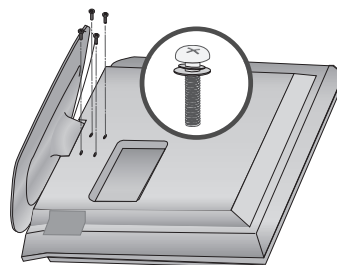
- 2** Assemble the parts of the **Stand Body** with the **Cover Base** of the TV.



- 3** Assemble the TV as shown.



- 4** Fix the 4 bolts securely using the holes in the back of the TV.



! NOTE

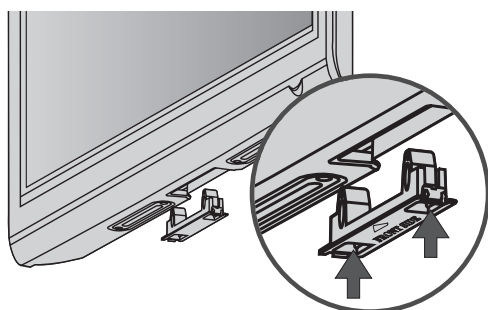
- ▶ When assembling the desk type stand, check whether the bolt is fully tightened. (If not tightened fully, the product can tilt forward after the product installation). If you tighten the bolt with excessive force, the bolt can deviate from abrasion of the tightening part of the bolt.

PROTECTION COVER (Except 42/47LB7DF)

■ Image shown may differ from your TV.

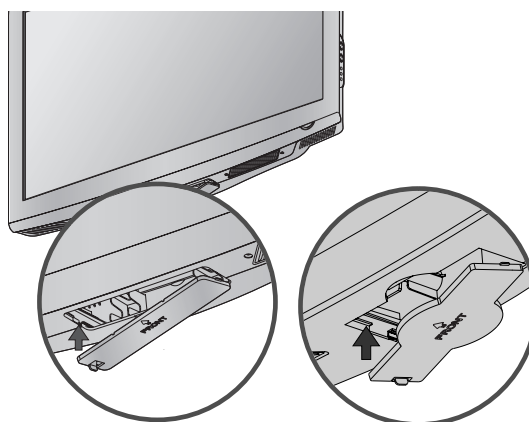
After removing the stand, install the included **protection cover** over the hole for the stand.
Press the **PROTECTION COVER** into the TV until you hear it click.

Plasma TV Models



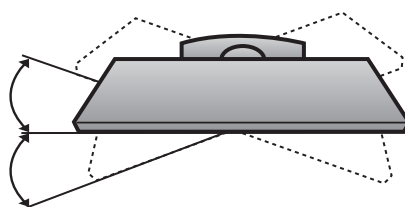
Detach the protection cover after pressing the left/right buttons.

LCD TV Model



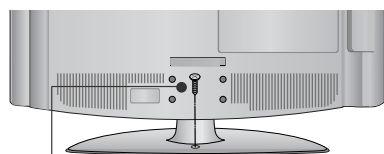
SWIVEL STAND (Except 42/47LB7DF)

After installing the TV, you can adjust the TV set manually to the left or right direction by 20 degrees to suit your viewing position.

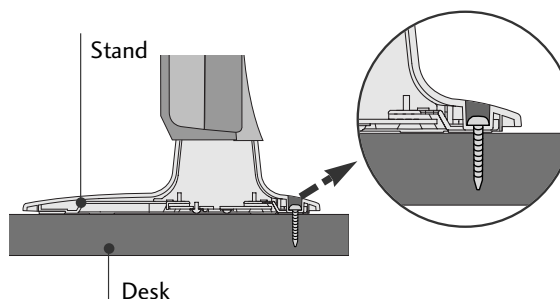


ATTACHING THE TV TO A DESK (Only 32LG50*, 42LG70**)

If you wish to attach the TV to a desk, it must be securely fastened to the desk using a metal screw (as shown below). Failure to securely attach the TV may result in the TV falling: which may cause damage to the TV and serious personal injury.



1-Screw
(provided as parts of the product)



PREPARATION

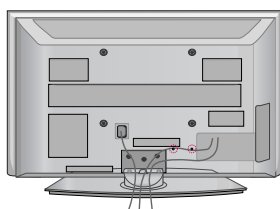
CABLE MANAGEMENT

■ Here shown may be somewhat different from your TV.

Plasma TV Models

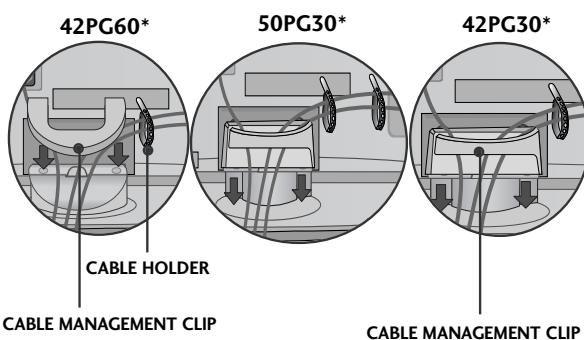
42PG60*, 42/50PG30*

- 1 Connect the cables as necessary.
To connect additional equipment, see the **EXTERNAL EQUIPMENT SETUP** section.



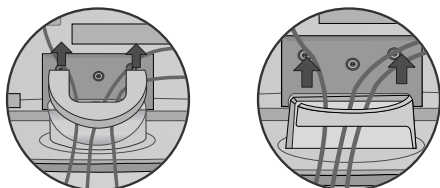
- 2 Install the **CABLE MANAGEMENT CLIP** as shown.

If your TV has **CABLE HOLDER**, fix it as shown and bundle the cables.



How to remove the CABLE MANAGEMENT CLIP

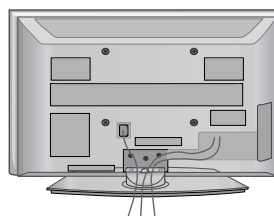
- Hold the **CABLE MANAGEMENT CLIP** with both hands and pull it upward.



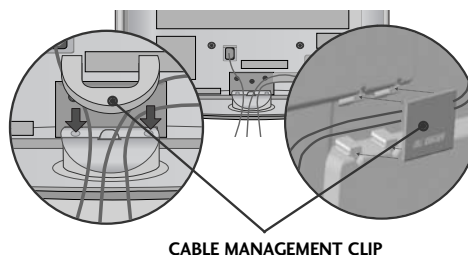
* For the 42PG60* model: First, press the cable management. Hold the **CABLE MANAGEMENT CLIP** with both hands and pull it upward.

50PG60*, 50/60PG70**

- 1 Connect the cables as necessary.
To connect additional equipment, see the **EXTERNAL EQUIPMENT SETUP** section.

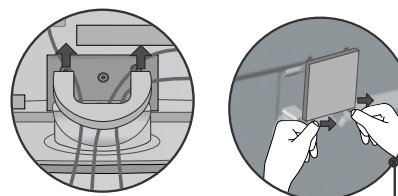


- 2 Install the **CABLE MANAGEMENT CLIP** as shown.



How to remove the CABLE MANAGEMENT CLIP

- Hold the **CABLE MANAGEMENT CLIP** with both hands and pull it upward.



Separate **CABLE MANAGEMENT CLIP** from TV by pressing two latches.

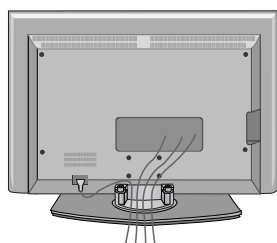
! NOTE

- Do not hold the **CABLE MANAGEMENT CLIP** when moving the TV.
- If the TV is dropped, you may be injured or the product may be broken.

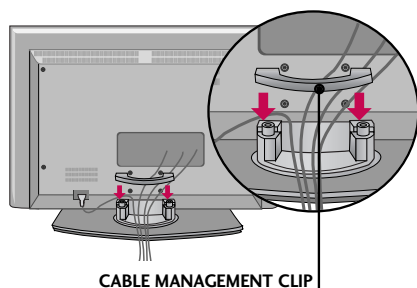
LCD TV Models

42/47LB7DF

- 1 Connect the cables as necessary.
To connect additional equipment, see the **EXTERNAL EQUIPMENT SETUP** section.



- 2 Install the **CABLE MANAGEMENT CLIP** as shown.



CABLE MANAGEMENT CLIP

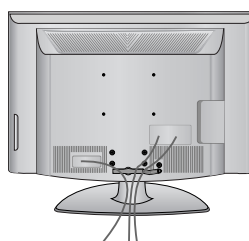
How to remove the CABLE MANAGEMENT CLIP

- Hold the **CABLE MANAGEMENT CLIP** with both hands and pull it backward.

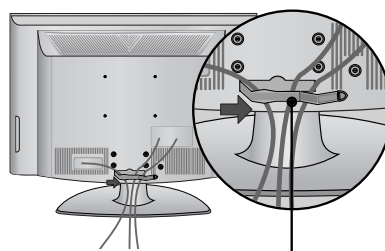


32/37/42/47/52LG50**, 42/47/52LG70**

- 1 Connect the cables as necessary.
To connect additional equipment, see the **EXTERNAL EQUIPMENT SETUP** section.

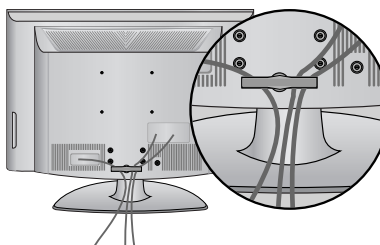


- 2 Install the **CABLE MANAGEMENT CLIP** as shown.



CABLE MANAGEMENT CLIP

- 3 Put the cables inside the **CABLE MANAGEMENT CLIP** and snap it closed.



PREPARATION

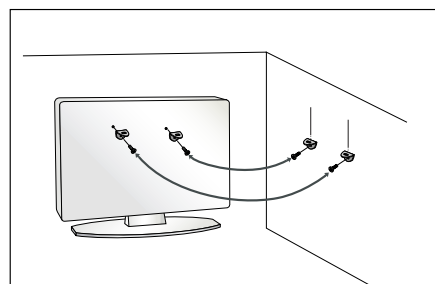
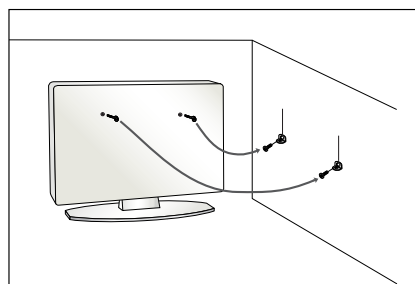
PREPARATION

SECURING THE TV TO THE WALL FALL OVER.

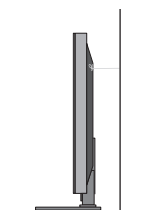
This feature is not available for all models.

Here shown may be somewhat different from your TV.

- Position the TV close to the wall to avoid the possibility of it falling when pushed.
- The instructions shown below are a safer way to set up the TV, which is to fix it to the wall, avoiding the possibility of it falling forwards if pulled. This will prevent the TV from falling forward and causing injury. This will also prevent the TV from damage. Ensure that children do not climb or hang from the TV.
- You should purchase necessary components to prevent TV from falling off of the stand.



- Insert the eye-bolts (or TV brackets and bolts) to tighten the product to the wall as shown in the picture.
 - * If your product has the bolts in the eye-bolts position before inserting the eye-bolts, loosen the bolts.
- Secure the wall brackets with the bolts (not provided as parts of the product, must purchase separately) to the wall. Match the height of the bracket that is mounted on the wall to the holes in the product.
- Ensure the eye-bolts or brackets are tightened securely.



- Use a sturdy rope (not provided as parts of the product, must purchase separately) to tie the product. It is safer to tie the rope so it becomes horizontal between the wall and the product.

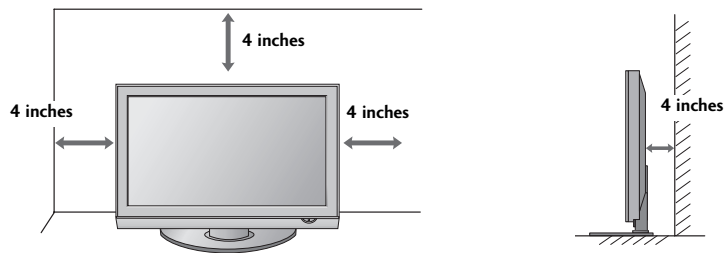
! NOTE

- ▶ When moving the TV undo the cords first.
- ▶ Use a platform or cabinet strong and large enough to support the size and weight of the TV.
- ▶ To use the TV safely make sure that the height of the bracket on the wall and on the TV is the same.

- This part mainly use picture for Plasma TV model.

DESKTOP PEDESTAL INSTALLATION

For adequate ventilation allow a clearance of 4" (10cm) all around the TV.

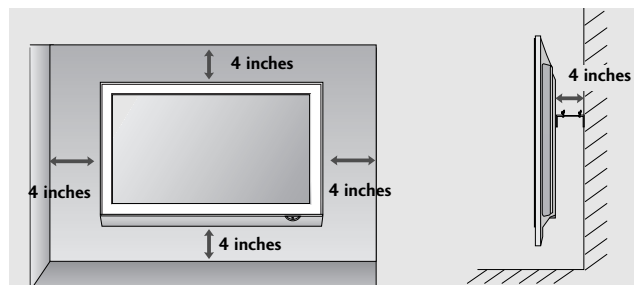
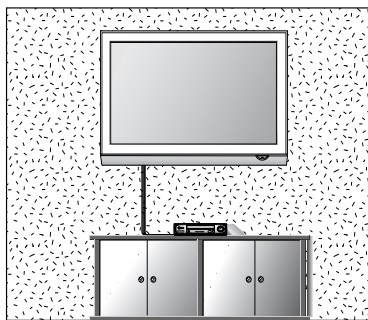


CAUTION

- Ensure adequate ventilation by following the clearance recommendations.
- Do not mount near or above any type of heat source.

WALL MOUNT: HORIZONTAL INSTALLATION

For adequate ventilation allow a clearance of 4" (10cm) all around the TV. Detailed installation instructions are available from your dealer, see the optional Tilt Wall Mounting Bracket Installation and Setup Guide.



PREPARATION

- To prevent damage do not connect to the power outlet until all connections are made between the devices.

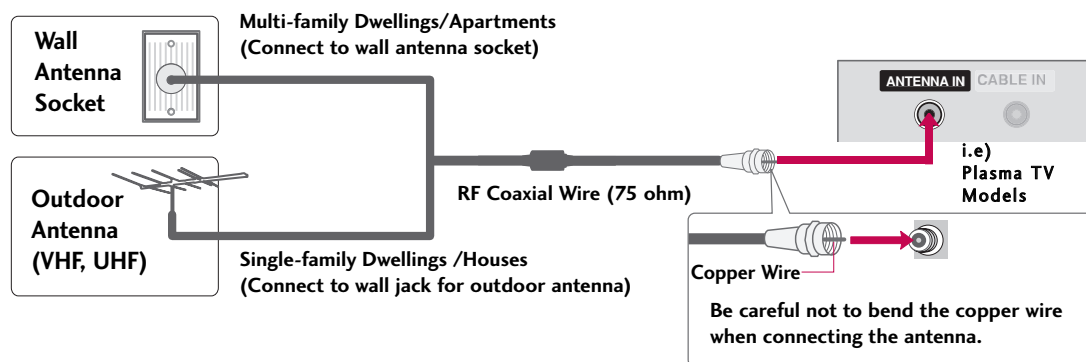
ANTENNA OR CABLE CONNECTION

- Here shown may be somewhat different from your TV.

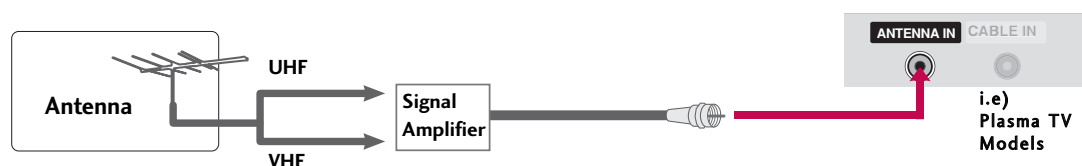
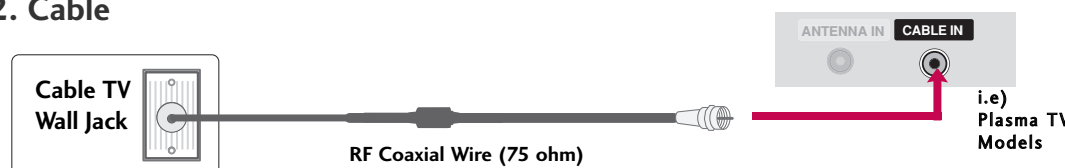
1. Antenna (Analog or Digital)

Wall Antenna Socket or Outdoor Antenna without a Cable Box Connections.

For optimum picture quality, adjust antenna direction if needed.



2. Cable



- To improve the picture quality in a poor signal area, please purchase a signal amplifier and install properly.
- If the antenna needs to be split for two TV's, install a 2-Way Signal Splitter.
- If the antenna is not installed properly, contact your dealer for assistance.

NOTE ► The TV will let you know when the analog, cable, and digital channel scans are complete.

EXTERNAL EQUIPMENT SETUP

- To prevent the equipment damage, never plug in any power cords until you have finished connecting all equipment.
- This part of EXTERNAL EQUIPMENT SETUP mainly use picture for Plasma TV model.

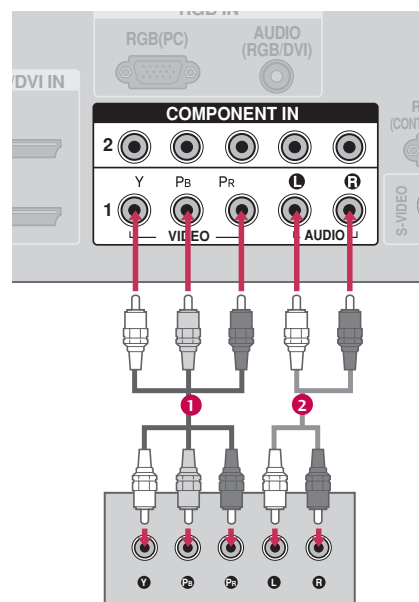
HD RECEIVER SETUP

This TV can receive Digital Over-the-air/Cable signals without an external digital set-top box. However, if you do receive digital signals from a digital set-top box or other digital external device, refer to the figure as shown below.

Component Connection

1. How to connect

- 1 Connect the video outputs (Y, PB, PR) of the digital set top box to the **COMPONENT IN VIDEO 1** jacks on the TV. Match the jack colors (Y = green, PB = blue, and PR = red).
- 2 Connect the audio output of the digital set-top box to the **COMPONENT IN AUDIO 1** jacks on the TV.



2. How to use

- Turn on the digital set-top box.
(Refer to the owner's manual for the digital set-top box.)
- Select **Component 1** input source on the TV with using the **INPUT** button on the remote control.
- If connected to **COMPONENT IN2** input, select **Component 2** input source on the TV.

Y, CB/PB, CR/PR

Supported Resolutions

Signal	Component 1, 2	HDMI1, 2 or 3
480i	Yes	No
480p	Yes	Yes
720p	Yes	Yes
1080i	Yes	Yes
1080p	Yes	Yes

Resolution	Horizontal Frequency(KHz)	Vertical Frequency(Hz)
720 x 480i	15.73	59.94
	15.73	60.00
720 x 480p	31.47	59.94
	31.47	60.00
1280 x 720p	44.96	59.94
	45.00	60.00
1920 x 1080i	33.72	59.94
	33.75	60.00
1920 x 1080p	26.97	23.94
	27.00	24.00
	33.71	29.97
	33.75	30.00
	67.432	59.939
	67.50	60.00
	56.25	50.00
	28.125	25.00

EXTERNAL EQUIPMENT SETUP

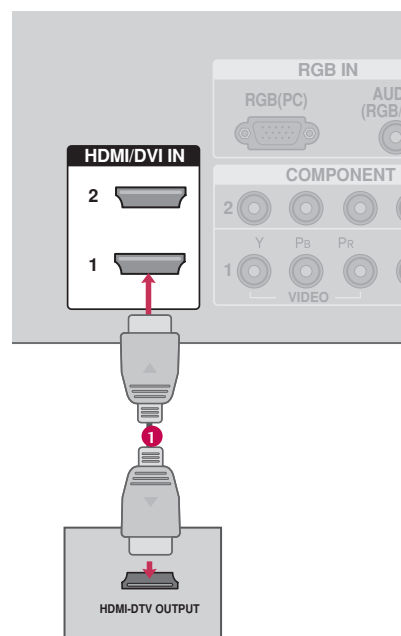
HDMI Connection

1. How to connect

- 1 Connect the digital set-top box to **HDMI/DVI IN1**, **2** or **HDMI IN3** jack on the TV.
- 2 No separated audio connection is necessary.
HDMI supports both audio and video.

2. How to use

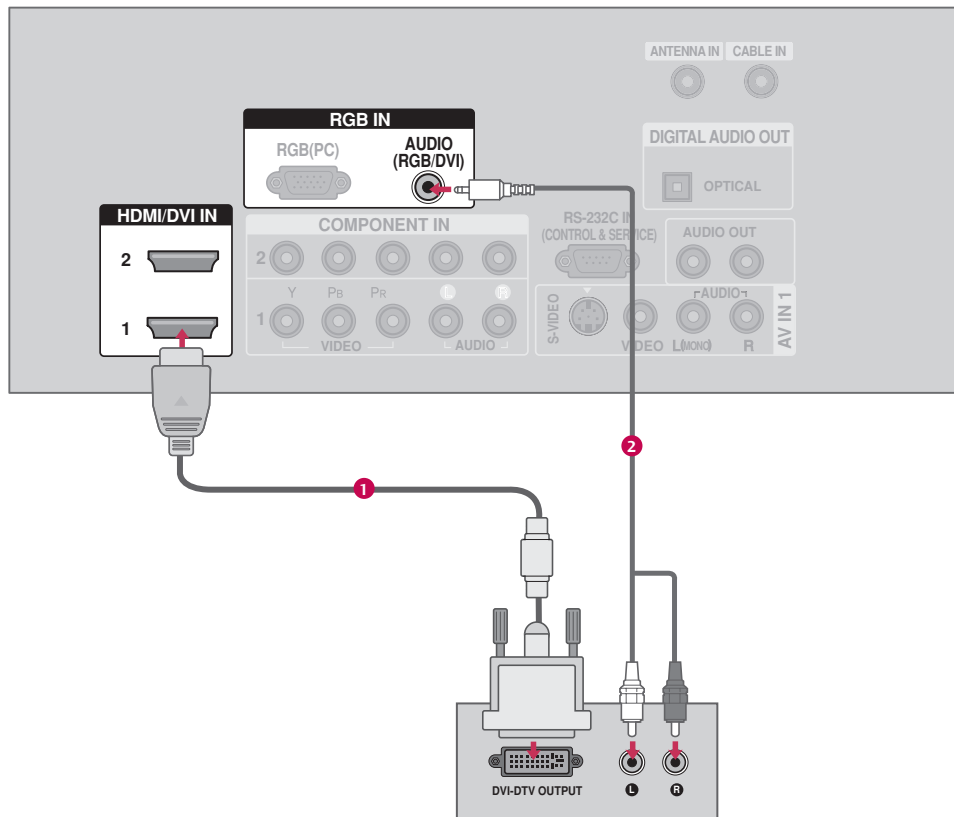
- Turn on the digital set-top box.
(Refer to the owner's manual for the digital set-top box.)
- Select **HDMI1**, **HDMI2** or **HDMI3** input source on the TV
with using the **INPUT** button on the remote control.



HDMI-DTV mode

Resolution	Horizontal Frequency(KHz)	Vertical Frequency(Hz)
720 x 480p	31.47	60.00
	31.47	59.94
1280 x 720p	44.96	59.94
	45.00	60.00
1920 x 1080i	33.72	59.94
	33.75	60.00
1920 x 1080p	26.97	23.94
	27.00	24.00
	33.71	29.97
	33.75	30.00
	67.432	59.939
	67.50	60.00
	56.25	50.00
	28.125	25.00

DVI to HDMI Connection



1. How to connect

- 1 Connect the DVI output of the digital set-top box to the **HDMI/DVI IN1, 2** or **HDMI IN3** jack on the TV.
- 2 Connect the audio output of the digital set-top box to the **AUDIO (RGB/DVI)** jack on the TV.

