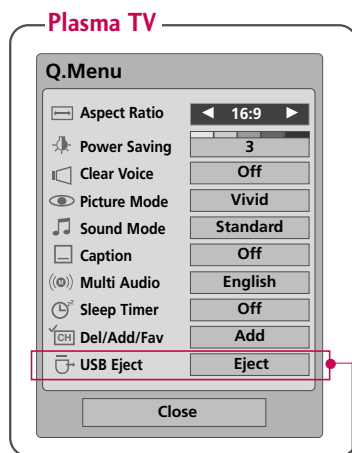


QUICK MENU

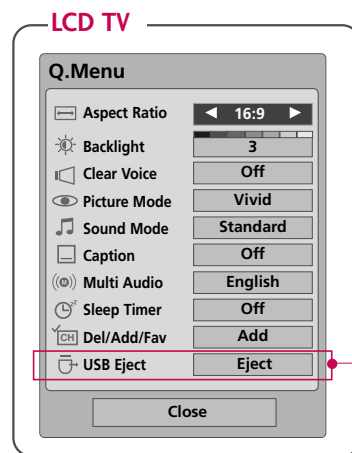
Your TV's OSD (On Screen Display) may differ slightly from what is shown in this manual.

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

- **Aspect Ratio:** Selects your desired picture format.
- **Power Saving** (Plasma TV Only): Adjusts screen brightness to reduce the power consumption of the TV.
- **Backlight** (LCD TV Only): 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.
- **Caption:** Select on or off.
- **Multi Audio** or **SAP:** Selects MTS sound (Analog signal) or changes the audio language (Digital signal).
- **Sleep Timer:** Select the amount of time before your TV turns off automatically.
- **Del/Add/Fav:** Select channel you want to add/delete or add the channel to the Favorite List.
- **USB Eject:** Select "USB Eject" in order to eject USB device.





Only for 50/60PG60F



Only for 32/37/42/47/52LG50/60/70

1   Display each menu.

2  Make appropriate adjustments.

3  Return to TV viewing

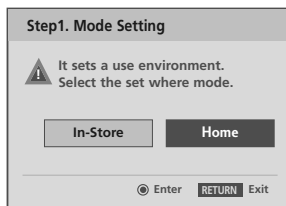
WATCHING TV /CHANNEL CONTROL

INITIAL SETTING - LCD TV Only

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 **Vivid** preset after 5 minutes.
- **Home Mode:** Picture mode is set to "Vivid" and user can change it to whatever they wish.





Step1. Mode setting



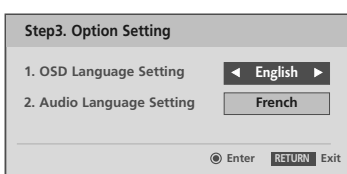
- 1  Select **Home** Mode.
- 2 




Step2. Time setting



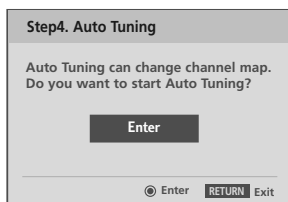
- 1  Select **Auto** or **Manual**.
- 2   Select desired time option.
- 3 

Step3. Option setting



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

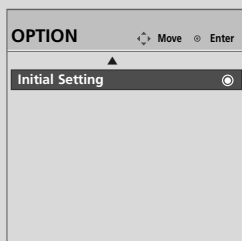
Step4. Auto Tuning








- 1  Start **Auto Tuning**.

NOTE

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



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