2. How to use

- Turn on the digital set-top box. (Refer to the owner's manual for the digital set-top box.)
- Select **HDMI1**, **HDMI2** or **HDMI3** input source on the TV with using the **INPUT** button on the remote control.

EXTERNAL EQUIPMENT SETUP

DVD SETUP

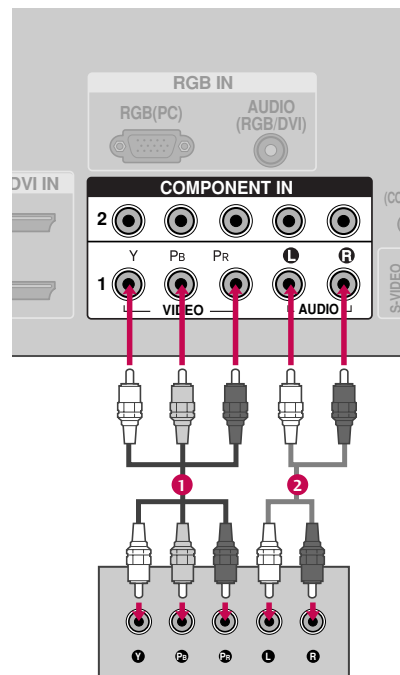
Component Connection

1. How to connect

- 1 Connect the video outputs (Y, Pb, Pr) of the DVD to the **COMPONENT IN VIDEO1** jacks on the TV.
Match the jack colors (Y = green, Pb = blue, and Pr = red).
- 2 Connect the audio outputs of the DVD to the **COMPONENT IN AUDIO1** jacks on the TV.

2. How to use

- Turn on the DVD player, insert a DVD.
- Select **Component 1** input source on the TV with using the **INPUT** button on the remote control.
- If connected to **COMPONENT IN 2** input, select **Component 2** input source on the TV.
- Refer to the DVD player's manual for operating instructions.



Component Input ports

Connect a DVD player to the component input ports as shown below.

Component ports on the TV	Y	Pb	Pr
Video output ports on DVD player	Y	Pb	Pr
	Y	B-Y	R-Y
	Y	Cb	Cr
	Y	Pb	Pr

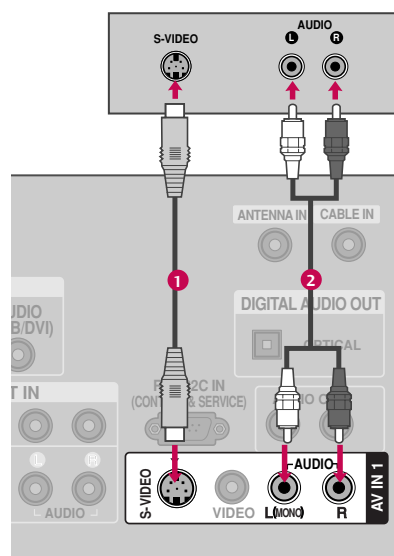
S-Video Connection

1. How to connect

- 1 Connect the S-VIDEO output of the DVD to the **S-VIDEO** input on the TV.
- 2 Connect the audio outputs of the DVD to the **AUDIO** input jacks on the TV.

2. How to use

- Turn on the DVD player, insert a DVD.
- Select **AV1** input source on the TV with using the **INPUT** button on the remote control.
- If connected to **AV IN2**, select **AV2** input source.
- Refer to the DVD player's manual for operating instructions.



EXTERNAL EQUIPMENT SETUP

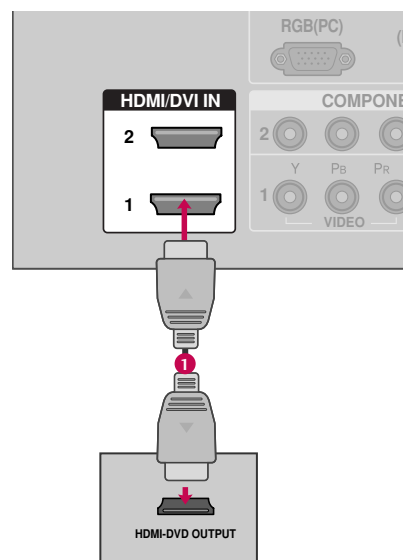
HDMI Connection

1. How to connect

- 1 Connect the HDMI output of the DVD to the **HDMI/DVI IN 1, 2, or HDMI IN3** jack on the TV.
- 2 No separated audio connection is necessary.
HDMI supports both audio and video.

2. How to use

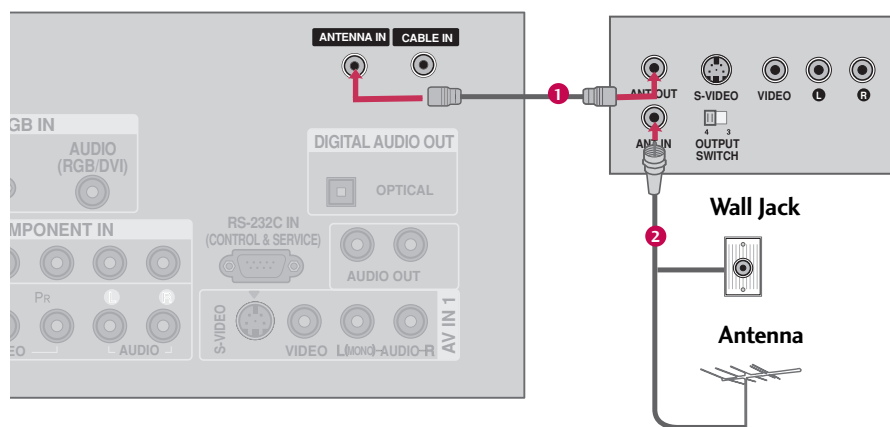
- Select **HDMI1**, **HDMI2**, or **HDMI3** input source on the TV with using the **INPUT** button on the remote control.
- Refer to the DVD player's manual for operating instructions.



VCR SETUP

- To avoid picture noise (interference), leave an adequate distance between the VCR and TV.
- Use the ISM feature in the Option menu to avoid having a fixed image remain on the screen for a long period of time (Only Plasma TV model). If the 4:3 picture format is used; the fixed images on the sides of the screen may remain visible on the screen. This phenomenon is common to all TVs and is not covered by warranty.

Antenna Connection



1. How to connect

- 1 Connect the RF antenna out socket of the VCR to the **ANTENNA IN** socket on the TV.
- 2 Connect the antenna cable to the RF antenna in socket of the VCR.

2. How to use

- Set VCR output switch to 3 or 4 and then tune TV to the same channel number.
- Insert a video tape into the VCR and press PLAY on the VCR. (Refer to the VCR owner's manual.)

EXTERNAL EQUIPMENT SETUP

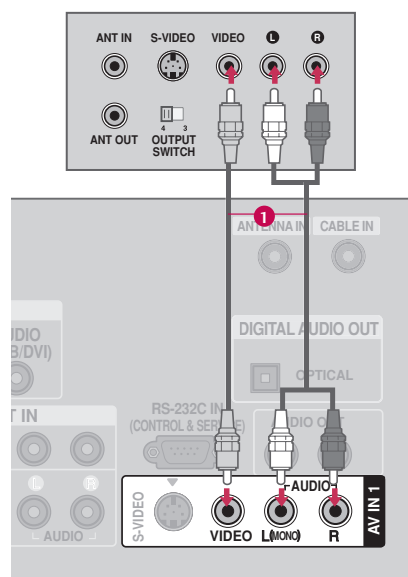
Composite (RCA) Connection

1. How to connect

- 1 Connect the **AUDIO/VIDEO** jacks between TV and VCR. Match the jack colors (Video = yellow, Audio Left = white, and Audio Right = red)

2. How to use

- Insert a video tape into the VCR and press PLAY on the VCR. (Refer to the VCR owner's manual.)
- Select **AV1** input source on the TV with using the **INPUT** button on the remote control.
- If connected to **AV IN2**, select **AV2** input source on the TV.



NOTE ▶ If you have a mono VCR, connect the audio cable from the VCR to the **AUDIO L/MONO** jack of the TV.

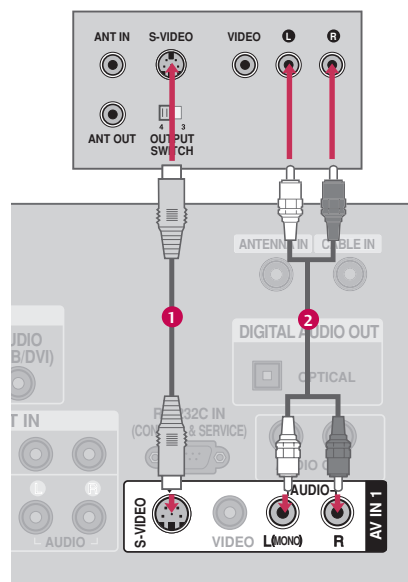
S-Video Connection

1. How to connect

- 1 Connect the S-VIDEO output of the VCR to the **S-VIDEO** input on the TV.
- 2 Connect the audio outputs of the VCR to the **AUDIO** input jacks on the TV.

2. How to use

- Insert a video tape into the VCR and press PLAY on the VCR. (Refer to the VCR owner's manual.)
- Select **AV1** input source on the TV with using the **INPUT** button on the remote control.
- If connected to **AV IN2**, select **AV2** input source.



NOTE
▶ S-Video provides better quality than composite. Use it when available.

CAUTION

- ▶ Do not connect to both Video and S-Video at the same time. In the event that you connect both Video and the S-Video cables, only the S-Video will work.

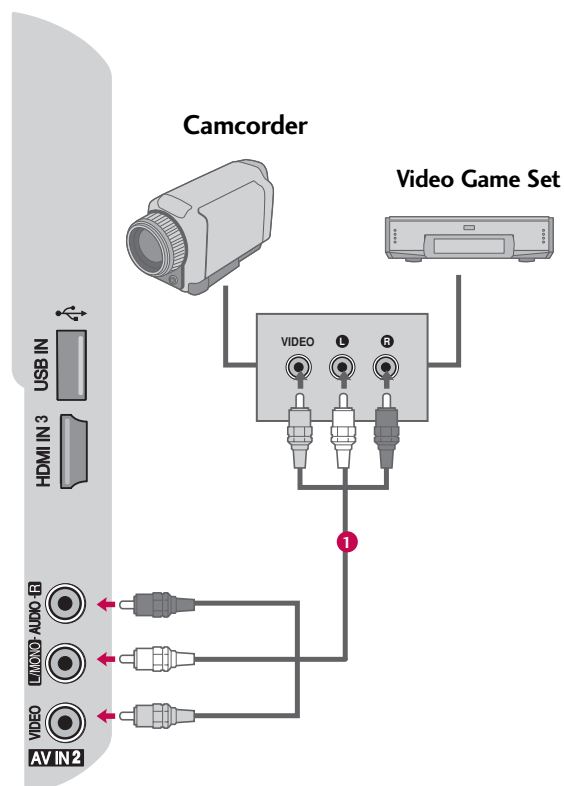
OTHER A/V SOURCE SETUP

1. How to connect

- 1 Connect the **AUDIO/VIDEO** jacks between TV and external equipment. Match the jack colors.
(Video = yellow, Audio Left = white, and Audio Right = red)

2. How to use

- Select **AV2** input source on the TV with using the **INPUT** button on the remote control.
- If connected to **AV IN1** input, select **AV1** input source on the TV.
- Operate the corresponding external equipment.



EXTERNAL EQUIPMENT SETUP

PC SETUP

This TV provides Plug and Play capability, meaning that the PC adjusts automatically to the TV's settings.

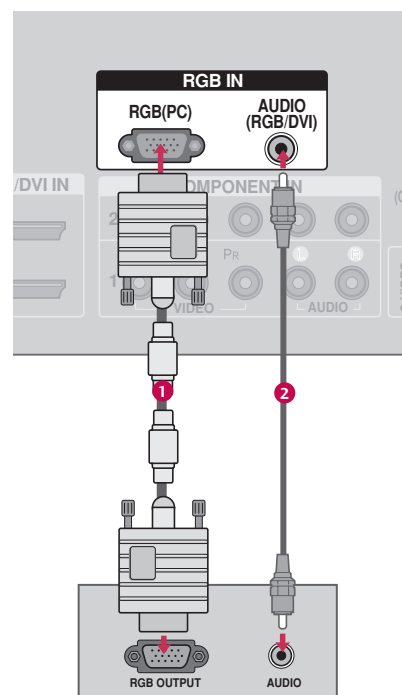
VGA (D-Sub 15 pin) Connection

1. How to connect

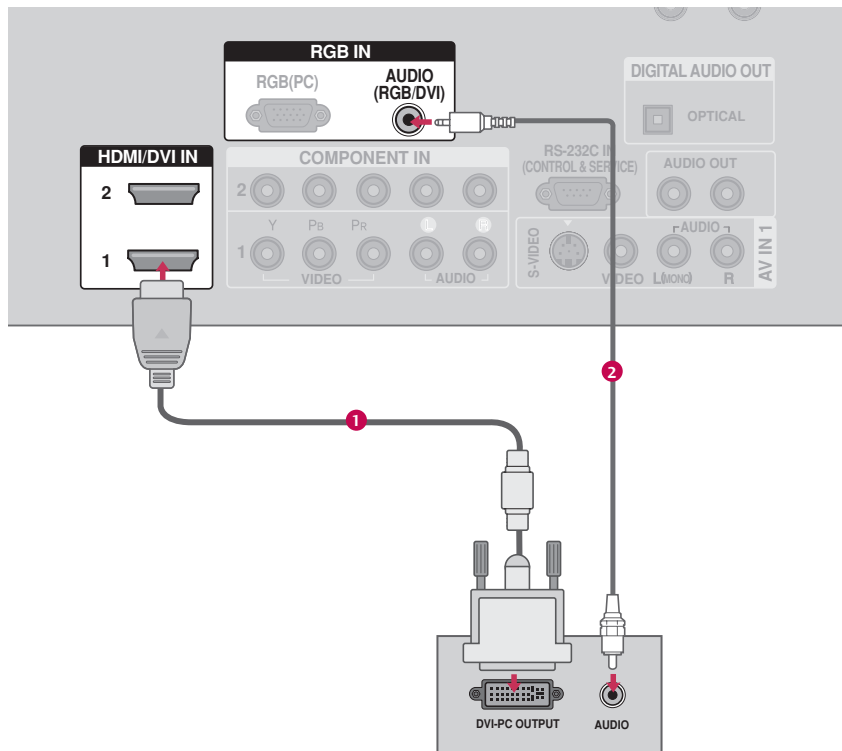
- 1 Connect the VGA output of the PC to the **RGB (PC)** jack on the TV.
- 2 Connect the PC audio output to the **AUDIO (RGB/DVI)** jack on the TV.

2. How to use

- Turn on the PC and the TV.
- Select **RGB-PC** input source on the TV with using the **INPUT** button on the remote control.



DVI to HDMI Connection



1. How to connect

- 1 Connect the DVI output of the PC to the **HDMI/DVI IN1, 2** or **HDMI IN3** jack on the TV.
- 2 Connect the PC audio output to the **AUDIO (RGB/DVI)** jack on the TV.

2. How to use

- Turn on the PC and the TV.
- Select **HDMI1**, **HDMI2** or **HDMI3** input source on the TV with using the **INPUT** button on the remote control.

EXTERNAL EQUIPMENT SETUP

! NOTES

- ▶ Depending on the graphics card, DOS mode may not work if a HDMI to DVI Cable is in use.
- ▶ There may be noise associated with the resolution, vertical pattern, contrast or brightness in PC mode. If noise is present, change the PC output to another resolution, change the refresh rate to another rate or adjust the brightness and contrast on the PICTURE menu until the picture is clear.
- ▶ Avoid keeping a fixed image on the screen for a long period of time. The fixed image could become permanently imprinted on the screen.

Supported Display Specifications

RGB-PC, HDMI-PC

Resolution	Horizontal Frequency(KHz)	Vertical Frequency(Hz)
640x350	31.468	70.09
720x400	31.469	70.08
640x480	31.469	59.94
	37.500	75.00
	37.861	72.80
800x600	35.156	56.25
	37.879	60.31
	46.875	75.00
	48.077	72.18
1024x768	48.363	60.00
	56.476	70.06
	60.023	75.02
1280x768	47.776	59.87
	60.289	74.893
1280x1024	63.981	60.02
	79.976	75.025
1360x768	47.712	60.015
1600x1200	75.00	60.00
1920x1080	67.50	60.00

* RGB-PC mode only

! NOTE

- ▶ Depending on the graphics card, some resolutions may not be positioned on the screen properly.

Screen Setup for PC mode

Selecting Resolution

You can choose the resolution in RGB-PC mode.

The position, phase, and other settings can also be adjusted.



- 1   Select **PICTURE**.
- 2   Select **Screen (RGB-PC)**.
- 3   Select **Resolution**.
- 4   Select the desired resolution.
- 5 

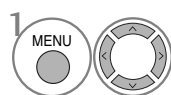
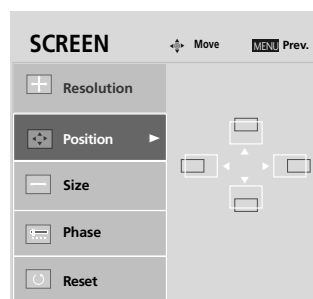
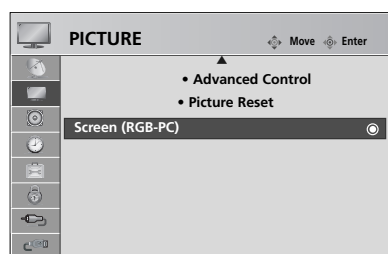
EXTERNAL EQUIPMENT SETUP

Adjustment for screen Position, Size, Phase

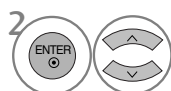
If the picture is not clear after auto adjustment and especially if characters are still trembling, adjust the picture phase manually.

This feature operates only in RGB-PC mode.

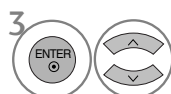
EXTERNAL EQUIPMENT SETUP



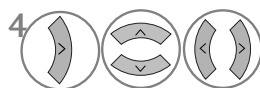
Select **PICTURE**.



Select **Screen (RGB-PC)**.



Select **Position, Size or Phase**.



Make appropriate adjustments.



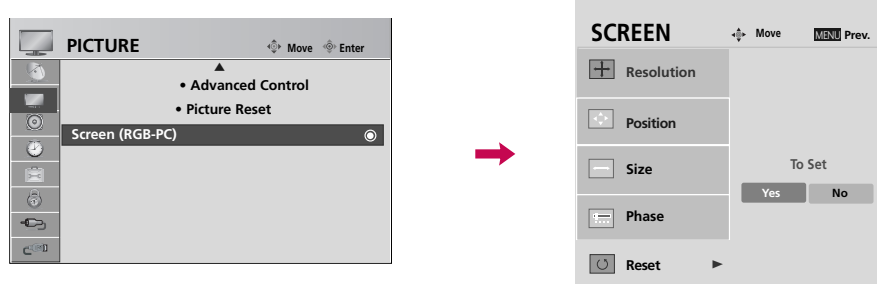
Position This function is to adjust picture to left/right and up/down as you prefer.

Size This function is to minimize any vertical bars or stripes visible on the screen background. And the horizontal screen size will also change.

Phase This function allows you to remove any horizontal noise and clear or sharpen the image of characters.

Screen Reset (Reset to original factory values)

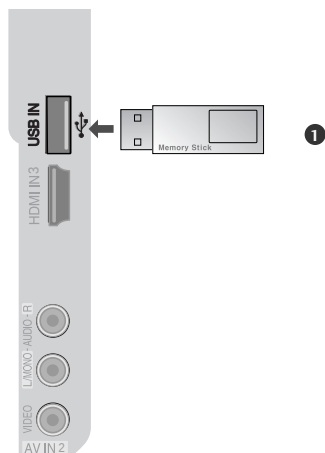
Returns to the default settings Resolution, Position, Size and Phase at the factory.
This feature operates only in RGB-PC mode.



- 1   Select **PICTURE**.
- 2   Select **Screen (RGB-PC)**.
- 3   Select **Reset**.
- 4   Select **Yes**.
- 5 

EXTERNAL EQUIPMENT SETUP

USB CONNECTION



1. How to connect

- 1 Connect the USB device to the **USB IN** jack on the side of TV(or on the back of TV).

2. How to use

- After connecting the **USB IN** jack, you use the USB function. (► p.61)

AUDIO OUT CONNECTION

Send the TV's audio to external audio equipment via the Digital Audio Output (Optical) port.

Analog

1. How to connect

- 1 Connect audio outputs to the TV's **AUDIO OUT** jacks.
- 2 Set the "TV Speaker option - Off" in the AUDIO menu. See the external audio equipment instruction manual for operation.

Digital

1. How to connect

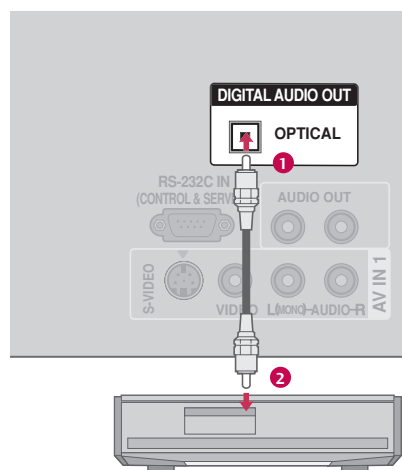
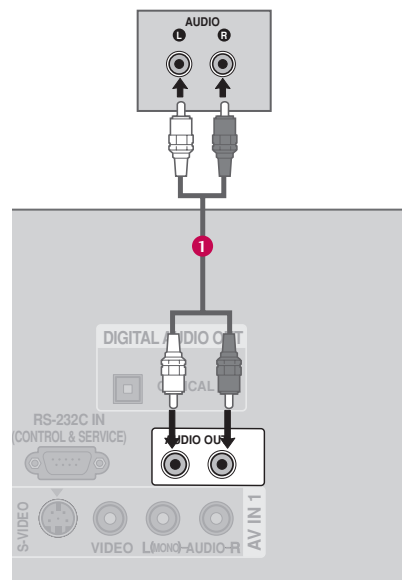
- 1 Connect one end of the optical or coaxial cable to the TV's **OPTICAL** or **COAXIAL** (Except plasma TV models) port of **DIGITAL AUDIO OUT**.
- 2 Connect the other end of the optical or coaxial cable to the digital audio input on the audio equipment.
- 3 Set the "TV Speaker option - Off" in the AUDIO menu. See the external audio equipment instruction manual for operation.

! NOTE

- ▶ When connecting with external audio equipments, such as amplifiers or speakers, you can turn the TV speakers off in the menu.

! CAUTION

- ▶ Do not look into the optical output port. Looking at the laser beam may damage your vision.

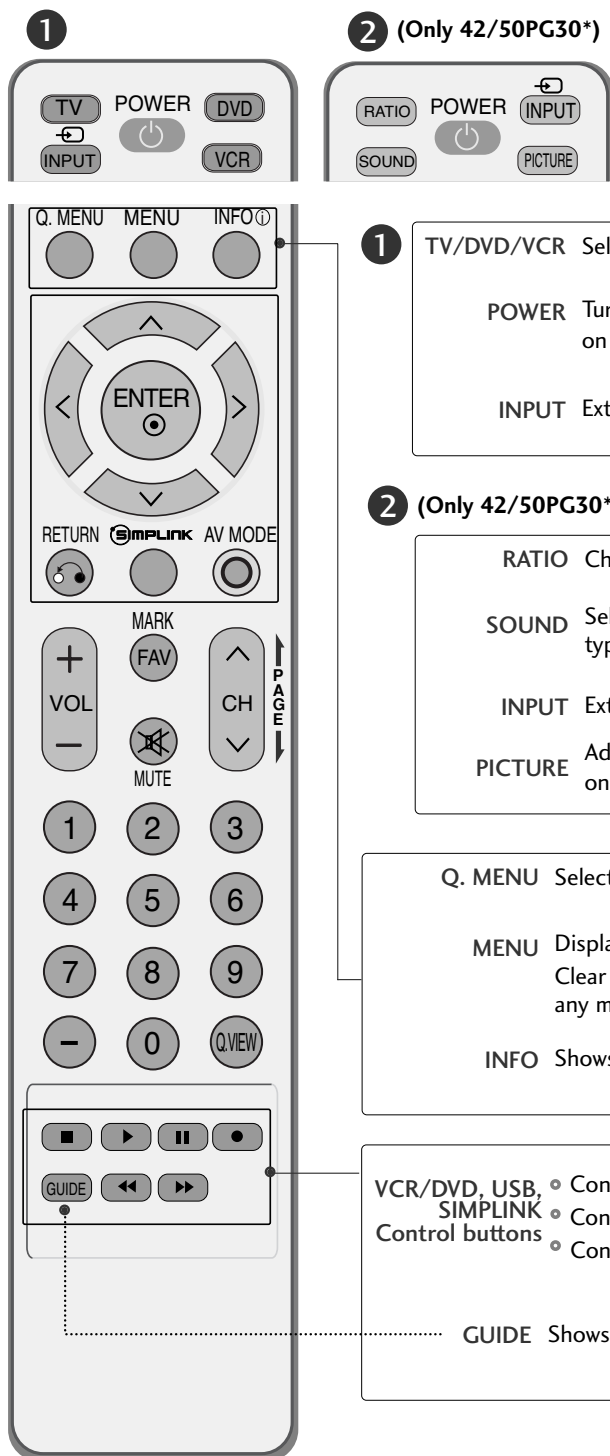


WATCHING TV / CHANNEL CONTROL

REMOTE CONTROL KEY FUNCTIONS

When using the remote control, aim it at the remote control sensor on the TV.

WATCHING TV / CHANNEL CONTROL



2 (Only 42/50PG30*)

- 1** TV/DVD/VCR Select the remote operating mode: TV, DVD, or VCR.
- POWER Turns your TV or any other programmed equipment on or off, depending on the mode.
- INPUT External input modes rotate in regular sequence.

2 (Only 42/50PG30*)

- RATIO Change the aspect ratio. ► **p.69**
- SOUND Select the appropriate type of sound for type of program. ► **p.86**
- INPUT External input modes rotate in regular sequence.
- PICTURE Adjust the factory preset picture depend on the viewing environment. ► **p.71**

- Q. MENU Select the desired quick menu source. ► **p.43**
- MENU Displays the main menu.
Clear all on-screen displays and return to TV viewing from any menu.
- INFO Shows the present screen information.

- VCR/DVD, USB, SIMPLINK Control buttons
- Control video cassette recorders or DVD players.
 - Control USB menu (PHOTO LIST and MUSIC LIST.)
 - Control the SIMPLINK compatible devices.

- GUIDE Shows program schedule. ► **p.58**



THUMBSTICK (Up/Down/Left Right/ENTER) Navigate the on-screen menus and adjust the system settings to your preference.

RETURN Allows the user to move return one step in an interactive application or other user interaction function.

SIMPLINK See a list of AV devices connected to TV. When you toggle this button, the Simplink menu appears at the screen. ► p.53

AV MODE It helps you select and set images and sounds when connecting AV devices. ► p.57

VOLUME UP /DOWN Increase/decrease in the sound level.

MARK Select and release functions in the USB menu. ► p.63

FAV Scroll through the programmed favorite channels. ► p.49

MUTE Switches the sound on or off. ► p.42

CH UP/DOWN Select available channels.

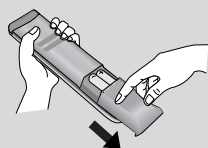
PAGE UP/DOWN Move from one full set of screen information to the next one.

0~9 number button Selects a channel.
Selects numbered items in a menu.

— (DASH) Used to enter a program number for multiple program channels such as 2-1, 2-2, etc.

Q.VIEW Tune to the last channel viewed.

Installing Batteries



- Open the battery compartment cover on the back and install the batteries matching correct polarity (+with +,-with -).
- Install two 1.5V AAA batteries. Do not mix old or used batteries with new ones.
- Close cover.

WATCHING TV / CHANNEL CONTROL

TURNING ON THE TV

- 1 First, connect power cord correctly.
At this moment, the TV switches to standby mode.
 - In standby mode to turn TV on, press the ϕ/I , **INPUT**, **CH** ($\blacktriangle$ or $\blacktriangledown$) or **CH** ($\wedge$ or $\vee$) button on the TV or press the **POWER**, **INPUT**, **CH** ($\wedge$ or $\vee$), **Number (0~9)** button on the remote control.
- 2 Select the viewing source by using the **INPUT** button on the remote control.
 - This TV is programmed to remember which power state it was last set to, even if the power cord is out.
- 3 When finished using the TV, press the **POWER** button on the remote control. The TV reverts to standby mode.

! NOTE

- ▶ If you intend to be away on vacation, disconnect the power plug from the wall power outlet.

CHANNEL SELECTION

- 1 Press the **CH** ($\wedge$ or $\vee$), or **NUMBER** buttons to select a channel number.

VOLUME ADJUSTMENT

Adjust the volume to suit your personal preference.

- 1 Press the **VOL** (+ or -) button to adjust the volume.
- 2 If you want to switch the sound off, press the **MUTE** button.
- 3 You can cancel the Mute function by pressing the **MUTE** or **VOL** (+ or -) button.

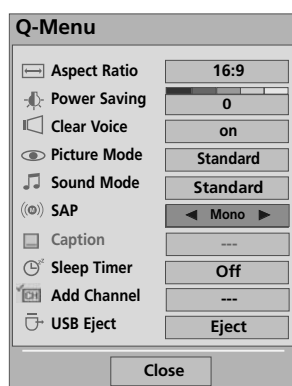
QUICK MENU

Your TV's OSD (On Screen Display) may differ slightly from what is shown in this manual.

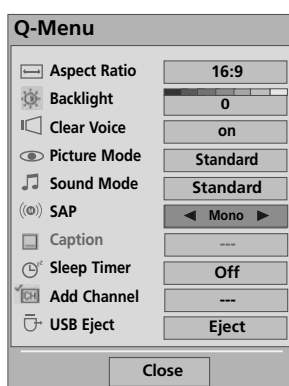
Q.Menu (Quick Menu) is a menu of features which users might use frequently.

- **Aspect Ratio**: Selects your desired picture format.
- **Power Saving** (only Plasma TV Models): Adjusts screen brightness to reduce the power consumption of the set.
- **Backlight** (only LCD TV Models): Adjust the brightness of LCD panel to control the brightness of the screen.
- **Clear Voice**: By differentiating the human sound range from others, it helps make human voices sound better.
- **Picture Mode**: Selects the factory preset picture depend on the viewing environment.
- **Sound Mode**: Selects the factory preset sound for type of program.
- **Multi Audio/SAP**: Selects MTS sound (Analog signal) or changes the audio language (Digital signal).
- **Caption**: Select a closed caption. (Analog signal)
- **Sleep Timer**: Select the amount of time before your TV turns off automatically.
- **Add Channel**: Sets the channel add or delete.
- **USB Eject**: Select "USB Eject" in order to eject USB device.

Plasma TV Models



LCD TV Models



1



Display each menu.



2

Make appropriate adjustments.



3

Return to TV viewing.

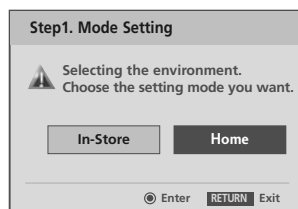
WATCHING TV / CHANNEL CONTROL

INITIAL SETTING

This Function guides the user to easily set the essential items for viewing the TV for the first time when purchasing the TV. It will be displayed on the screen when turning the TV on for the first time. It can also be activated from the user menus.

- **In-Store Mode:** Picture mode is set to “**Vivid**”. Customers can adjust the “Picture Mode” manually while inspecting the TV, but the TV will automatically return to the picture quality set this company after some minutes.
- **Home Mode:** Picture mode is set to “**Vivid**” and user can change it to whatever they wish.

Step1. Mode setting



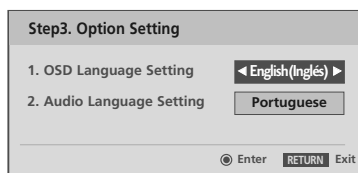
1. Select **Home** Mode.
2. Press the **ENTER** button.

Step2. Time setting



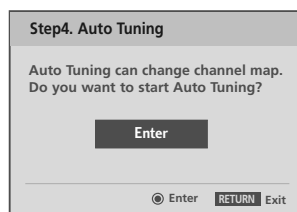
1. Select **Auto** or **Manual**.
2. Select desired time option.
3. Press the **ENTER** button.

Step3. Option setting



- 1  Select **OSD Language Setting** or **Audio Language Setting**.
- 2  Select your desired language.
- 3 

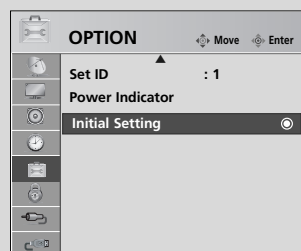
Step4. Auto Tuning



- 1  Start **Auto Tuning**.

! NOTE

- You can also adjust **Initial Setting** in the **OPTION** menu.



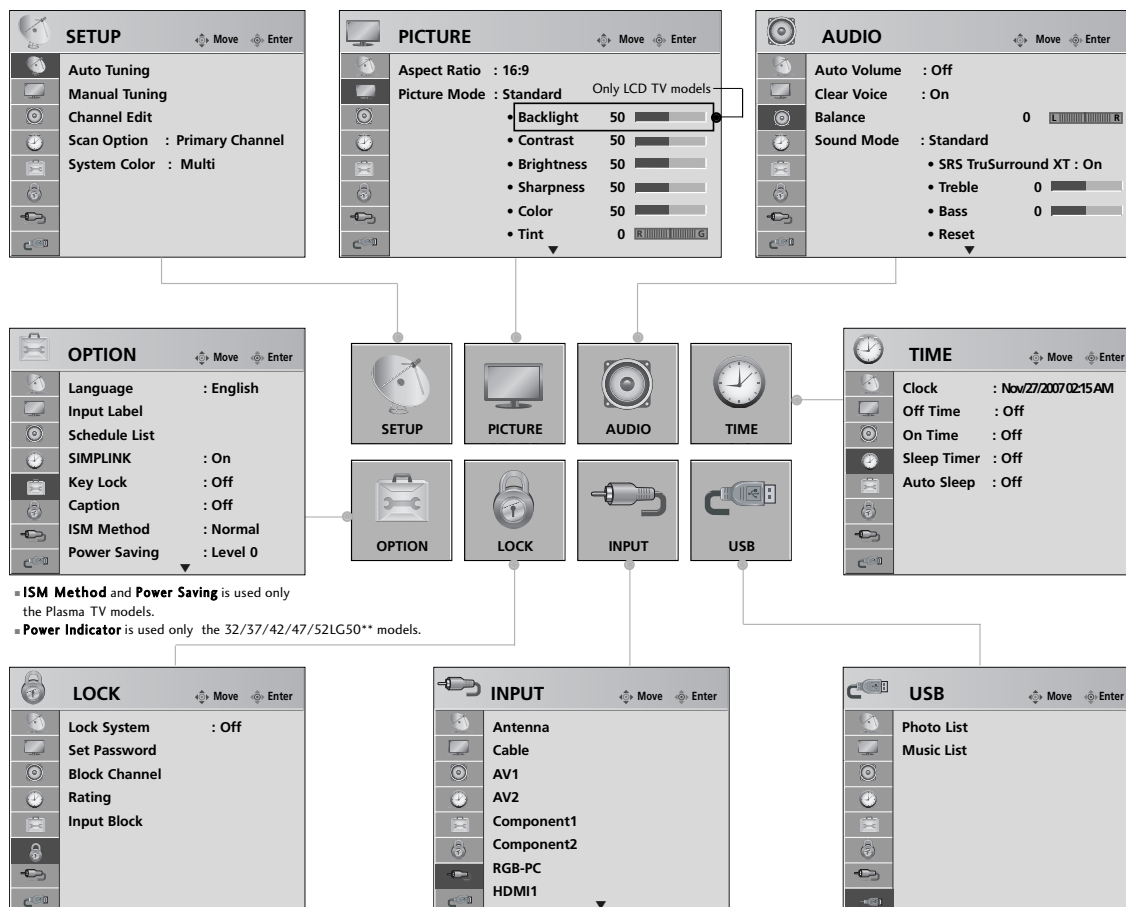
- 1   Select **OPTION**.
- 2   Select **Initial Setting**.
- 3 

- ▶ The default selection is Home. We recommend setting the TV to Home mode for the best picture in your home environment.
- ▶ In-store mode is only intended for use in retail environments. Customers can adjust the "Picture Mode" manually while inspecting the TV, but the TV will automatically return to preset in-store mode after some minutes.
- ▶ The "In-Store Mode" is selected when it is exhibited at the shop. Even if you adjust the picture mode to the desired one, when it elapses a certain time, it will be automatically initialized (Vivid). When you use it at home, select the "Home Mode".

WATCHING TV / CHANNEL CONTROL

ON-SCREEN MENUS SELECTION

Your TV's OSD (On Screen Display) may differ slightly from that shown in this manual.



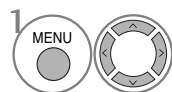
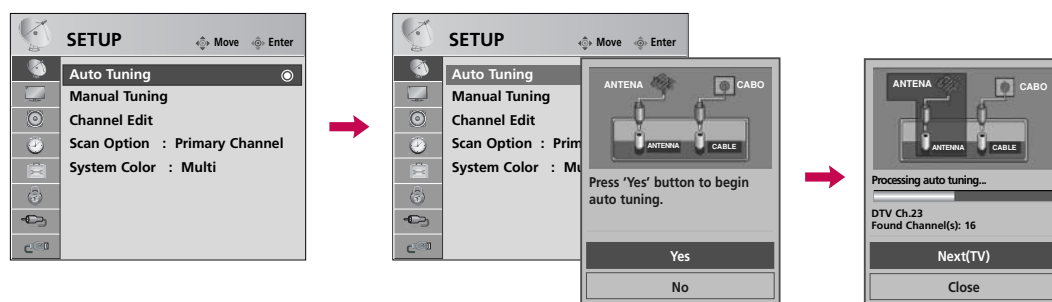
- 1 Display each menu.
- 2 Select a menu item.
- 3 Enter to the pop up menu.
- 4 Return to TV viewing.

CHANNEL SETUP

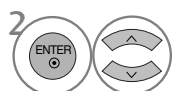
Auto Scan (Auto Tuning)

Automatically finds all channels available through antenna or cable inputs, and stores them in memory on the channel list.

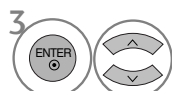
Run Auto Tuning again after any Antenna/Cable connection changes.



Select **SETUP**.



Select **Auto Tuning**.



Select **Yes**.



Run **Auto tuning**.



Return to the previous menu.



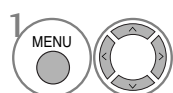
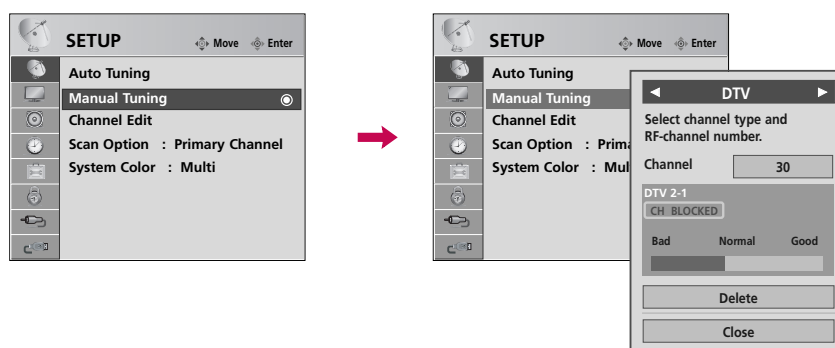
Return to TV viewing.

■ A password is required to gain access to Auto Tuning menu if the Lock System is turned on.

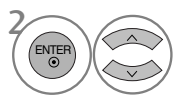
WATCHING TV / CHANNEL CONTROL

Add/Delete Channel (Manual Tuning)

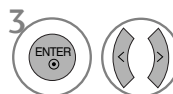
If selecting DTV input signal, you can view the on-screen signal strength monitor to see the quality of the signal being received.



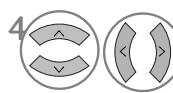
Select **SETUP**.



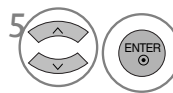
Select **Manual Tuning**.



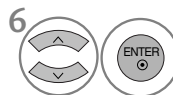
Select **TV, DTV, and CATV**.



Select channel you want to add or delete.



Select **Add** or **Delete**.



Select **Close** button to confirm it.



Return to the previous menu.



Return to TV viewing.

■ A password is required to gain access to Auto Tuning menu if the Lock System is turned on.

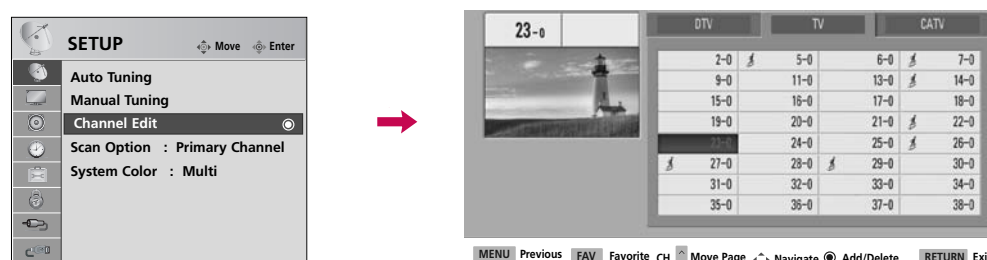
Channel Editing

From the default channel list created from the Auto Tuning channel search, you can create two different types of channel lists in memory: “custom list” and “favorite channel list”.

A custom list can be created by toggling each channel on or off with ENTER button. The channels in the Custom List are displayed in black and the channels deleted from the Custom List are displayed in gray.

Once a channel is highlighted you can add or delete the channel by referring to the small window at the top-right corner of the screen.

You can create your own Favorite List. Use the **FAV** button on the remote control when a channel is highlighted and then add or delete the channel to/from your Favorite List.



- 1   Select **SETUP**.
- 2   Select **Channel Edit**.
- 3   Select a channel.
- 4  Return to the previous menu.
-  Return to TV viewing.

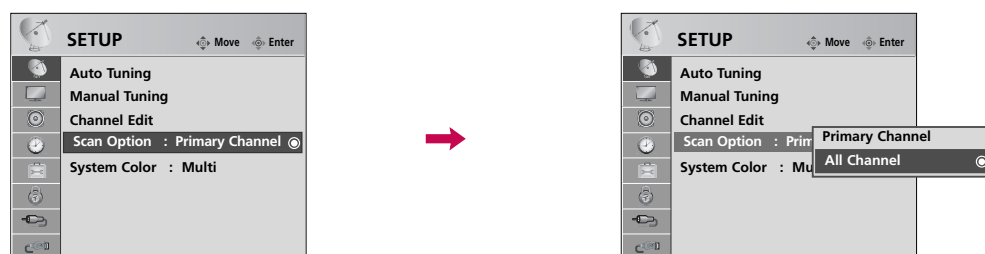
WATCHING TV / CHANNEL CONTROL

SCAN OPTION

Whether to search all channels or the first channel of virtual channels is switched with the  when one or more virtual channels exist at one physical channel.

Primary Channel: Only scan the first channel of virtual channels.

All Channel: Scan full channel.

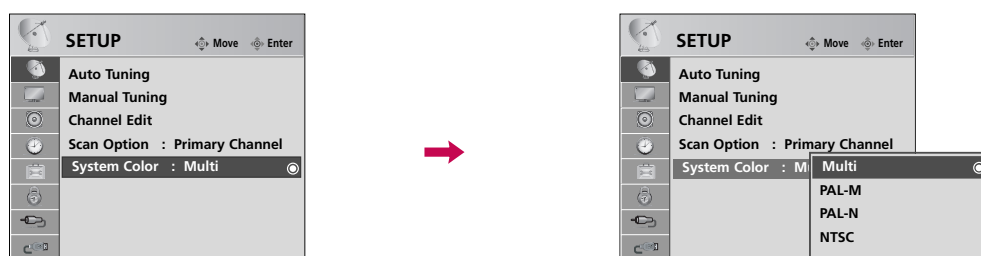


- 1   Select **SETUP**.
- 2   Select **Scan Option**.
- 3   Select **Primary Channel** or **All Channel**.
- 4 
- 5  Return to the previous menu.
-  Return to TV viewing.

SYSTEM COLOR

This function set color suited the each signal .

Multi: Automatically, set the PAL-M/N or NTSC.

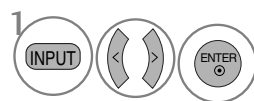


- 1   Select **SETUP**.
- 2   Select **System Color**.
- 3   Select **Multi**, **PAL-M**, **PAL-N** or **NTSC**.
- 4 
- 5  Return to the previous menu.
-  Return to TV viewing.

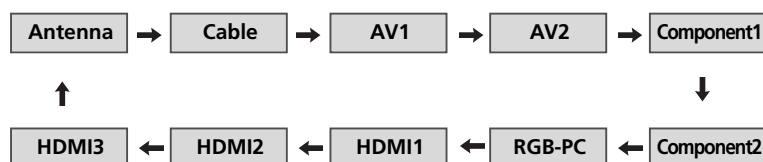
WATCHING TV / CHANNEL CONTROL

INPUT LIST

Only these input signals which are connected to a TV can be activated and selected.



Select the desired input source.



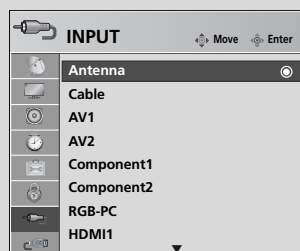
ie)



Disconnected input is inactivated.

Select a desired input source (except **Antenna, Cable**). Then, you can select your desired Input Label with using Q MENU button. ► **p.56**

- You can also select the desired input source in the **INPUT** menu.



Antenna: Select it to watch over-the-air broadcasts.

Cable: Select it to watch cable.

AV 1-2: Select them to watch a VCR or other external equipment.

Component 1-2: Select them to watch DVD or a Digital set-top box.

RGB-PC: Select it to view PC input.

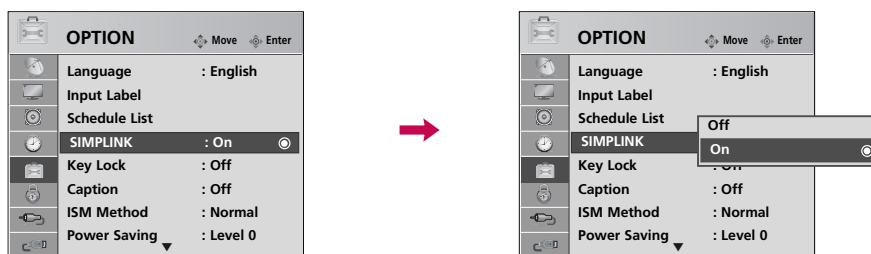
HDMI1-3: Select them to watch high definition devices.



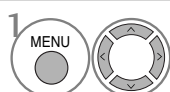
This function operates only with devices with the SIMPLINK logo.

This TV might not function when using it with other products with HDMI-CEC function.

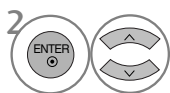
This allows you to control and play other AV devices connected with HDMI cable without additional cables and settings.



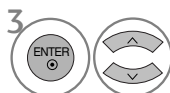
WATCHING TV / CHANNEL CONTROL



Select **OPTION**.



Select **SIMPLINK**.



Select **On** or **Off**.



Return to the previous menu.



Return to TV viewing.

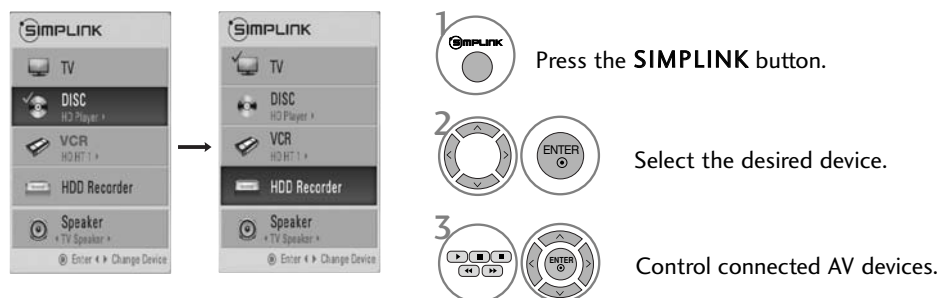
WATCHING TV / CHANNEL CONTROL

Simplink Functions

- **Direct Play:** After connecting AV devices to TV, you can directly control the devices and play media without additional settings.
- **Select AV device:** Enables you to select one of AV devices connected to TV and play it.
- **Disc playback:** Control connected AV devices by pressing the $\wedge$ $\vee$ $<$ $>$, ENTER, $\blacktriangleright$, $\blacksquare$, II , $\blacktriangleleft$ and $\blacktriangleright$ buttons.
- **Power off all devices:** When you power off the TV, all connected devices are turned off. (This option only applied when the devices are stopped.)
- **Switch audio-out:** Offers an easy way to switch audio-out.

(A device, which is connected to TV through HDMI cable but does not support Simplink, does not provide this function)

Note: To operate SIMPLINK, the HDMI cable should be used.



Simplink Menu

- ① **TV viewing:** Switch to the previous TV channel regardless of the current mode.
- ② **DISC playback:** Select and play discs. When multiple discs are available, the titles of discs are conveniently displayed at the bottom of the screen.
- ③ **VCR playback:** Play and control the connected VCR.
- ④ **HDD Recordings playback:** Play and control recordings stored in HDD.
- ⑤ **Audio Out to HT speaker/Audio Out to TV:** Select HT speaker or TV speaker for Audio Out.



► Selected Device

► When no device is connected (displayed in gray)

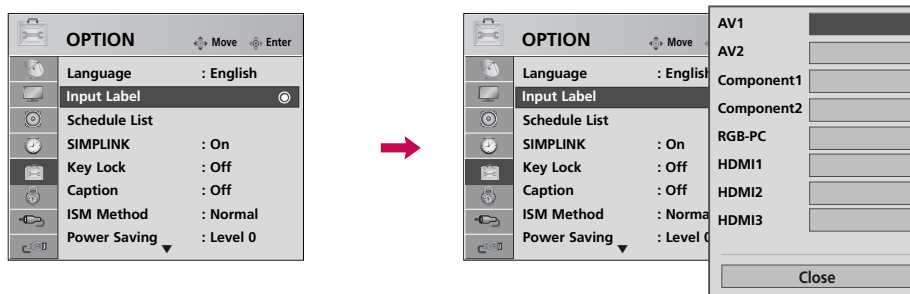
► When a device is connected (displayed in bright color)

WATCHING TV / CHANNEL CONTROL

INPUT LABEL

You can set a label to each input source when it's not in use.

Available label: VCR -> DVD -> Set Top Box -> Satellite -> Cable Box -> Game -> PC -> HD-DVD -> Blu-ray.



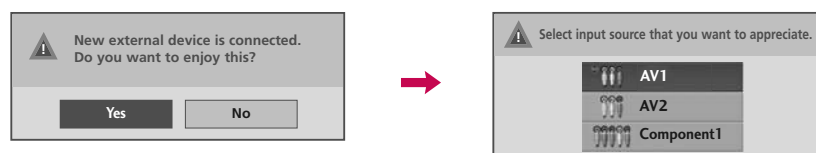
With using OPTION menu

1. Select **OPTION**.
2. Select **Input Label**.
3. Select the source.
4. Select the label.
5. Select **Close** button to confirm it.
6. Return to the previous menu.
- Return to TV viewing.

With using INPUT button

1. Select the source.
2. Select the label.
3. Return to the previous menu.
- Return to TV viewing.

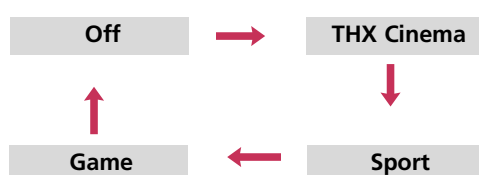
- When new external device is connected, this popup menu is displayed automatically.
If selecting **Yes**, you can select input source that you want to appreciate.
- But, when selecting "**SIMPLINK - On**" in HDMI mode, this popup menu is may not displayed.



AV MODE

As pressing the AV MODE button to change the THX Cinema, Sport and Game at the same time, you can see the optimal images and sounds.

It gives the viewing environment (Picture Quality + Sound Quality) optimized for the consumers.



Press the **AV MODE** button repeatedly to select the desired source.



- If you select THX Cinema in AV mode, THX Cinema will be selected both for Picture Mode and Sound Mode in PICTURE menu and AUDIO menu respectively.
- If you select "Off" in AV mode, the picture mode and sound mode which you initially set will be selected.

► **THX Cinema:** It is the movie quality mode for watching a movie just like at the theater even at home. You can watch any movie with the best quality without any user's adjustment. The optimized quality can be presented at the 'THX Cinema' mode when it is watched at the dark environment as possible. When the 'THX Cinema' mode is set at the HD level (720p/1080i/1080p) video, the 'Screen size' is changed to the 'Just Scan'. (►p.70)

The 'THX(Tomlinson Holman's Experiment)' is the certified sound and display standard of the THX Co. found by George Lucas, the director of the movie 'Star Wars', and Tomlinson Holman. This product attained the THX display certification for the first time in Korea, which guarantees the video quality higher than the display standard specification at the hardware and the software.

WATCHING TV / CHANNEL CONTROL

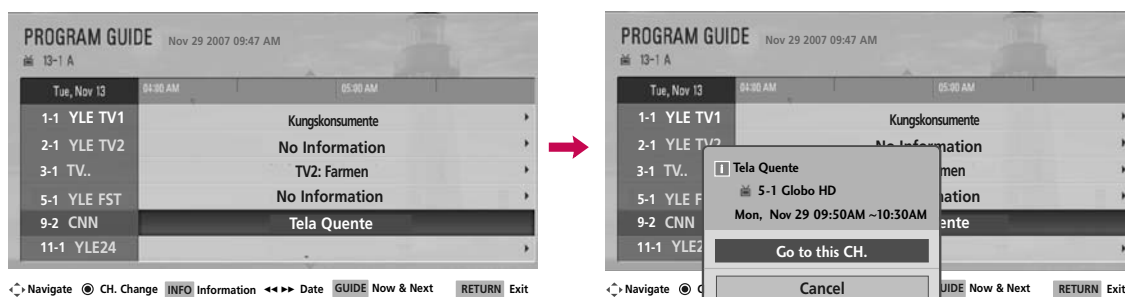
EPG (ELECTRONIC PROGRAM GUIDE) (IN DIGITAL MODE)

This system has an Electronic Program Guide (EPG) to help your navigation through all the possible viewing options.

The EPG supplies information such as program listings, start and end times for all available services. In addition, detailed information about the program is often available in the EPG (the availability and amount of these program details will vary, depending on the particular broadcaster).

This function can be used only when the EPG information is broadcast by broadcasting companies

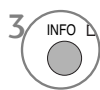
The EPG displays the program details for next 8 days.



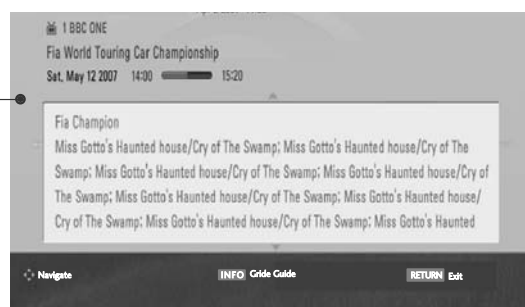
1 Display the **PROGRAM GUIDE**.

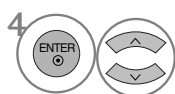


2 Select the desired program.



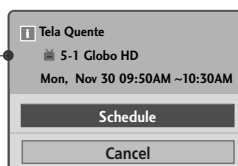
3 Display the detailed information.





Select the **Go to this CH.**

If you select next program, it can be reserved to view and the  is marked at the selected program.



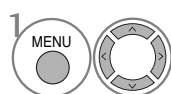
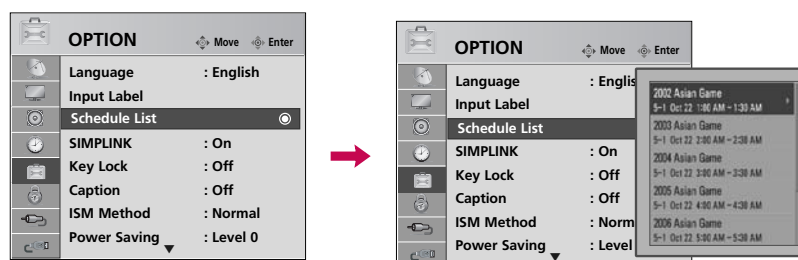
Move to the selected current broadcast program.

- If you press **GUIDE** button, again on the EPG screen, switch the **NOW/NEXT** guide mode.

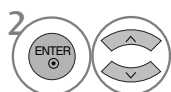
WATCHING TV / CHANNEL CONTROL

SCHEDULE LIST

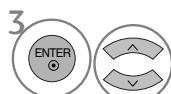
Reserved program displays a list of previously registered in EPG.



Select **OPTION**.



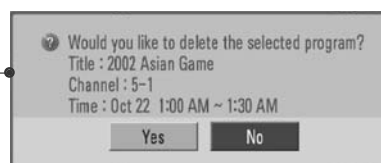
Select **Schedule List**.



Select the desired reserved program.



You can see the program information or cancel the reservation.



Return to the previous menu.



Return to TV viewing.

USB

TO USE THE USB DEVICE

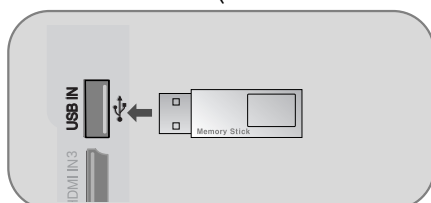
Image shown may differ from your TV.

When connecting the USB device

When you connect a USB device, this screen is displayed, automatically.

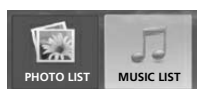
In USB device, you can not add a new folder or delete the existing folder.

- 1 Connect the USB device to the **USB IN** jacks on the side of TV (or on the back of TV).



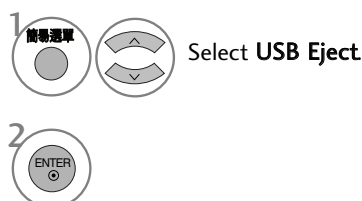
- It doesn't support USB HDD
- This TV Supports on JPG and MP3.

- 2 Select **PHOTO LIST** or **MUSIC LIST**.



When removing the USB device

Select the USB EJECT menu before removing the USB device.



Precautions when using the USB device

- ▶ Only a USB storage device is recognizable.
- ▶ If the USB storage device is connected through a USB hub, the device is not recognizable.
- ▶ A USB storage device using an automatic recognition program may not be recognized.
- ▶ A USB storage device which uses its own driver may not be recognized.
- ▶ The recognition speed of a USB storage device may depend on each device.
- ▶ Please do not turn off the TV or unplug the USB device when the connected USB storage device is working. When such device is suddenly separated or unplugged, the stored files or the USB storage device may be damaged.
- ▶ Please do not connect the USB storage device which was artificially maneuvered on the PC. The device may cause the product to malfunction or fail to be played. Never forget to use only a USB storage device which has normal music files or image files.
- ▶ Please use only a USB storage device which was formatted as a FAT32 file system provided with the Windows operating system. In case of a storage device formatted as a different utility program which is not supported by Windows, it may not be recognized.
- ▶ Please connect power to a USB storage device which requires an external power supply. If not, the device may not be recognized.
- ▶ Please connect a USB storage device with cable is offered by USB maker. If connected with cable is not offered by USB maker or an excessively long cable, the device may not be recognized.
- ▶ Some USB storage devices may not be supported or operated smoothly.
- ▶ If the name of a folder or file is too long, it will not be displayed or recognized.
- ▶ Please backup the important file because a data of USB device may be damaged. Data management is consumer's responsibility and in consequence the manufactures does not cover the product bearing data damage.

USB

PHOTO LIST

You can view .JPG files from USB storage devices.
The On Screen Display on your model may be slightly different. Images are an example to assist with the TV operation.

- Supported photo file: *.JPG
- Baseline: width<=15360, height<=8640
- You can play JPEG files only.
 - Only baseline scan is supported among JPEG.
 - Non-supported files are displayed in the form of icon.

Screen Components

1



Select USB.

2



Select Photo List

1

Moves to upper level file

2

Preview: display the thumbnail/folder name of the photo at the selected folder

3

Current page/Total pages

4

Total number of marked photos

5

Usable USB memory

6

Corresponding buttons on the remote control

PHOTO LIST

Page 2/3

✓ No Marked

USB Device

Free Space 150MB

2

1

OST

My Father

1366x768, 125KB

1

My Father

1

Mulan

1

Star

1

Upper

6

 Navigate

 PopUp Menu

CH



 Move Page

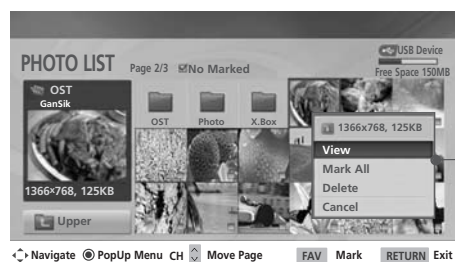
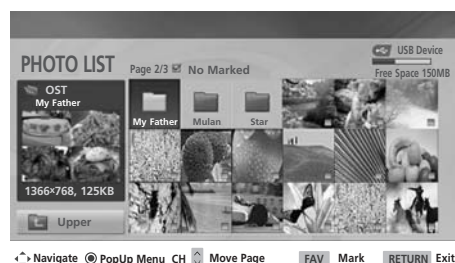
FAV

 Mark

RETURN

 Exit

Photo Selection and PopUp Menu



When you select a file (not folder), this PopUp menu is displayed.

- ▶ **View** : Display the selected item.
- ▶ **Mark All** : Mark all photos on the screen.
- ▶ **Unmark All** : Deselect all marked photos.
- ▶ **Delete** : Delete the selected photo item.
- ▶ **Cancel** : Close the pop-up menu.

- 1  Select the target folder or drive.
- 2   Select the desired photos.
- 3  Show the PopUp menu.
- 4   Select the desired PopUp menu.

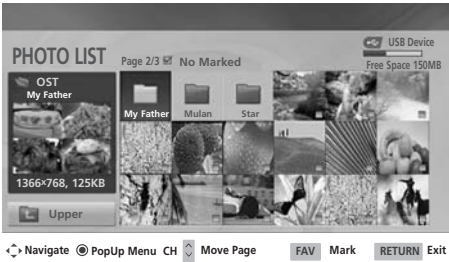
- Use the **CH** ^ v button to navigate in the thumbnail photo page.
- Use the **MARK** button to mark or unmark a photo. When one or more photos are marked, you can view individual photos or a slide show of the marked photos. If no photos are marked, you can view all photos individually or all photos in the folder in a slide show.

USB

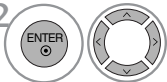
USB

Full Screen Menu

You can change the Photo List view so that it fills the screen. More operations are available in full screen mode.



The aspect ratio of a photo may change the size of the photo displayed on the screen in full size.

- 1  Select the target folder or drive.
- 2  Select the desired photos.
- 3  Show the PopUp menu.
- 4  Select **View**
- 5  The selected photo is displayed in full size.

• Use the **CH** ^ v button to navigation in the photo page.



6 Select the **Slideshow**, **BGM**, **Rotate**, **Delete**, **Option** or **Hide**.

- Use < > button to select the previous or next photo.
- Use ^ v < > button to select and control the menu on the full-sized screen.

► **Slideshow** : Selected photos are displayed during the slide show. If no photo is selected, all photos in the current folder are displayed during slide show.

- Set the time interval of the slide show in **Option**.

► **BGM** : Listen to music while viewing photos in full size.

- Set the BGM device and album in **Option**.

► **Rotate** : Rotate photos.

- Rotates the photo 90° clockwise.

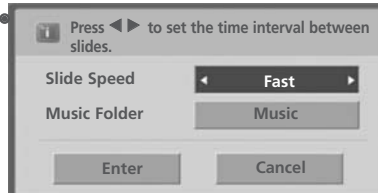
► **Delete** : Delete photos.

► **Option** : Set values for **Slide Speed** and **Music Folder**.

- Use < > button and **Enter** button to set values. Then go to **Enter** and press **Enter** to save the settings.
- You cannot change **Music Folder** while BGM is playing.

► **Hide** : Hide the menu on the full-sized screen.

- To see the menu again on the full-sized screen, press **Enter** button to display.



! NOTE

- This TV will be able to decode most JPEG images saved using the Progressive option.

USB

MUSIC LIST

Purchased music files(*.MP3) may contain copyright restrictions. Playback of these files may not be supported by this model.

You can use the Music List menu to play MP3 files from a USB storage device.

The On Screen Display on your model may be slightly different. Images are an example to assist with the TV operation.

Supported music file: *.MP3

Bitrate range 40Kbps ~ 320Kbps

•Sampling rate

MPEG1 : 32000, 44100, 48000Hz

MPEG2 : 16000, 24000, 22050Hz

USB

Screen Components

The diagram illustrates the Music List screen with the following components and callouts:

- 1** MENU button: Select **USB**.
- 2** ENTER, Up, and Down buttons: Select **Music List**.
- 3** Moves to upper level file.
- 2** Preview: If any album jacket for the file exists, this jacket is displayed.
- 3** Current page/Total pages.
- 4** Total number of marked musics.
- 5** Usable USB memory.
- 6** Corresponding buttons on the remote control.

The screen displays the following information:

- MUSIC LIST** header.
- Page 2/3, No Marked.
- USB Device icon and Free Space 150MB.
- Music list table:

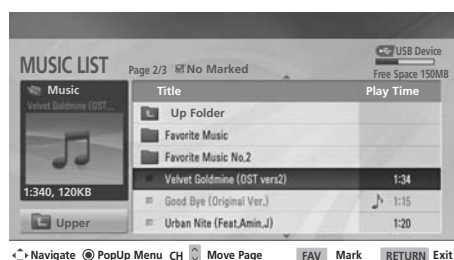
Title	Play Time
Upper	
Favorite Music	
Favorite Music No.2	
Velvet Goldmine (OST vers2)	1:34
Good Bye (Original Ver.)	1:15
Urban Nite (Feat.Amin.J)	1:20

At the bottom, the remote control buttons are shown: Navigate, PopUp Menu, CH, Move Page, FAV, Mark, RETURN, and Exit.

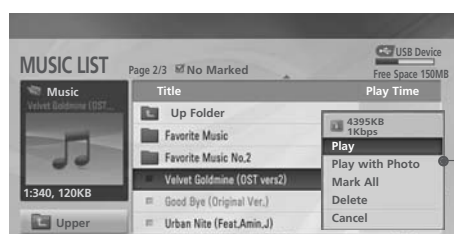
- 2** While the music file is being played, the information section does not show the selected file, but the playing file name and the play time information at the bottom.

Music Selection and PopUp Menu

As shown , up to 6 music titles are listed per page.



◀ Navigate ● PopUp Menu CH ▶ Move Page FAV Mark RETURN Exit



◀ Navigate ● PopUp Menu CH ▶ Move Page FAV Mark RETURN Exit

- ▶ **Play** (During stop) : Play the selected musics.
Once a music finishes playing, the next selected one will be played. When there are no selected musics to play, the next one in the current folder will be played. If you go to a different folder and press the **ENTER** button, the current music in playback will stop.
- ▶ **Play Marked** : Play the selected musics.
Once a music finishes playing, the next selected one will be played automatically.
- ▶ **Stop Play** (During playback) : Stop the playing musics.
- ▶ **Play with Photo** : Start playing the selected musics and then move to the Photo List.
- ▶ **Mark All** : Mark all musics in the folder.
- ▶ **Unmark All** : Deselect all marked musics.
- ▶ **Delete** : Delete the selected musics.
- ▶ **Cancel** : Close the pop-up menu.

- 1  Select the target folder or drive.
- 2   Select the desired musics.
- 3  show the PopUp menu.
- 4   Select the desired PopUp menu.

- Use the **CH** ^ v button to navigation in the music list.
- Use **MARK** button to mark or unmark a music file. If no music is marked, all the music in the folder will be played in sequence. When one or more music files are marked, the marked music files will be played in sequence. If you want to listen to only one song repeatedly, just mark that one file and play.

USB

USB

- The play information box (as shown below) will automatically move across the screen when there is no user input to prevent a fixed image remaining on the screen for a extended period of time.



! NOTE

- ▶ When music is playing,  is displayed in front of the music play time.
- ▶ A damaged or corrupted music file that does not play displays 00:00 as the play time.
- ▶ Music files with copy-protection will not play.
- ▶ Press **ENTER**,  button to stop the screen saver.
- ▶ The **PLAY**(▶), **Pause**(||), , ◀◀ or ▶▶ buttons on the remote control are also available in this mode.

PICTURE CONTROL

PICTURE SIZE (ASPECT RATIO) CONTROL

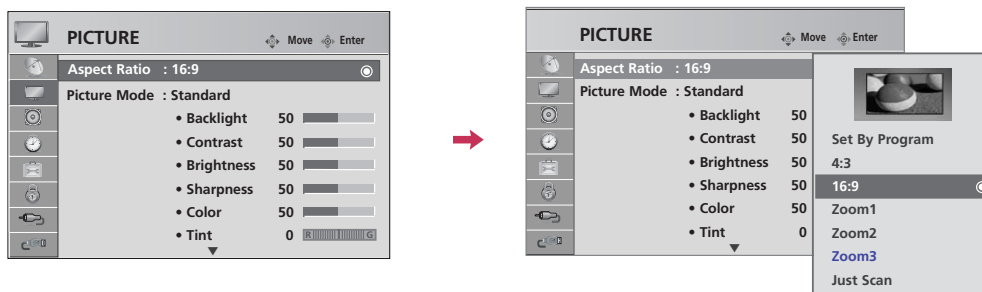
This feature lets you choose the way an analog picture with a 4:3 aspect ratio is displayed on your TV.

- RGB-PC input source use 4:3 or 16:9 aspect ratio.

! NOTE (Only plasma TV models)

- If a fixed image is displayed on the screen for a long time, the image could become imprinted on the screen and remain visible.

This phenomenon is common to all manufacturers and is not covered by warranty. Although, after watching video that did not fill the screen, any after-image from the black bars will normally dissipate after a few minutes.



- 1 Select **PICTURE**.
- 2 Select **Aspect Ratio**.
- 3 Select the desired picture format.
- 4 Return to the previous menu.
- Return to TV viewing

- You can also adjust **Aspect Ratio** in the **Q-Menu**.
- Press the **RATIO** button repeatedly to select the desired picture format. (Only 42/50PG30*)

PICTURE CONTROL

Set by program

Selects the proper picture proportion to match the source's image.

(4:3 → 4:3)



(16:9 → 16:9)



4:3

Choose 4:3 when you want to view a picture with an original 4:3 aspect ratio.



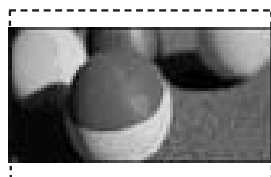
16:9

Adjust the picture horizontally, in a linear proportion to fill the entire screen.



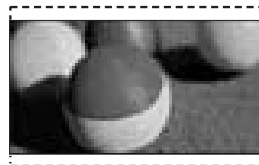
Zoom 1

Choose Zoom 1 when you want to view the picture without any alteration. However, the top and bottom portions of the picture will be cropped.



Zoom 2

Choose Zoom 2 when you want the picture to be altered, both vertically extended and cropped. The picture taking a halfway trade off between alteration and screen coverage.



Zoom 3

With this function, when the SD screen is sent to the HD with black at the left side and the right side, this screen can be extended to be fully displayed with no black area.

It is enabled only at the DTV HD broadcasting. (It is the reference for displaying 'HD' at the channel banner if the height is greater than 480.)



Just Scan

Following selection will lead you view the picture of best quality without loss of original picture in high resolution image.

Notes: If there are noise in original picture, you can see the noise at the edge.

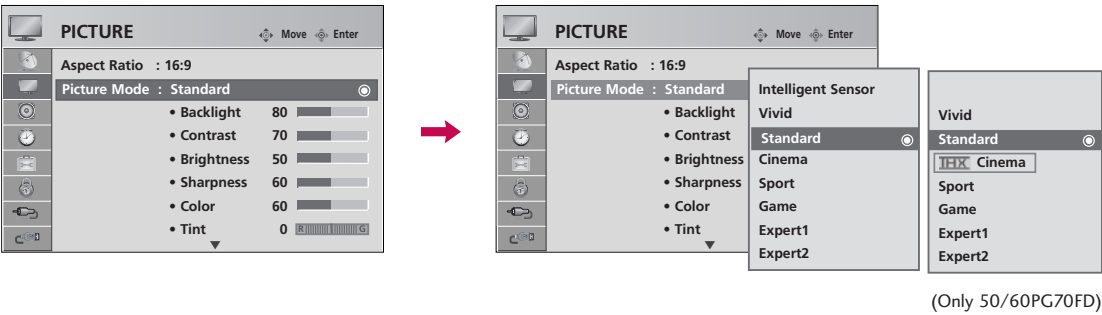
Just Scan operates only in DTV/Component(720p/1080i/1080p), HDMI-DTV, DVI-DTV input source.



PRESET PICTURE SETTINGS

Picture Mode-Preset

There are factory presets for picture settings available in the user menus. You can use a preset, change each setting manually, or let the Intelligent Sensor.



- 1



Select **PICTURE**.
- 2



Select **Picture Mode**.
- 3



Select **Intelligent Sensor** (Only 32/37/42/47/52LG50**), **Vivid**, **Standard**, **Cinema**(or THX Cinema), **Sport** or **Game**.
- 4



Return to the previous menu.
Return to TV viewing.

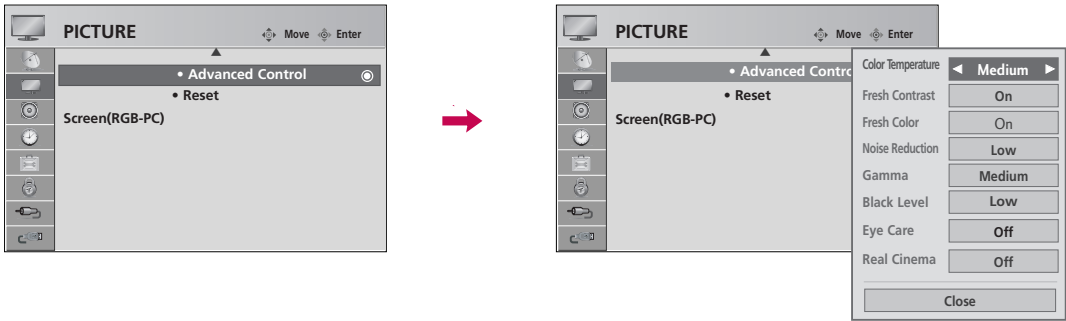
- When selecting **Intelligent Sensor** (Only 32/37/42/47/52LG50**), the most suitable picture is automatically adjusted according to the surrounding conditions.
- You can also adjust **Picture Mode** in the **Q. Menu**.
- Press the **PICTURE** button repeatedly to select the picture appearance setup option. (Only 42/50PG30*)

PICTURE CONTROL

Color Tone-Preset (Warm/Medium/Cool)

Choose one of three automatic color adjustments. Set to warm to enhance hotter colors such as red, or set to cool to see less intense colors with more blue.

PICTURE CONTROL



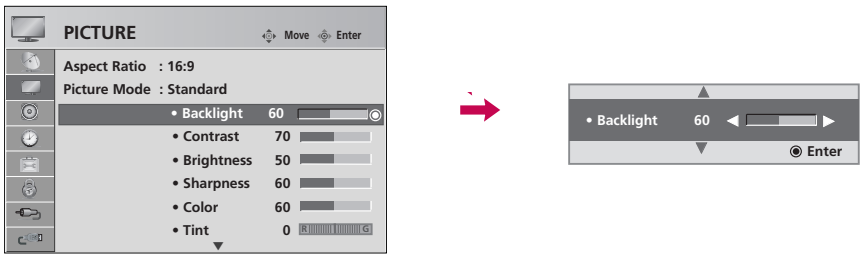
-   Select **PICTURE**.
-   Select **Advanced Control**.
-   Select **Color Temperature**.
-  Select **Cool, Medium, or Warm**.
-  Return to the previous menu.
-  Return to TV viewing.

■ **Color Temperature** can be adjusted at each video mode except 'THX Cinema' by the above method.

MANUAL PICTURE ADJUSTMENT

Picture Mode-User Mode

Adjust the picture appearance to suit your preference and viewing situations.
This feature is disable in “**Picture Mode-Intelligent Sensor**”.



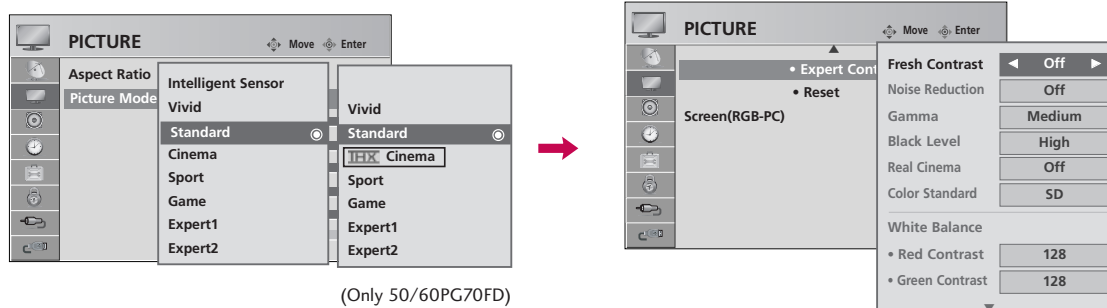
-   Select **PICTURE**.
-   Select **Picture Mode**.
-   Select **Vivid, Standard, Cinema(or THX Cinema), Sport, or Game**.
-   Select **Backlight**(Only LCD TV models), **Contrast, Brightness, Sharpness, Color or Tint**.
-   Make appropriate adjustments.
-  Return to the previous menu.
-  Return to TV viewing.

■ **Contrast, Brightness, Sharpness, Color or Tint** can be adjusted at each video mode except ‘THX Cinema’ by the above method.

PICTURE CONTROL

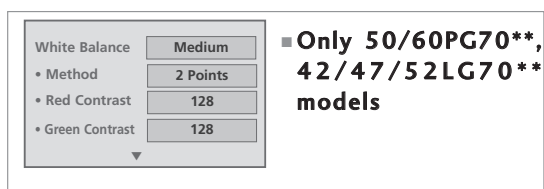
Picture Mode-Expert Control

By segmenting categories, **Expert1** and **Expert2** provide more categories which users can set as they see fit, offering the optimal picture quality for users.



PICTURE CONTROL

- 1 Select **PICTURE**.
- 2 Select **Picture Mode**.
- 3 Select **Expert1** or **Expert2**.
- 4 Select **Expert Control**.
- 5 Select your desired menu option.
- 6 Make appropriate adjustments.
- 7 Return to the previous menu.
- Return to TV viewing.



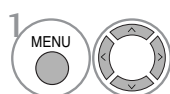
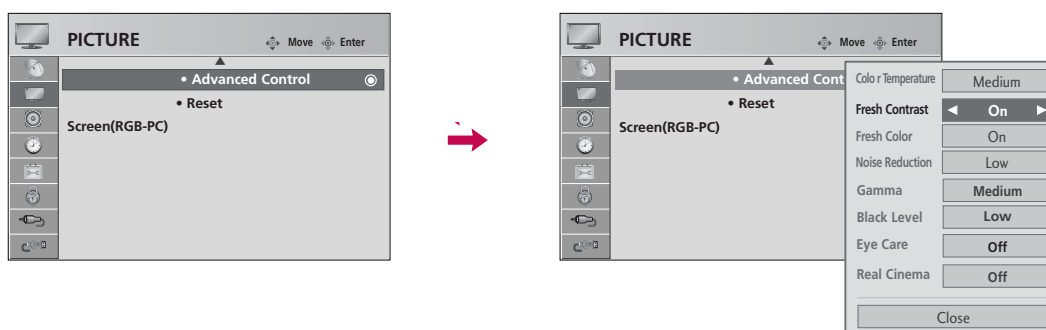
PICTURE IMPROVEMENT TECHNOLOGY

Fresh Contrast: Optimizes the contrast automatically according to the brightness of the reflection.

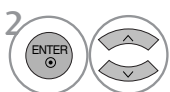
Fresh Color: Adjusts the color of the reflection automatically to reproduce as close as possible natural colors.

Noise Reduction: Removes interference up to the point where it does not damage the original picture.

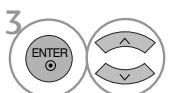
Gamma: High gamma values display whitish images and low gamma values display high contrast images.



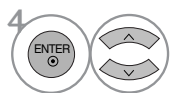
Select **PICTURE**.



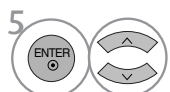
Select **Picture Mode**.



Select **Expert1** or **Expert2**.



Select **Advanced Control**.



Select **Fresh Contrast**, **Fresh Color**, **Noise Reduction** or **Gamma**.



Select your desired Source.



Return to the previous menu.



Return to TV viewing.

■ **Fresh Contrast**, **Fresh Color**, **Noise Reduction** or **Gamma** can be adjusted at each video mode except 'THX Cinema' by the above method.

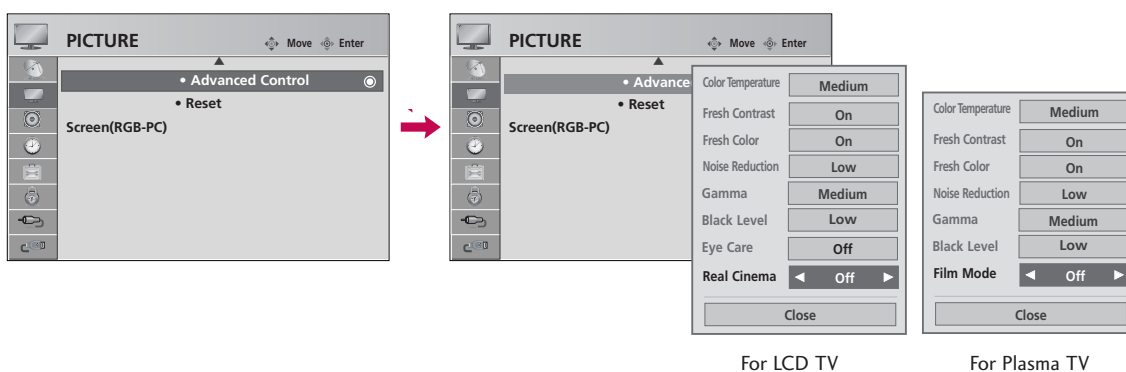
PICTURE CONTROL

ADVANCED CONTROL - REAL CINEMA / FILM MODE

Set up the TV for the best picture appearance for viewing movies.

When you operate Real Cinema/Film Mode (3:2 Pull-Down Mode or Cinema Correction Mode), the TV will adjust 24 fps video from movies to 30 fps video for display.

It's not available to use this function in RGB-PC .

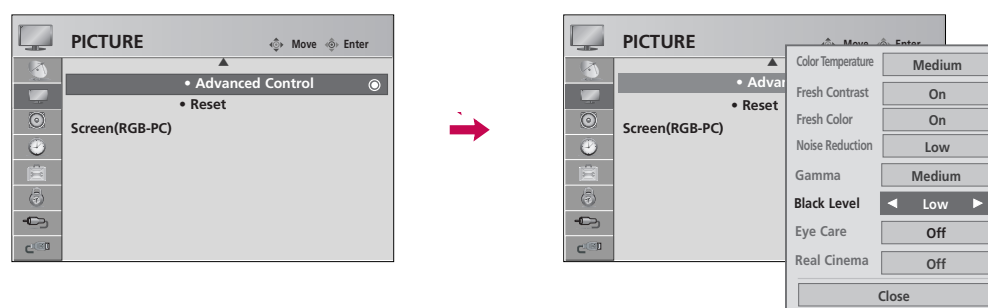


- 1 Select **PICTURE**.
- 2 Select **Advanced Control**.
- 3 Select **Real Cinema**(Only LCD TV models) or **Film Mode**(Only Plasma TV models).
- 4 Select **On** or **Off**.
- 5 Return to the previous menu.
- Return to TV viewing.

■ **Film Mode** can be adjusted at each video mode except 'THX Cinema' by the above method.

ADVANCED CONTROL - BLACK(DARKNESS) LEVEL

Adjusting the contrast and the brightness of the screen using the black level of the screen.
It's not available to use this function in DTV or RGB-PC .



- 1   Select **PICTURE**.
- 2   Select **Advanced Control**.
- 3   Select **Black Level**.
- 4   Select **Low** or **High**.
- 5  Return to the previous menu.
-  Return to TV viewing.

- **Low** : The reflection of the screen gets darker.
- **High** : The reflection of the screen gets brighter.
- **Black Level** can be adjusted at each video mode except 'THX Cinema' by the above method.

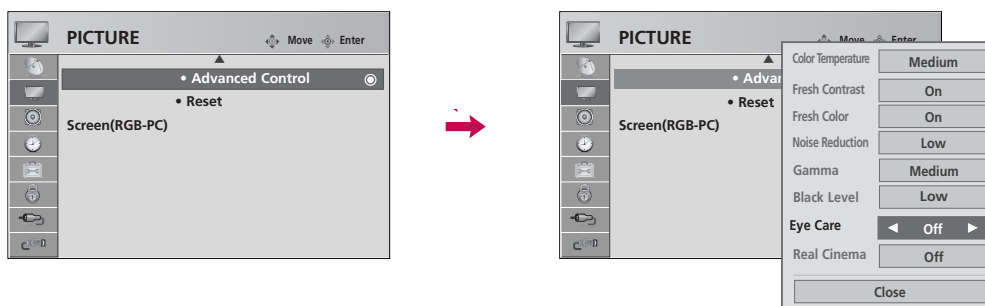
PICTURE CONTROL

ADVANCED CONTROL - EYE CARE - *Only LCD TV models*

The Eye Care limits the brightness of the LCD.

It reduces the eye dazzling by lowering the backlight voltage to decrease the brightness if the APL(Average Picture Level) is too high.

When selecting Picture Mode (Standard, Game and Sport), you can operate this function.



PICTURE CONTROL

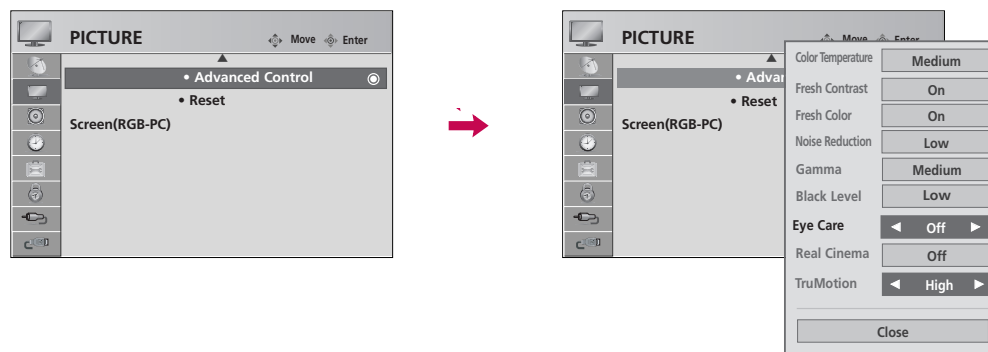
- 1   Select **PICTURE**.
- 2   Select **Advanced Control**.
- 3   Select **Eye Care**.
- 4   Select **On** or **Off**.
- 5  Return to the previous menu.
-  Return to TV viewing.

ADVANCED CONTROL - TRUMOTION

(Only 42/47/52LG70**)

It is used for the best picture quality without any motion blur or judder when you enter a quick image or Film Source.

This feature is disable in RGB-PC,HDMI-PC mode.



- 1 Select **PICTURE**.
- 2 Select **Advanced Control**.
- 3 Select **TruMotion**.
- 4 Select **Off, Low or High**.
- 5 Return to the previous menu.
- Return to TV viewing.

- **High**
Provides smoother picture movement.
- **Low**
Provides smooth picture movement. Use this setting for standard use.
- **Off**
Use this setting when "High" and "Low" setting result in noise.

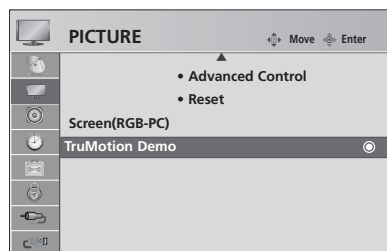
- If you enable "TruMotion", noise may appear on the screen.
- If this occurs, set "TruMotion" to "Off".

PICTURE CONTROL

TRUMOTION DEMO

(Only 42/47/52LG70**)

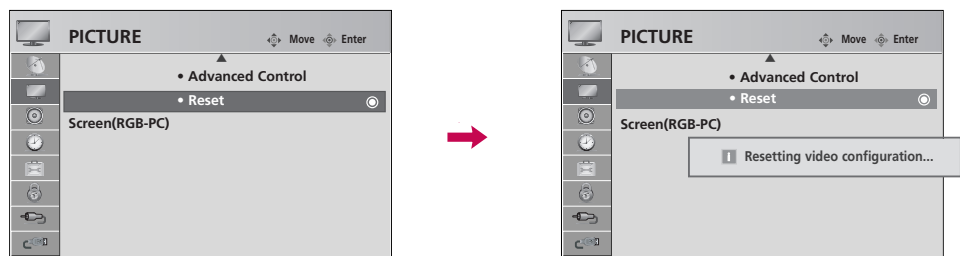
Use it to see the difference between TruMotion Demo on and TruMotion Demo off.
It's not available to use this function in RGB[PC], HDMI[PC] mode.



- 1   Select **PICTURE**.
- 2   Select **TruMotion Demo**.
- 3  Display **TruMotion On** or **TruMotion Off**.
- 4  Stop **TruMotion Demo**.

PICTURE RESET

Use to quickly reset selected Picture menu options to their original factory preset values.
In THX Cinema mode, this function is disabled.

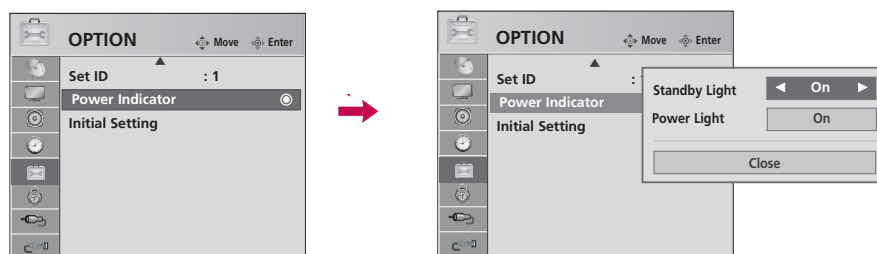


-   Select **PICTURE**.
-   Select **Reset**.
-  Initialize the adjusted value.
-  Return to TV viewing.

PICTURE CONTROL

POWER INDICATOR - Only 32/37/42/47/52LG50**

It helps you adjust the brightness of moving LED and sound when power is turned on.



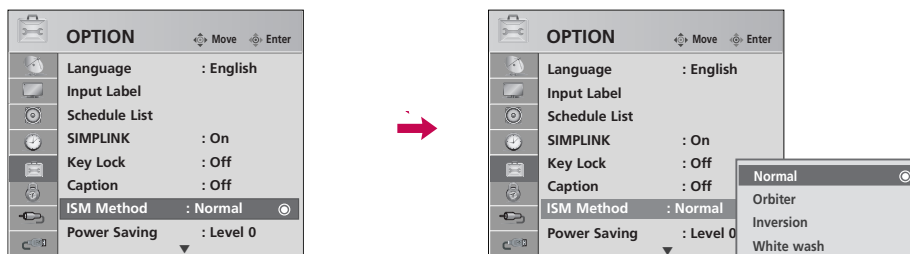
PICTURE CONTROL

- 1   Select **OPTION**.
- 2   Select **Power Indicator**.
- 3   Select **Standby Light** or **Power Light**.
- 4  Select your desired options.
- 5  Return to the previous menu.
-  Return to TV viewing

- **Standby Light:** If you select "On", the Power Button LED will turn red in Stand By mode.
- **Power Light:** If you select "On", the screen will turn on and the brightness will go down 50%.
If you switch off, Blue LED (32/37/42/47/52LG50**) will gradually dim out and Red LED will turn on.

IMAGE STICKING MINIMIZATION (ISM) METHOD - *Only Plasma TV*

A frozen still picture from a PC/video game displayed on the screen for prolonged periods will result in a ghost image. Use our unique method to minimize any fixed image on the screen.



- 1   Select **OPTION**.
 - 2   Select **ISM Method**.
 - 3   Select **Normal, Orbiter, Inversion** or **White wash**.
 - 4  Return to the previous menu.
-  Return to TV viewing.

- **Normal:** If image sticking is never a problem, ISM is not necessary - set to Normal.
- **Orbiter:** Orbiter may help prevent ghost images. However, it is best not to allow any fixed image to remain on the screen. To avoid a ghost image on the screen, the image will move every 2 minutes.
- **Inversion:** Inversion will automatically invert the plasma display panel color every 30 minutes.
- **White Wash:** White Wash removes ghost images from the screen. Use sparingly. Watch the TV normally for a while before using this feature to see if the ghost image disappears on its own.

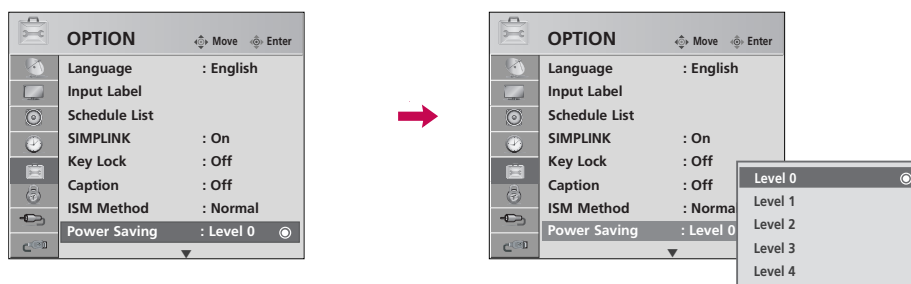
! NOTE

- An excessive ghosted image may be impossible to clear entirely with White Wash. To return to normal viewing, press the any button.

PICTURE & LANGUAGE CONTROL

POWER SAVING PICTURE MODE - *Only Plasma TV*

This function allows you to reduce the power consumption of the set.



SOUND & LANGUAGE CONTROL

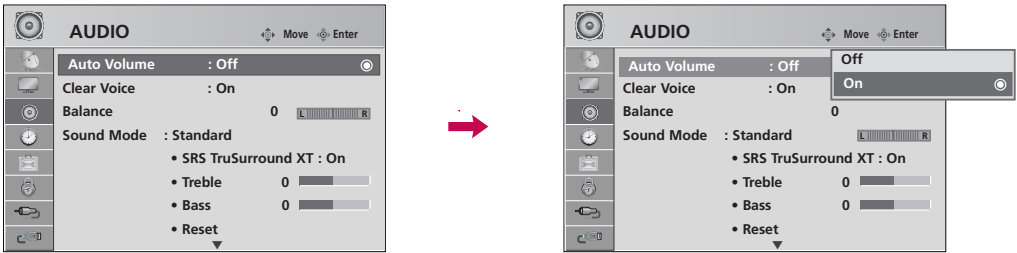
- 1   Select **OPTION**.
- 2   Select **Power Saving**.
- 3   Select **Level 0, Level 1, Level 2, Level 3 or Level 4**.
- 4  Return to the previous menu.
-  Return to TV viewing.

- Level 0 = Level 1 > Level 2 > Level 3 > Level 4
- You can also adjust **Power Saving** in the **Q. Menu**.

SOUND & LANGUAGE CONTROL

AUTO VOLUME LEVELER (AUTO VOLUME)

Auto Volume makes sure that the volume level remains consistent whether you are watching a commercial or a regular TV program.



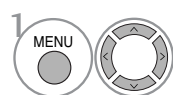
-   Select **AUDIO**.
-   Select **Auto Volume**.
-   Select **On** or **Off**.
-  Return to the previous menu.
-  Return to TV viewing.

SOUND & LANGUAGE CONTROL

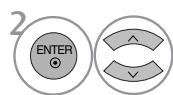
PRESET SOUND SETTINGS (SOUND MODE)

Sound Mode lets you enjoy the best sound without any special adjustment because the TV sets the appropriate sound options based on the program content.

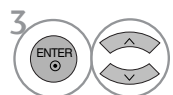
Standard, Music, Cinema, Sport and **Game** are preset for good sound quality at the factory and are not adjustable.



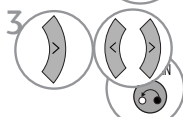
Select **AUDIO**.



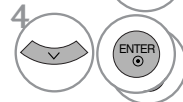
Select **Sound Mode**.



Select **Standard, Music, Cinema, Sport** or **Game**.



Make appropriate adjustments.
(**SRS TruSurround XT** : Select **Off** or **On**.)
Return to the previous menu.

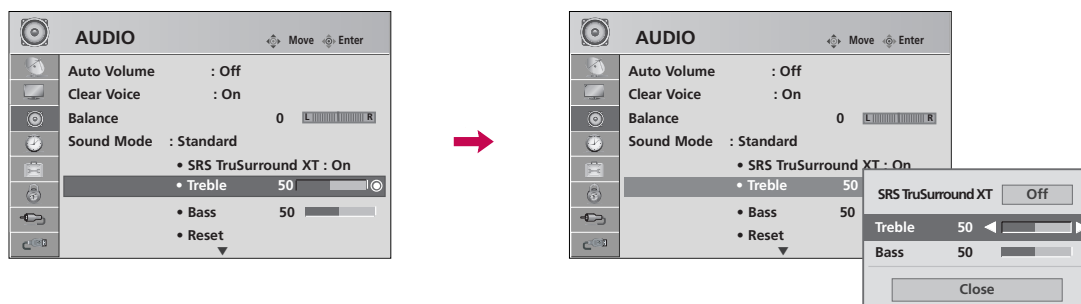


Select **Close** to confirm it.
Return to TV viewing.

- You can also adjust **Sound Mode** in the **Q. Menu**.
- Press the **SOUND** button repeatedly to select the appropriate sound setup. (Only 42/50PG30*)

SOUND SETTING ADJUSTMENT (USER MODE)

Adjust the sound to suit your taste and room situations.



- 1 Select **AUDIO**.
- 2 Select **Sound Mode**.
- 3 Select **Standard, Music, Cinema, Sport, or Game**.
- 4 Select **Treble** or **Bass**.

- 5 Make appropriate adjustments.
- 6 Return to the previous menu.
- Return to TV viewing

SRS TRUSURROUND XT

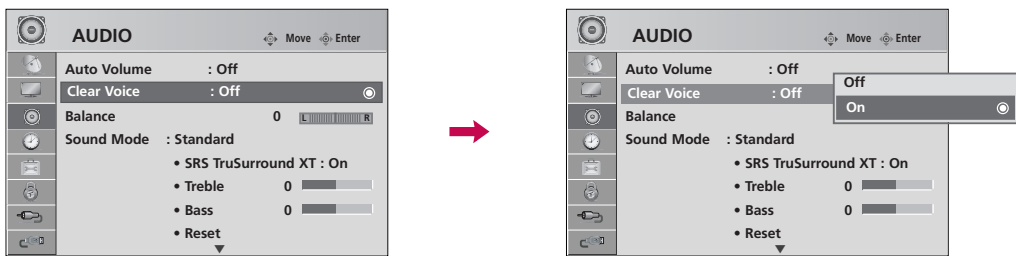
- 1 Select **AUDIO**.
- 2 Select **SRS TruSurround XT**
- 3 Select **On** or **Off**.
- 4 Return to the previous menu.
- Return to TV viewing

■ **SRS TruSurround XT:** Takes advantage of any multi-channel format without needing to add extra speakers or equipment. Dialog clarity, bass enrichment, and the addition of stereo audio enhancement produces an immersive sound experience from standard stereo material.

SOUND & LANGUAGE CONTROL

CLEAR VOICE

By differentiating the human sound range from others, it improves the sound quality of voices.



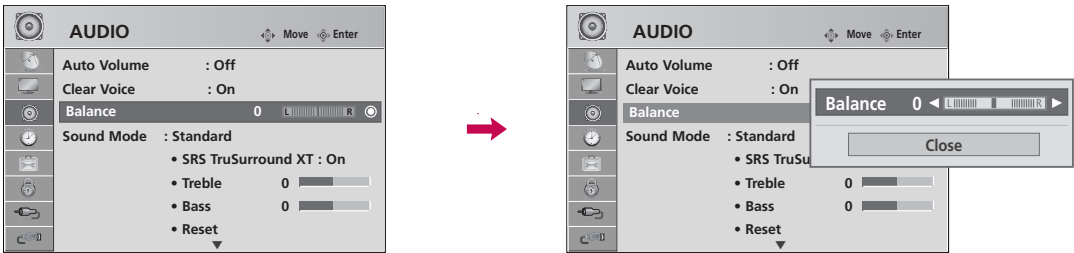
SOUND & LANGUAGE CONTROL

- 1   Select **AUDIO**.
- 2   Select **Clear Voice**.
- 3   Select **On** or **Off**.
- 4  Return to the previous menu.
-  Return to TV viewing.

- If you select “**Clear Voice-On**”, **SRS TruSurround XT** feature will not work.
- You can also adjust **Clear Voice** in the **Q-Menu** menu.

BALANCE

Adjust the left/right sound of speaker to suit your taste and room situations.

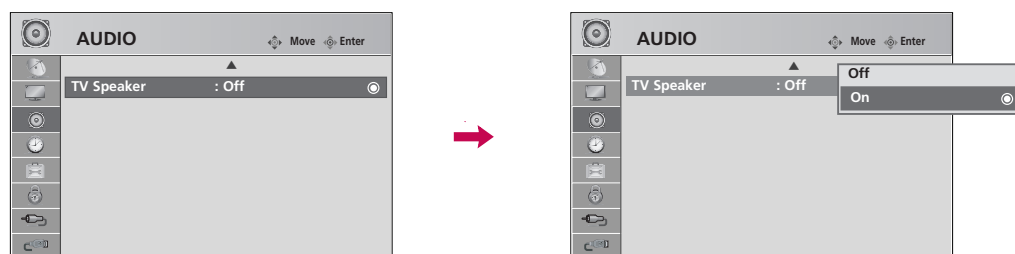


-   Select **AUDIO**.
-   Select **Balance**.
-   Make appropriate adjustments.
-   Select **Close** to confirm it.
-  Return to the previous menu.
-  Return to TV viewing.

SOUND & LANGUAGE CONTROL

TV SPEAKERS ON/ OFF SETUP

Turn the TV speakers off if using external audio equipment.
Feature turns the TV Speakers option On or Off.

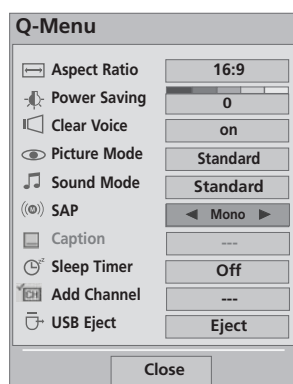


- 1   Select **AUDIO**.
- 2   Select **TV Speaker**.
- 3   Select **On** or **Off**.
- 4  Return to the previous menu.
-  Return to TV viewing.

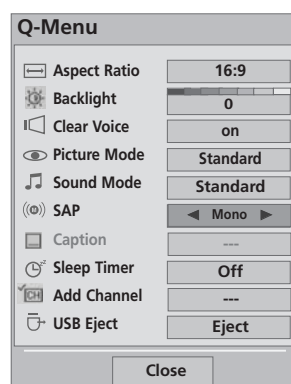
STEREO/SAP BROADCASTS SETUP

For Analog only: This TV can receive MTS stereo programs and any SAP (Secondary Audio Program) that accompanies the stereo program if the station transmits an additional sound signal. Mono sound is automatically used if the broadcast is only in Mono.

Plasma TV Models



LCD TV Models



Analog TV

- 1 Select **SAP**.
- 2 Select **Mono, Stereo, or SAP**.
- 3 Return to TV viewing

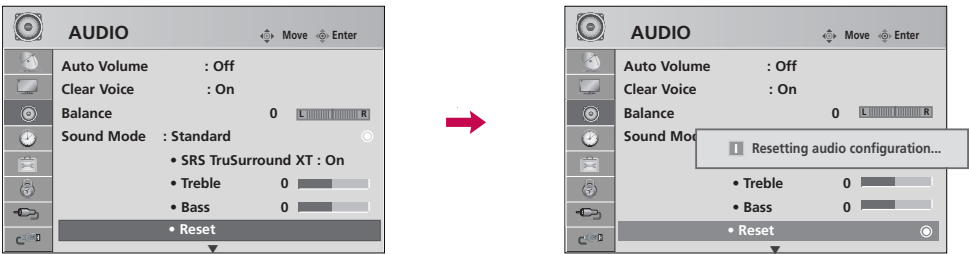
Digital TV

- 1 Select **Multi Audio**.
- 2 Select other languages.
- 3 Return to TV viewing

SOUND & LANGUAGE CONTROL

AUDIO RESET

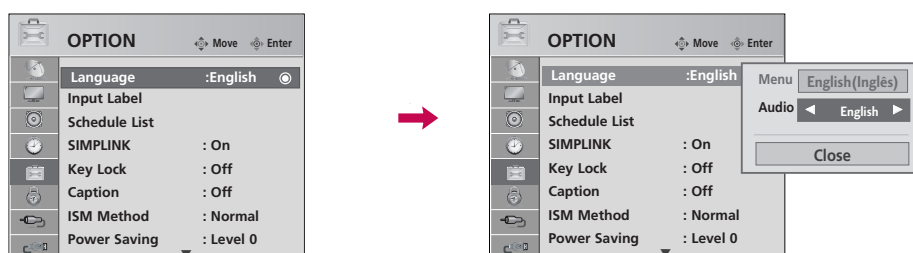
Returns to the default factory setting for Sound Mode, Auto Volume and Balance.



- 1   Select **AUDIO**.
- 2   Select **Reset**.
- 3  Initialize the adjusted value.
- 4  Return to TV viewing.

AUDIO LANGUAGE

Other languages may be available if a digital signal is provided by the broadcasting station.
This feature operates only in DTV mode.

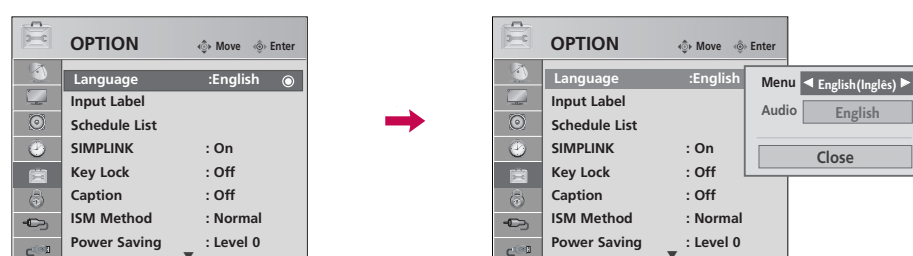


- 1   Select **OPTION**.
- 2   Select **Language**.
- 3   Select **Audio**.
- 4  Select : **English, Spanish, or Portuguese**.
- 5   Select **Close** to confirm it.
- 6  Return to the previous menu.
-  Return to TV viewing.

SOUND & LANGUAGE CONTROL

ON-SCREEN MENUS LANGUAGE SELECTION

The menus can be shown on the screen in the selected language. First select your language.



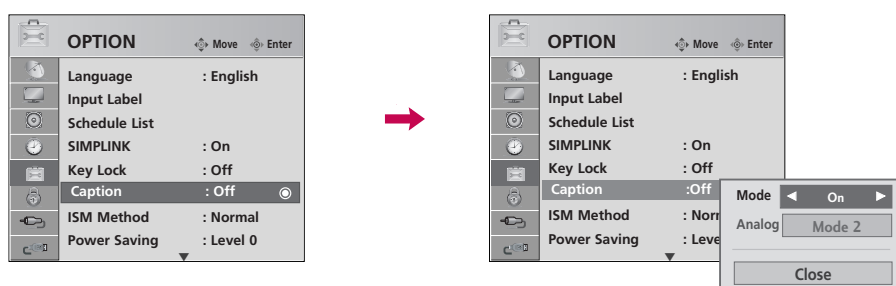
SOUND & LANGUAGE CONTROL

- 1   Select **OPTION**.
- 2   Select **Language**.
- 3   Select **Menu**.
- 4  Desired language.
From this point on, the on-screen menus will be shown in the selected language.
- 5   Select **Close** to confirm it.
- 6  Return to the previous menu.
-  Return to TV viewing.

CAPTION MODE

Analog Broadcasting System Captions

Select a caption mode for displaying captioning information if provided on a program. Analog caption displays information at any position on the screen and is usually the program's dialog. Caption/Text, if provided by the broadcaster, would be available for analog channels on the Antenna/Cable. This TV is programmed to memorize the caption/text mode which was last set when you turn the power off. This function is only available when **Caption Mode** is set **On**.



- 1   Select **OPTION**.
- 2   Select **Caption**.
- 3   Select **Mode On**.
- 3   Select **Mode1, Mode2, Text1 or Text2**.
- 5   Select **Close** to confirm it.
- 6  Return to the previous menu.
-  Return to TV viewing.

■ Mode

The term for the words that scroll across the bottom of the TV screen; usually the audio portion of the program provided for the hearing impaired.

■ TEXT

The term for the words that appear in a large black frame and almost cover the entire screen; usually messages provided by the broadcaster.

TIME SETTING

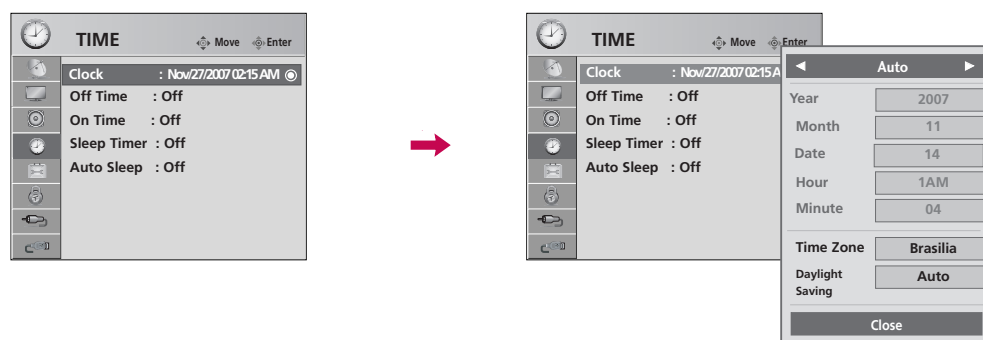
CLOCK SETTING

Auto Clock Setup

The time is set automatically from a digital channel signal.

The digital channel signal includes information for the current time provided by the broadcasting station.

Set the clock manually if the current time is set incorrectly by the auto clock function.

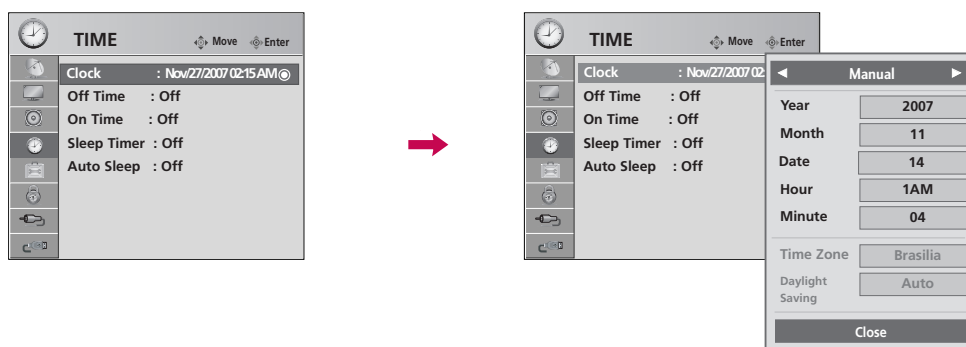


- 1 Select **TIME**.
- 2 Select **Clock**.
- 3 Select **Auto**.
- 4 Select your viewing area time zone:
Brasilia, F.Noronha, Nordeste, Norte, M.Grosso, Acre or **AM(west)**.
- 5 Select **Auto**, **Off**, **On**(depending on whether or not your viewing area observes Daylight Saving time).
- 6 Select **Close** to confirm it.
- 7 Return to the previous menu.
- Return to TV viewing.

Fernando de Noronha	Islands: Trindade, Martin Vaz, Atol das Rocas, Penedos de São Pedro e São Paulo, Fernando de Noronha. States: Amapá-AP, Tocantins-TO, Alagoas-AL, Bahia-BA, Ceará-CE, Maranhão-MA, Paraíba-PB, Piauí-PI, Rio Grande do Norte-RN, Sergipe-SE, Pará-PA (cities: Belém, Marabá, Serra Norte, São Félix do fflingú), Pernambuco-PE(cities: Recife, Vitória de Santo Antão, Caruaru, Arcoverde, Caranhuns).
Northeast	
Brasilia	States: Rio Grande do Sul-RS, Santa Catarina-SC, Paraná-PR, São Paulo-SP, Rio de Janeiro-RJ, Minas Gerais-MG, Espírito Santo-ES, Goiás-GO. Brasília-DF (Brazilian Capital)
North	States: Amazonas-AM(Boca de Acre, Jutai, Manaus, Floriano Peixoto), Pará-PA(Altamira, Obidos, Prainha, Oriximina, Santarém), Rondônia-RO, Roraima-RR.
Mato Grosso	States: Mato Gross-MT, Mato Gross do Sul-MS
Acre	States: Acre-AC
Amazonas (extreme West)	States: Amazonas-AM (cities: Atalaia do Norte, Boca do Maoco, Benjamin Constant, Eirunepe, Envira, Ipixuna).

Manual Clock Setup

If the current time setting is wrong, reset the clock manually.



- 1   Select **TIME**.
- 2   Select **Clock**.
- 3   Select **Manual**.
- 4   Select the Year, Month, Date, Hour, or Minute options
- 5   Select **Close** to confirm it.
- 6  Return to the previous menu.
-  Return to TV viewing.

TIME SETTING

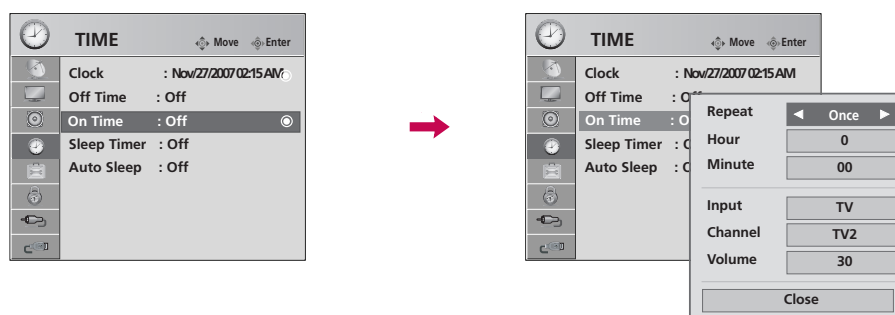
AUTO ON/OFF TIME SETTING

This function operates only if the current time has been set.

The **Off Time** function overrides the **On Time** function if they are both set to the same time.

The TV must be in standby mode for the **On Time** to work.

If you do not press any button within 2 hours after the TV turns on with the **On Time** function, the TV will automatically revert to standby mode.



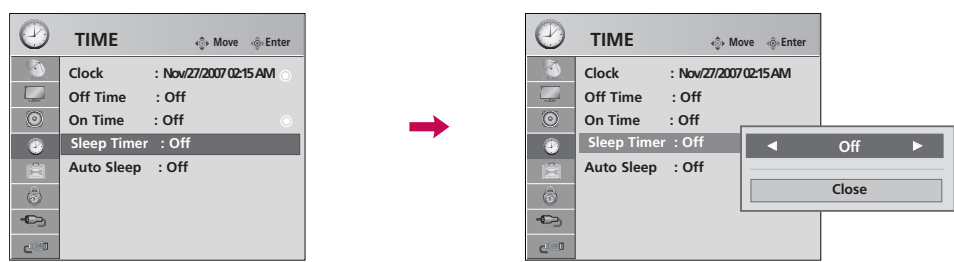
- 1 Select **TIME**.
- 2 Select **Off Time** or **On Time**.
- 3 Select **Repeat**.
- 4 Select **Off**, **Once**, **Everyday**, **Mon ~ Fri**, **Mon ~ Sat**, **Weekend** or **Sunday**.
- 5 Set the hour and minutes.
- 6 Select **Close** to confirm it.
- 7 Return to the previous menu.
- Return to TV viewing.

- To cancel **On/Off Time** function, select **Off**.
- Only for **On Time** function

- 1 Select **Input**.
- 2 Select **TV**, **AV1-2**, **Component1-2**, **RGB-PC** or **HDMI1-3**.
- 3 When Selecting **TV**: set the channel at turn-on.
- 4 Adjust to sound level at turn-on.

SLEEP TIMER SETTING

The Sleep Timer turns the TV off at the preset time.
 Note that this setting is cleared when the TV is turned off.



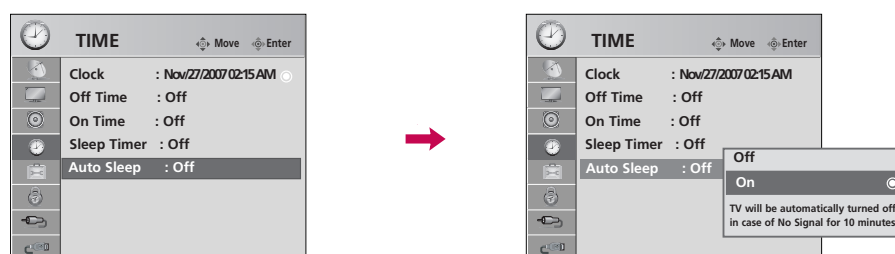
- 1   Select **TIME**.
- 2   Select **Sleep Timer**.
- 3   Select **Off, 10, 20, 30, 60, 90, 120, 180 and 240** minutes.
- 4   Select **Close** to confirm it.
- 5  Return to the previous menu.
-  Return to TV viewing.

• You can also adjust **Sleep Timer** in the **Q. Menu**.

TIME SETTING

AUTO SHUT-OFF SETTING

TV will be automatically turned off, in case of no signal for 10 minutes.



TIME SETTING

- 1   Select **TIME**.
- 2   Select **Auto Sleep**.
- 3   Select **Off** or **On**.

Only select the **User**

- 4   Return to the previous menu.
-   Set the hour and minutes.
-   Return to TV viewing.

PARENTAL CONTROL / RATINGS

Parental Control can be used to block specific channels, ratings and other viewing sources.

The Parental Control Function is used to block program viewing based on the ratings sent by the broadcasting station. The default setting is to allow all programs to be viewed. Viewing can be blocked by choosing the type of the program and the categories. It is also possible to block all program viewing for a time period. To use this function, the following must be done :

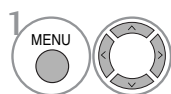
1. Set ratings and categories to be blocked.
2. Specify a password
3. Enable the lock

SET PASSWORD & LOCK SYSTEM

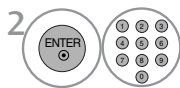
Setting up Your Password

Set up blocking schemes to block specific channels, ratings, and external viewing sources.

A password is required to gain access to this menu.



Select **LOCK**.



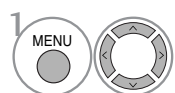
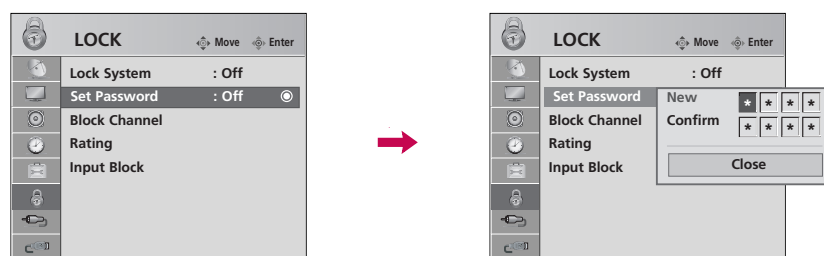
Input the password.

- Enter the password as requested.
- The TV is set up with the initial password "0-0-0-0".

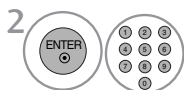
PARENTAL CONTROL / RATINGS

Set Password

Change the password by inputting a new password twice.



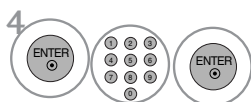
Select **LOCK**.



Input the password.



Select **Set Password**.



Choose any 4 digits for your new password.
As soon as the 4 digits are entered, re-enter
the same 4 digits on the **Confirm**.



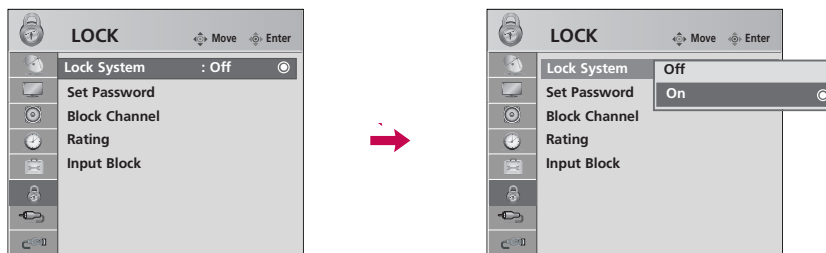
Return to the previous menu.



Return to TV viewing.

Lock System

Enables or disables the blocking scheme you set up previously.



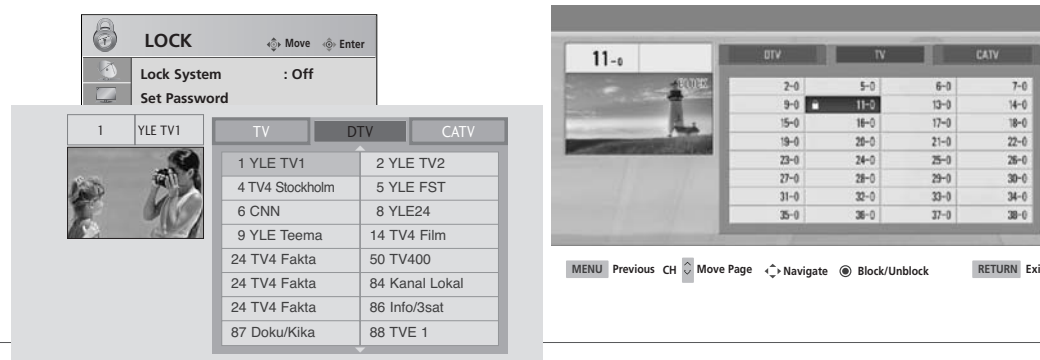
- 1   Select **LOCK**.
- 2   Input the password.
- 3  Select **Lock System**.
- 4   Select **On** or **Off**.
- 5  Return to the previous menu.
-  Return to TV viewing.

■ When you select **On**, the Lock System is enable.

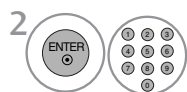
PARENTAL CONTROL / RATINGS

BLOCK CHANNEL

Blocks any channels that you do not want to watch or that you do not want your children to watch.



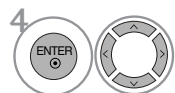
Select **LOCK**.



Input the password.



Select **Block Channel**.



Select a program to be locked.



Block or unblock a channel.



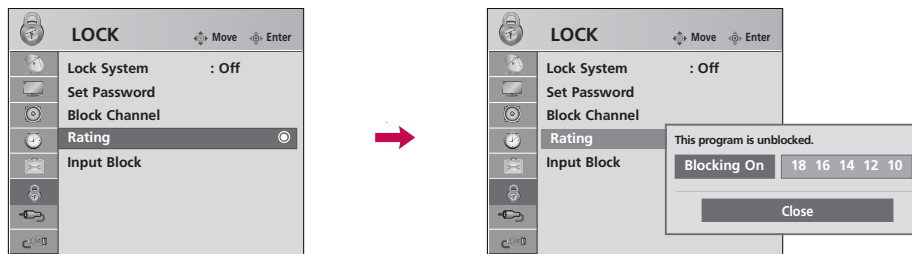
Return to the previous menu.



Return to TV viewing.

RATING (Movie Rating)

Blocks movies according to the movie ratings limits specified, so children cannot view certain movies. You can set the ratings limit by blocking out all the movies with the ratings above a specified level. Keep in mind that the movie ratings limit only applies to movies shown on TV, not TV programs, such as soap operas.



1   Select **LOCK**.

2   Input the password.

3  Select **Rating**.

4   Select the **Blocking Off** or **18, 16, 14, 12** or **10**.

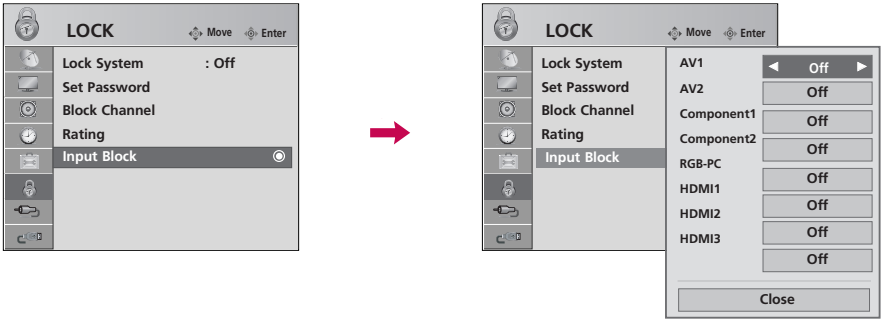
5  Return to the previous menu.

 Return to TV viewing.

PARENTAL CONTROL / RATINGS

EXTERNAL INPUT BLOCKING

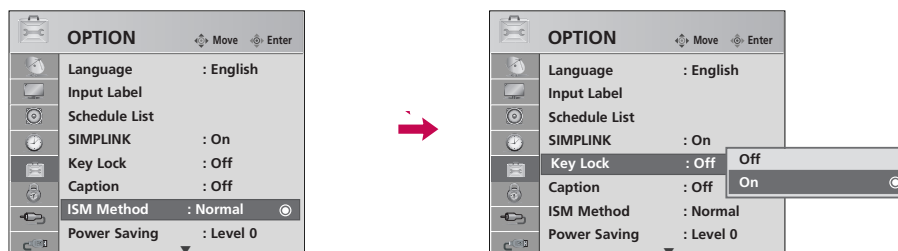
Enables you to select a source to block from the external source devices you have hooked up.



-   Select **LOCK**.
-   Input the password.
-  Select **Input Block**.
-   Select a source.
-  Select **On** or **Off**.
-  Return to the previous menu.
-  Return to TV viewing.

KEY LOCK

The TV can be set up so that it can only be used with the remote control.
 This feature can be used to prevent unauthorized viewing by locking out the front panel controls.
 This TV is programmed to remember which option it was last set to even if you turn the TV off.



- 1   Select **OPTION**.
- 2   Select **Key Lock**
- 3   Select **On** or **Off**.
- 4  Return to the previous menu.
-  Return to TV viewing

■ With the **Key Lock On**, the display '**Key Lock On**' appears on the screen if any button on the front panel is pressed while viewing the TV.

APPENDIX

TROUBLESHOOTING

The operation does not work normally.

The remote control doesn't work	■ Check to see if there is any object between the product and the remote control causing obstruction. Ensure you are pointing the remote control directly at the TV. ■ Ensure that the batteries are installed with correct polarity (+ to +, - to -). ■ Ensure that the correct remote operating mode is set: TV, VCR etc. ■ Install new batteries.
Power is suddenly turned off	■ Is the sleep timer set? ■ Check the power control settings. Power interrupted. ■ No broadcast on station tuned with Auto off activated.

The video function does not work.

No picture & No sound	■ Check whether the product is turned on. ■ Try another channel. The problem may be with the broadcast. ■ Is the power cord inserted into wall power outlet? ■ Check your antenna direction and/or location. ■ Test the wall power outlet, plug another product's power cord into the outlet where the product's power cord was plugged in.
Picture appears slowly after switching on	■ This is normal, the image is muted during the product startup process. Please contact your service center, if the picture has not appeared after five minutes.
No or poor color or poor picture	■ Adjust Color in menu option. ■ Keep a sufficient distance between the product and the VCR. ■ Try another channel. The problem may be with the broadcast. ■ Are the video cables installed properly? ■ Activate any function to restore the brightness of the picture.
Horizontal/vertical bars or picture shaking	■ Check for local interference such as an electrical appliance or power tool.
Poor reception on some channels	■ Station or cable product experiencing problems, tune to another station. ■ Station signal is weak, reorient antenna to receive weaker station. ■ Check for sources of possible interference.
Lines or streaks in pictures	■ Check antenna (Change the direction of the antenna).

The audio function does not work.

Picture OK & No sound	■ Press the VOL or VOLUME button. ■ Sound muted? Press MUTE button. ■ Try another channel. The problem may be with the broadcast. ■ Are the audio cables installed properly?
No output from one of the speakers	■ Adjust Balance in menu option.
Unusual sound from inside the product	■ A change in ambient humidity or temperature may result in an unusual noise when the product is turned on or off and does not indicate a fault with the product.

There is a problem in PC mode. (Only PC mode applied)

The signal is out of range	■ Adjust resolution, horizontal frequency, or vertical frequency. ■ Check the input source.
Screen color is unstable or single color	■ Check the signal cable. ■ Reinstall the PC video card.

APPENDIX

MAINTENANCE

Early malfunctions can be prevented. Careful and regular cleaning can extend the amount of time you can enjoy your new TV.

Caution: Be sure to turn the power off and unplug the power cord before you begin any cleaning.

Cleaning the Screen

- 1 Here's a great way to keep the dust off your screen for a while. Wet a soft cloth in a mixture of lukewarm water and a little fabric softener or dish washing detergent. Wring the cloth until it's almost dry, and then use it to wipe the screen.
- 2 Make sure the excess water is off the screen, and then let it air-dry before you turn on your TV.

Cleaning the Cabinet

- To remove dirt or dust, wipe the cabinet with a soft, dry, lint-free cloth.
- Please be sure not to use a wet cloth.

Extended Absence

CAUTION

- If you expect to leave your TV dormant for a long time (such as a vacation), it's a good idea to unplug the power cord to protect against possible damage from lightning or power surges.

PRODUCT SPECIFICATIONS

42LB7DF 42LB7DF-SB	Width x Height x Depth (inches/mm)	With Stand	40.7 x 29.5x 11.3 inches 1033.4 x 750.0 x 2876mm
		Without Stand	40.7 x 27.0 x3.5 inches 1033.4 x 686.8 x 88.5 mm
	Weight (pounds / kg)	With Stand Without Stand	54.9 pounds / 24.9 kg 45.0 pounds / 20.4 kg
47LB7DF 47LB7DF-SB	Width x Height x Depth (inches/mm)	With Stand	45.1 x 32.5x 12.1 inches 1144.3 x 825.5 x 306.4mm
		Without Stand	45.1 x 29.7 x 4.1 inches 1144.3 x 754.7 x 103.0 mm
	Weight (pounds / kg)	With Stand Without Stand	70.8 pounds / 32.1 kg 57.3 pounds / 26.0 kg
32LG50D (32LG50D-SA)	Width x Height x Depth (inches/mm)	With Stand	32.0 x 23.5 x 9.1 inches 813.8 x 598.8 x 231.9 mm
		Without Stand	45.1 x 21.2 x 3.1 inches 813.8 x 540.4 x 78.9 mm
	Weight (pounds / kg)	With Stand Without Stand	27.7 pounds / 12.6 kg 31.0 pounds / 14.1 kg
37LG50D (37LG50D-SA)	Width x Height x Depth (inches/mm)	With Stand	36.8 x 26.9 x 11.5 inches 936.4 x 685.4 x 294.0 mm
		Without Stand	36.8 x 24.1 x 3.4 inches 936.4 x 612.8 x 88.0 mm
	Weight (pounds / kg)	With Stand Without Stand	18.3 kg / 40.3 lbs 15.6 kg / 34.3 lbs
42LG50D (42LG50D-SA)	Width x Height x Depth (inches/mm)	With Stand	40.7 x 26.1 x 3.5 inches 1032.0 x 662.3 x 89.0 mm
		Without Stand	50.8 x 32.1 x 4.5 inches 1291.7 x 817.0 x 115.3 mm
	Weight (pounds / kg)	With Stand Without Stand	22.0 kg / 48.5 lbs 19.3 kg / 42.6 lbs
Power requirement		AC100-240V ~ 50/60Hz	
Television System		NTSC, PAL-M/N	
Program Coverage		VHF 2-13, UHF 14-69, CATV 1-135	
External Antenna Impedance		75 ohm	
Operating Temperature Range		32 ~ 104°F (0 ~ 40°C)	
Operating Humidity Range		Less than 80%	
Storage Temperature Range		-4 ~ 140°F (-20 ~ 60°C)	
Storage Humidity Range		Less than 85%	

■ The specifications shown above may be changed without prior notice for quality improvement.

APPENDIX

PRODUCT SPECIFICATIONS

47LG50D (47LG50D-SA)	Width x Height x Depth (inches/mm)	With Stand	40.7 x 35.3 x 11.6 inches 1032.0 x 894.8 x 293.8 mm
		Without Stand	40.7 x 26.1 x 3.5 inches 1032.0 x 662.3 x 89.0 mm
	Weight (pounds / kg)	With Stand	22.0 kg / 48.5 lbs
		Without Stand	19.3 kg / 42.6 lbs
52LG50FD (52LG50FD-SA)	Width x Height x Depth (inches/mm)	With Stand	50.8 x 35.1 x 13.5 inches 1291.7 x 892.1 x 342.9 mm
		Without Stand	50.8 x 32.1 x 4.5 inches 1291.7 x 817.0 x 115.3 mm
	Weight (pounds / kg)	With Stand	87.0 pounds / 39.5 kg
		Without Stand	76.9 pounds / 34.9kg
42LG70YD (42LG70YD-SA)	Width x Height x Depth (inches/mm)	With Stand	1037.8 x 794.6 x 379.5 mm 40.9x 31.3 x 14.9 inches
		Without Stand	1037.8x 747x 80.8mm 40.9 x 29.4 x 3.2 inches
	Weight (pounds / kg)	With Stand	24.1 kg / 53.1 lbs
		Without Stand	20.4 kg / 45 lbs
47LG70YD (47LG70YD-SA)	Width x Height x Depth (inches/mm)	With Stand	1152.8 x 868.6 x 434.5 mm 45.4 x 34.2 x 17.1 inches
		Without Stand	1152.8 x 820.8 x 79 mm 45.4 x 32.3x 3.1 inches
	Weight (pounds / kg)	With Stand	32.8 kg / 72.3 lbs
		Without Stand	27.2 kg / 60 lbs
52LG70YD (52LG70YD-SA)	Width x Height x Depth (inches/mm)	With Stand	1280.1 x 944.7 x 430 mm 50.4 x 37.2x 16.9inches
		Without Stand	1280.1 x 896 x 89 mm 50.4x 35.5 x 3.5 inches
	Weight (pounds / kg)	With Stand	45 kg / 99.2 lbs
		Without Stand	38.1kg / 84lbs
Power requirement		AC100-240V ~ 50/60Hz	
Television System		NTSC, PAL-M/N	
Program Coverage		VHF 2-13, UHF 14-69, CATV 1-135	
External Antenna Impedance		75 ohm	
Operating Temperature Range		32 ~ 104°F (0 ~ 40°C)	
Operating Humidity Range		Less than 80%	
Storage Temperature Range		-4 ~ 140°F (-20 ~ 60°C)	
Storage Humidity Range		Less than 85%	

42PG60D 42PG60D-SA	Width x Height x Depth (inches/mm)	With Stand	41.1 x 28.9 x12.1 inches 1044.4 x 735.4 x 308.0 mm
		Without Stand	41.1 x 26.7x 3.1 inches 1044.4 x680.6x 79.6mm
	Weight (pounds / kg)	With Stand	61.7 pounds / 28.0 kg
		Without Stand	55.1 pounds / 25.0 kg
50PG60D 50PG60D-SA	Width x Height x Depth (inches/mm)	With Stand	48.6 x 33.4 x 14.3 inches 1235.6 x 849.3x 364.1mm
		Without Stand	48.6 x 31.2 x 3.1 inches 1235.6 x 792.8 x 79.6 mm
	Weight (pounds / kg)	With Stand	96.1 pounds / 43.6 kg
		Without Stand	87.5 pounds / 39.7 kg
50PG70FD 50PG70FD-SB 50PG70FD-SA	Width x Height x Depth (inches/mm)	With Stand	57.3 x 38.8 x 16.3 inches 1455.0 x 985.0 x 414.0 mm
		Without Stand	57.3 x 36.4 x 3.3 inches 1455.0 x 924.8 x 84.1 mm
	Weight (pounds / kg)	With Stand	130.5 pounds / 59.2kg
		Without Stand	114.0 pounds / 51.7kg
60PG70FD 60PG70FD-SB 60PG70FD-SA	Width x Height x Depth (inches/mm)	With Stand	57.3 x 38.8 x 16.3 inches 1455.0 x 985.0 x 414.0 mm
		Without Stand	57.3 x 36.4 x 3.3 inches 1455.0 x 924.8 x 84.1 mm
	Weight (pounds / kg)	With Stand	130.5 pounds / 59.2kg
		Without Stand	114.0 pounds / 51.7kg
42PG30D 42PG30D-SA	Width x Height x Depth (inches/mm)	With Stand	40.9 x 28.5 x 12.1 inches 1039.5 x 726.0 x 307.6 mm
		Without Stand	40.9 x 26.5 x 3.3 inches 1039.5 x 673.7 x 84.0 mm
	Weight (pounds / kg)	With Stand	61.7 pounds / 28.0 kg
		Without Stand	55.1 pounds / 25.0 kg
50PG30D 50PG30D-SA	Width x Height x Depth (inches/mm)	With Stand	48.5 x 33.4 x 14.3 inches 1232.0 x 850.0 x 363.6 mm
		Without Stand	48.5 x 31.2 x 3.3 inches 1232.0 x 793.0 x 84.0 mm
	Weight (pounds / kg)	With Stand	93.2 pounds / 42.3 kg
		Without Stand	84.4 pounds / 38.3 kg
Power requirement		AC100-240V ~ 50/60Hz	
Television System		NTSC, PAL-M/N	
Program Coverage		VHF 2-13, UHF 14-69, CATV 1-135	
External Antenna Impedance		75 ohm	
Operating Temperature Range		32 ~ 104°F (0 ~ 40°C)	
Operating Humidity Range		Less than 80%	
Storage Temperature Range		-4 ~ 140°F (-20 ~ 60°C)	
Storage Humidity Range		Less than 85%	

APPENDIX

PROGRAMMING THE REMOTE CONTROL

The remote control is a multi brand or universal remote. It can be programmed. to operate most remote controlled devices from other manufacturers.

Note that the remote control may not control all models from other brands.

Programming a code into a remote mode

- 1 Testing your remote control.
To find out whether your remote control can operate other components without programming, turn on a component such as a VCR and press the corresponding mode button (such as a DVD or VCR) on the remote control, while pointing at the component. Test the POWER and CH $\wedge$ $\vee$ buttons to see if the component responds correctly. If the component does not operate correctly, the remote control requires programming to operate the device.
- 2 Switch on the component to be programmed, then press the corresponding mode button (such as DVD or VCR) on the remote control. The remote control button of the desired device is illuminated.
- 3 Press the MENU and MUTE buttons simultaneously, the remote control is ready to be programmed with the code.
- 4 Enter a code number using the number buttons on the remote control. Programming code numbers for the corresponding component can be found on the following pages. If the code is correct, the device will turn off.
- 5 Press the **MENU** button to store the code.
- 6 Test the remote control functions to see if the component responds correctly. If not, repeat from step 2.

Remote control code

DVD

Brand	Codes	Brand	Codes	Brand	Codes
APEX DIGITAL	022	mitsubishi	002	RCA	005 006
DENON	020 014	NAD	023	SAMSUNG	011 015
GE	005 006	ONKYO	008 017	SONY	007
HARMAN KARDON	027	PANASONIC	003 009	THOMPSON	005 006
JVC	012	PHILIPS	013	TOSHIBA	019 008
LG	001 010 016 025	PIONEER	004 026	YAMAHA	009 018
MAGNAVOX	013	PROCEED	021	ZENITH	010 016 025
MARANTZ	024	PROSCAN	005 006		

VCR

Brand	Codes	Brand	Codes	Brand	Codes
AIWA	034	MAGNAVOX	031 033 034 041	SAMSUNG	032 040 102 104
AKAI	016 043 046 124		067 068		105 107 109 112
	125 146	MARANTZ	012 031 033 067		113 115 120 122
AMPRO	072		069		125
ANAM	031 033 103	MARTA	101	SANSUI	022 043 048 135
AUDIO DYNAMICS	012 023 039 043	MATSUI	027 030	SANYO	003 007 010 014
BROKSONIC	035 037 129	MEI	031 033		102 134
CANON	028 031 033	MEMOREX	003 010 014 031	SCOTT	017 037 112 129
CAPEHART	108		033 034 053 072		131
CRAIG	003 040 135		101 102 134 139	SEARS	003 008 009 010
CURTIS MATHES	031 033 041	MGA	045 046 059		013 014 017 020
DAEWOO	005 007 010 064	MINOLTA	013 020		031 042 073 081
	065 108 110 111	MITSUBISHI	013 020 045 046		101
	112 116 117 119		049 051 059 061	SHARP	031 054 149
DAYTRON	108		151	SHINTOM	024
DBX	012 023 039 043	MTC	034 040	SONY	003 009 031 052
DYNATECH	034 053	MULTITECH	024 034		056 057 058 076
ELECTROHOME	059	NEC	012 023 039 043		077 078 149
EMERSON	006 017 025 027		048	SOUNDESIGN	034
	029 031 034 035	NORDMENDE	043	STS	013
	036 037 046 101	OPTONICA	053 054	SYLVANIA	031 033 034 059
	129 131 138 153	PANASONIC	066 070 074 083		067
FISHER	003 008 009 010		133 140 145	SYMPHONIC	034
FUNAI	034			TANDY	010 034
GE	031 033 063 072	PENTAX	013 020 031 033	TATUNG	039 043
	107 109 144 147		063	TEAC	034 039 043
GO VIDEO	132 136	PHILCO	031 034 067	TECHNICS	031 033 070
HARMAN KARDON	012 045	PHILIPS	031 033 034 054	TEKNIKA	019 031 033 034
HITACHI	004 018 026 034		067 071 101		101
	043 063 137 150	PILOT	101	THOMAS	034
INSTANTREPLAY	031 033	PIONEER	013 021 048	TMK	006
JCL	031 033	PORTLAND	108	TOSHIBA	008 013 042 047
JCPENNY	012 013 015 033	PULSAR	072		059 082 112 131
	040 066 101	QUARTZ	011 014	TOTEVISION	040 101
JENSEN	043	QUASAR	033 066 075 145	UNITECH	040
JVC	012 031 033 043	RCA	013 020 033 034	VECTOR RESEARCH	012
	048 050 055 060		040 041 062 063	VICTOR	048
	130 150 152		107 109 140 144	VIDEO CONCEPTS	012 034 046
KENWOOD	014 034 039 043		145 147	VIDEOSONIC	040
	047 048	REALISTIC	003 008 010 014	WARDS	003 013 017 024
LG (GOLDSTAR)	001 012 013 020		031 033 034 040		031 033 034 040
	101 106 114 123		053 054 101		053 054 131
LLOYD	034	RICO	058	YAMAHA	012 034 039 043
LXI	003 009 013 014	RUNCO	148	ZENITH	034 048 056
	017 034 101 106	SALORA	014		058 072 080 101
MAGIN	040				

APPENDIX

IR CODES

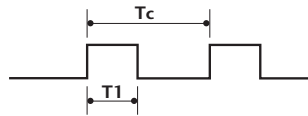
1. How to Connect

- Connect your wired remote control to the Remote Control port on the TV.

2. Remote Control IR Codes

■ Output waveform

Single pulse, modulated with 37.917KHz signal at 455KHz



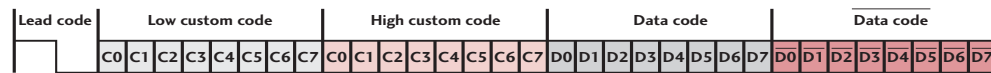
Carrier frequency

$$FCAR = 1/TC = fOSC/12$$

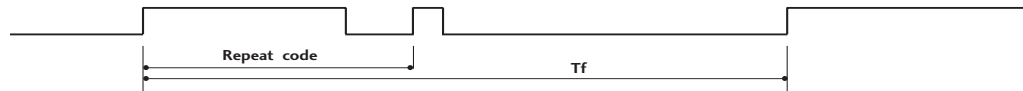
$$\text{Duty ratio} = T1/TC = 1/3$$

■ Configuration of frame

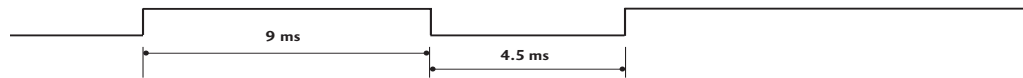
1st frame



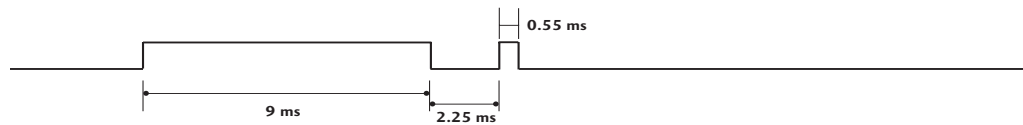
Repeat frame



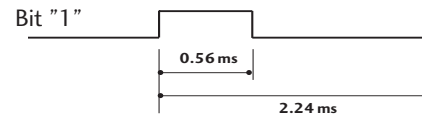
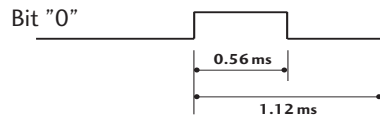
■ Lead code



■ Repeat code

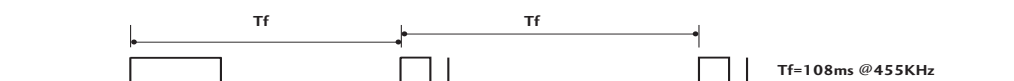


■ Bit description



■ Frame interval: Tf

The waveform is transmitted as long as a key is depressed.



Code (Hexa)	Function	Note
08	POWER	R/C BUTTON(POWER ON/OFF)
0B	INPUT	R/C BUTTON
AA	INFO	R/C BUTTON
7E	SIMPLINK	R/C BUTTON
43	MENU	R/C BUTTON
45	Q.MENU	R/C BUTTON
07	<	R/C BUTTON
06	>	R/C BUTTON
40	^	R/C BUTTON
41	∨	R/C BUTTON
44	ENTER	R/C BUTTON
5B	RETURN	R/C BUTTON
30	AV MODE	R/C BUTTON
02	VOL +	R/C BUTTON
03	VOL -	R/C BUTTON
00	CH ^	R/C BUTTON
01	CH ∨	R/C BUTTON
1E	FAV	R/C BUTTON
09	MUTE	R/C BUTTON
10~19	Number Key 0~9	R/C BUTTON
4C	- (Dash)	R/C BUTTON
1A	REVIEW	R/C BUTTON
A9	GUIDE	R/C BUTTON
B0	PLAY	R/C BUTTON
BA	PAUSE	R/C BUTTON
B1	STOP	R/C BUTTON
BD	REC	R/C BUTTON
8F	REW	R/C BUTTON
8E	FF	R/C BUTTON

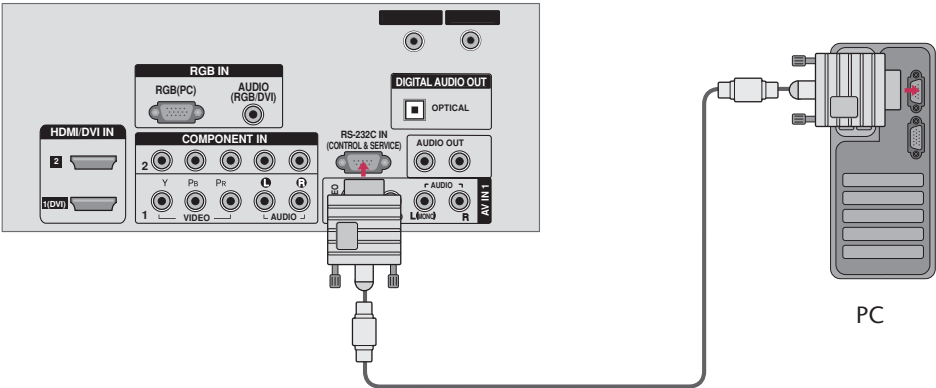
APPENDIX

EXTERNAL CONTROL THROUGH RS-232C

The RS-232C port allows you connect the RS-232C input jack to an external control device (such as a computer or an A/V control system) to control the TV's functions externally.

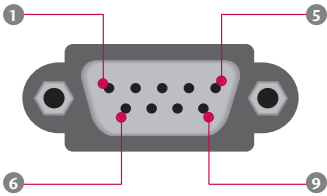
- Note: RS-232C on this unit is intended to be used with third party RS-232 control hardware and software. The instructions below are provided to help with programming software or to test functionality using telenet software.

RS-232C Setup



Type of Connector; D-Sub 9-Pin Male

No.	Pin Name
1	No connection
2	RXD (Receive data)
3	TXD (Transmit data)
4	DTR (DTE side ready)
5	GND
6	DSR (DCE side ready)
7	RTS (Ready to send)
8	CTS (Clear to send)
9	No Connection



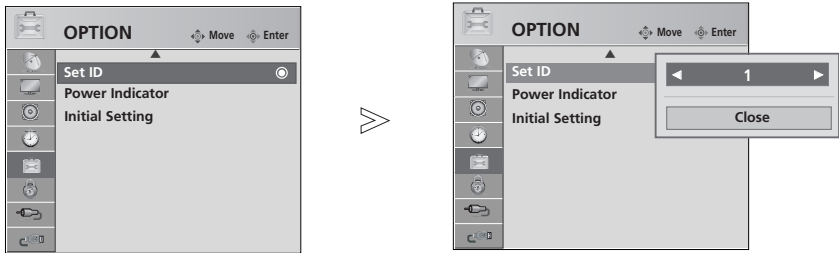
RS-232C Configurations

Either cable below can be used.

7-Wire Configuration (Serial female-female NULL modem cable)				3-Wire Configurations (Not standard)			
	PC		TV		PC		TV
RXD	2	●	3	TXD	2	●	3
TXD	3	●	2	RXD	3	●	2
GND	5	●	5	GND	5	●	5
DTR	4	●	6	DSR	4		6
DSR	6	●	4	DTR	6		4
RTS	7	●	8	CTS	7		7
CTS	8	●	7	RTS	8		8
	D-Sub 9		D-Sub 9		D-Sub 9		D-Sub 9

Set ID

Use this function to specify a TV ID number.
Refer to 'Real Data Mapping1'. See page 122.



- 1

Select **OPTION**.
- 2

Select **Set ID**.
- 3

Choose the desired TV ID number.
The adjustment range of Set ID is 1~99.

Communication Parameters

- Baud rate : 9600 bps (UART)

■ Stop bit : 1 bit

■ Data length : 8 bits

■ Communication code : ASCII code

■ Parity : None

■ Use a crossed (reverse) cable.

NOTE ▶ This product has command echo back in the RS-232C Command.

APPENDIX

Command Reference List

	COMMAND1	COMMAND2	DATA (Hexadecimal)		COMMAND1	COMMAND2	DATA (Hexadecimal)
01. Power	k	a	0 ~ 1	14. Treble	k	r	0 ~ 64
02. Input Select	x	b	(▶ p.121)	15. Bass	k	s	0 ~ 64
03. Aspect Ratio	k	c	(▶ p.121)	16. Balance	k	t	0 ~ 64
04. Screen Mute	k	d	0 ~ 01	17. Color Temperature	k	u	0 ~ 3
05. Volume Mute	k	e	0 ~ 01	18. ISM Method	j	p	(▶ p.123)
06. Volume Control	k	f	0 ~ 64	19. Power Saving	j	q	0 ~ 4
07. Contrast	k	g	0 ~ 64	20. Channel Add/Del	m	b	0 ~ 1
08. Brightness	k	h	0 ~ 64	21. Key	m	c	(▶ p.117)
09. Color	k	i	0 ~ 64	22. Backlight	m	g	0 ~ 64
10. Tint	k	j	0 ~ 64				
11. Sharpness	k	k	0 ~ 64				
12. OSD Select	k	l	0 ~ 1				
13. Remote Control							
Lock Mode	k	m	0 ~ 1				

Only Plasma TV Models

Only LCD TV Models

	COMMAND1	COMMAND2	DATA0 (Hexadecimal)	DATA1 (Hexadecimal)	DATA2 (Hexadecimal)	DATA3 (Hexadecimal)	DATA4 (Hexadecimal)	DATA5 (Hexadecimal)
23. Channel Tuning	m	a	physical program high	major program low	major low	minor high	minor low	attribute

Transmission / Receiving Protocol

Transmission

[Command1][Command2][][Set ID][][Data][Cr]

[Command 1] : First command to control the set.(j, k, m or x)

[Command 2] : Second command to control the set.

[Set ID] : You can adjust the set ID to choose desired TV ID number in Setup menu. Adjustment range is 1~99. When selecting Set ID '0', every connected the TV is controlled. Set ID is indicated as decimal (1~99) on menu and as Hexa decimal (0x0~0x63) on transmission/receiving protocol.

[DATA] : To transmit the command data.

Transmit the 'FF' data to read status of command.

[Cr] : Carriage Return

ASCII code '0x0D'

[] : ASCII code 'space (0x20)'

* In this model, TV will not send the status during the standby mode.

OK Acknowledgement

[Command2][][Set ID][][OK][Data][x]

The TV transmits ACK (acknowledgement) based on this format when receiving normal data. At this time, if the data is data read mode, it indicates present status data. If the data is data write mode, it returns the data of the PC computer.

* In this model, TV will not send the status during the standby mode.

* Data Format

[Command 2] : Use as command.

[Set ID] : Use the small character, if set ID is 10, it will send the '0', 'a'.

[DATA] : Use the small character, if data is 0 x ab, it will send the 'a', 'b'.

[OK] : Use the large character.

Error Acknowledgement

[Command2][][Set ID][][NG][Data][x]

The TV transmits ACK (acknowledgement) based on this format when receiving abnormal data from non-viable functions or communication errors.

Data1: Illegal Code

Data2: Not supported function

Data3: Wait more time

* In this model, TV will not send the status during the standby mode.

* Data Format

[Command 2] : Use as command.

[Set ID] : Use the small character, if set ID is 10, it will send the '0', 'a'.

[DATA] : Use the small character, if data is 0 x ab, it will send the 'a', 'b'.

[NG] : Use the large character

01. Power (Command: k a)

To control Power On/Off of the TV.

Transmission [k][a][][Set ID][][Data][Cr]

Data 0: Power Off Data 1: Power On

Acknowledgement [a][][Set ID][][OK/NG][Data][x]

* In a like manner, if other functions transmit 'FF' data based on this format, Acknowledgement data feedback presents status about each function.

* Note: In this model, TV will send the Acknowledge after power on processing completion.

There might be a time delay between command and acknowledgement.

02. Input Select (Command: x b)

To select input source for TV.

Transmission [x][b][][Set ID][][Data][Cr]

Data 00: DTV (Antenna) Data 10: Analog (Antenna)

Data 11: Analog (Cable) Data 20: AV1

Data 21: AV2 Data 40: Component 1

Data 41: Component 2 Data 60: RGB-PC

Data 90: HDMI1 Data 91: HDMI2

Data 92: HDMI3

Acknowledgement [b][][Set ID][][OK/NG][Data][x]

03. Aspect Ratio (Command: k c)

To adjust the screen format.

You can also adjust the screen format using the RATIO button on remote control or in the Picture menu.

Transmission [k][c][][Set ID][][Data][Cr]

Data 1: 4:3 5: Zoom 2

2: 16:9 6: Set by program

4: Zoom 1 9: Just scan

⋮

Reserved

Acknowledgement [c][][Set ID][][OK/NG][Data][x]

04. Screen Mute (Command: k d)

To select screen mute on/off.

Transmission [k][d][][Set ID][][Data][Cr]

Data 0: Screen mute off (Picture on)

Data 1: Screen mute on (Picture off)

Acknowledgement [d][][Set ID][][OK/NG][Data][x]

05. Volume Mute (Command: k e)

To control volume mute on/off.

You can also adjust mute using the MUTE button on remote control.

Transmission [k][e][][Set ID][][Data][Cr]

Data 0 : Volume mute on (Volume off)

Data 1 : Volume mute off (Volume on)

Acknowledgement [e][][Set ID][][OK/NG][Data][x]

06. Volume Control (Command: k f)

To adjust volume.

You can also adjust volume with the volume buttons on remote control.

Transmission [k][f][][Set ID][][Data][Cr]

Data Min: 0 ~ Max: 64 (*transmit by Hexadecimal code)

*Refer to 'Real data mapping 1'. See page 122.

Acknowledgement [f][][Set ID][][OK/NG][Data][x]

07. Contrast (Command: k g)

To adjust screen contrast.

You can also adjust contrast in the Picture menu.

Transmission [k][g][][Set ID][][Data][Cr]

Data Min: 0 ~ Max: 64 (*transmit by Hexadecimal code)

*Refer to 'Real data mapping 1'. See page 122.

Acknowledgement [g][][Set ID][][OK/NG][Data][x]

08. Brightness (Command: k h)

To adjust screen brightness.

You can also adjust brightness in the Picture menu.

Transmission [k][h][][Set ID][][Data][Cr]

Data Min: 0 ~ Max: 64 (*transmit by Hexadecimal code)

*Refer to 'Real data mapping 1'. See page 122.

Acknowledgement [h][][Set ID][][OK/NG][Data][x]

APPENDIX

09. Color (Command: k i)

To adjust screen color.

You can also adjust color in the Picture menu.

Transmission [k][i][][Set ID][][Data][Cr]

Data Min: 0 ~ Max: 64 (*transmit by Hexadecimal code)

*Refer to 'Real data mapping 1' as shown below.

Acknowledgement [i][][Set ID][][OK/NG][Data][x]

10. Tint (Command: k j)

To adjust screen tint.

You can also adjust tint in the Picture menu.

Transmission [k][j][][Set ID][][Data][Cr]

Data Red: 0 ~ Green: 64 (*transmit by Hexadecimal code)

*Refer to 'Real data mapping 1' as shown below.

Acknowledgement [j][][Set ID][][OK/NG][Data][x]

11. Sharpness (Command: k k)

To adjust screen sharpness.

You can also adjust sharpness in the Picture menu.

Transmission [k][k][][Set ID][][Data][Cr]

Data Min: 0 ~ Max: 64 (*transmit by Hexadecimal code)

*Refer to 'Real data mapping 1' as shown below.

Acknowledgement [k][][Set ID][][OK/NG][Data][x]

12. OSD Select (Command: k l)

To select OSD (On Screen Display) on/off.

Transmission [k][l][][Set ID][][Data][Cr]

Data 0: OSD off Data 1: OSD on

Acknowledgement [l][][Set ID][][OK/NG][Data][x]

13. Remote Control Lock Mode (Command: k m)

To lock the remote control and the front panel controls on the set.

Transmission [k][m][][Set ID][][Data][Cr]

Data 0: Lock off Data 1: Lock on

Acknowledgement [m][][Set ID][][OK/NG][Data][x]

If you're not using the remote control and front panel controls on the TV, use this mode. When main power is on/off, remote control lock is released.

14. Treble (Command: k r)

To adjust treble.

You can also adjust treble in the Audio menu.

Transmission [k][r][][Set ID][][Data][Cr]

Data Min: 0 ~ Max: 64 (*transmit by Hexadecimal code)

*Refer to 'Real data mapping 1' as shown.

Acknowledgement [r][][Set ID][][OK/NG][Data][x]

15. Bass (Command: k s)

To adjust bass.

You can also adjust bass in the Audio menu.

Transmission [k][s][][Set ID][][Data][Cr]

Data Min: 0 ~ Max: 64 (*transmit by Hexadecimal code)

*Refer to 'Real data mapping 1' as shown below.

Acknowledgement [s][][Set ID][][OK/NG][Data][x]

16. Balance (Command: k t)

To adjust balance.

You can also adjust balance in the Audio menu.

Transmission [k][t][][Set ID][][Data][Cr]

Data Min: 0 ~ Max: 64 (*transmit by Hexadecimal code)

*Refer to 'Real data mapping 1' as shown below.

Acknowledgement [t][][Set ID][][OK/NG][Data][x]

17. Color Temperature (Command: k u)

To adjust color temperature.

You can also adjust color temperature in the Picture menu.

Transmission [k][u][][Set ID][][Data][Cr]

Data 0: Medium 1: Cool 2: Warm

Acknowledgement [u][][Set ID][][OK/NG][Data][x]

*Real data mapping 1

0 : Step 0

⋮

A : Step 10 (SET ID 10)

⋮

F : Step 15 (SET ID 15)

10 : Step 16 (SET ID 16)

⋮

63 : Step 99 (SET ID 99)

64 : Step 100

*Real data mapping 2

0 : -20

5 : -19

A : -18

⋮

5F : -1

64 : 0

69 : +1

⋮

C3 : +19

C8 : +20

18. ISM Method (Command: j p)*(Only Plasma TV models)*

To avoid having a fixed image remain on screen.

Transmission [j][p][][Set ID][][Data][Cr]

Data 1: Inversion 2: Orbiter

4: White Wash 8: Normal

Acknowledgement [p][][Set ID][][OK/NG][Data][x]**19. Power Saving (Command: j q)***(Only Plasma TV models)*

To control the low power function on/off.

Transmission [j][q][][Set ID][][Data][Cr]

Data Min: 0 ~ Max: 4 (*transmit by Hexadecimal code)

Acknowledgement [q][][Set ID][][OK/NG][Data][x]**20. Channel Add/Del (Command: m b)**

To add and delete the channels

Transmission [m][b][][Set ID][][Data][Cr]

Data 0: Channel Delete Data 1: Channel Add

Acknowledgement [b][][Set ID][][OK/NG][Data][x]**21. Key (Command: m c)**

To send IR remote key code.

Transmission [m][c][][Set ID][][Data][Cr]

Data Key code: Refer to page 117.

Acknowledgement [c][][Set ID][][OK/NG][Data][x]**22. Backlight (Command: m g)***(Only LCD TV model)*

To adjust screen back light.

Transmission [m][g][][Set ID][][Data][Cr]

Data Min: 0 ~ Max: 64 (*transmit by Hexadecimal code)

*Refer to 'Real data mapping 1'. See page 122.

Acknowledgement [g][][Set ID][][OK/NG][Data][x]**23. Channel Tuning (Command: m a)**

To tune channel to following physical/major/minor number.

Transmission [m][a][][Set ID][][Data0][][Data1]

[][Data2][][Data3][][Data4][][Data5][Cr]

Digital channels have a Physical, Major, and Minor channel number. The Physical number is the actual digital channel number, the Major is the number that the channel should be mapped to, and the Minor is the sub-channel. Since the tuner automatically maps the channel to the Major number, the Physical number is not required when sending a command.

Data 0: Physical Channel Number

Analog air: 01~69, Analog cable: 01~135

DTV air: 01~69

Data1 & 2: Major Channel Number

Data1: High byte

Data2: Low byte

Two bytes are available for the Major and Minor, normally only the second byte is used.

Data3 & 4: Minor Channel Number

Not needed for NTSC.

APPENDIX

Data5:

7	Main/Sub Picture	6	Two/One Part Channel	5	Using Physical Channel	4	Reserved	3	2	1	0	Step
0	Main	0	Two	0	Use	x		0	0	0	0	Analog air
1	Sub	1	One	1	No Use	x		0	0	0	1	Analog cable
						x		0	0	1	0	DTV air
						x		0	0	1	1	Reserved
						x		0	1	0	0	Reserved
						x		0	1	0	1	Reserved
						x		0	1	1	0	Reserved
						x		0	1	1	1	Reserved
						x	x	x	x	x	x	...
						x		1	1	1	1	Reserved

The table above lists the binary code which must be converted to Hexadecimal before sending. For example:
The binary code to tune the sub source to an analog cable channel is “1000 0001”, which translates to “81” in Hex.

- * 7th bit : For which source do you want to change the channel.
- * 6th bit: Use a two part or one part channel. Most cases just use 0 since it's ignored when using analog.
- * 5th bit: Use 0 with analog since it can only use the physical channel number. Normally use 1 since most times it doesn't matter what the physical number is.
- * 4th bit: Set to 0.
- * 3-0 bits: Choose signal type.

- * Tune Command Examples:
 1. Tune to the analog cable channel 35.

Data 0 = Physical of 35 = 23

Data 1 & 2 = No Major = 00 00

Data 3 & 4 = No Minor = 00 00

Data 5 = 0000 0001 in binary = 01

Total = ma 00 23 00 00 00 00 01
 2. Tune to the digital local channel 30-3.

Data 0 = Don't know Physical = 00

Data 1 & 2 = Major is 30 = 00 1E

Data 3 & 4 = Minor is 3 = 00 03

Data 5 = 0010 0010 in binary = 22

Total = ma 00 00 00 1E 00 03 22

Acknowledgement[a][][Set ID][][OK][Data0][Data1][Data2][Data3][Data4][x][a][][Set ID][][NG][Data0][x]

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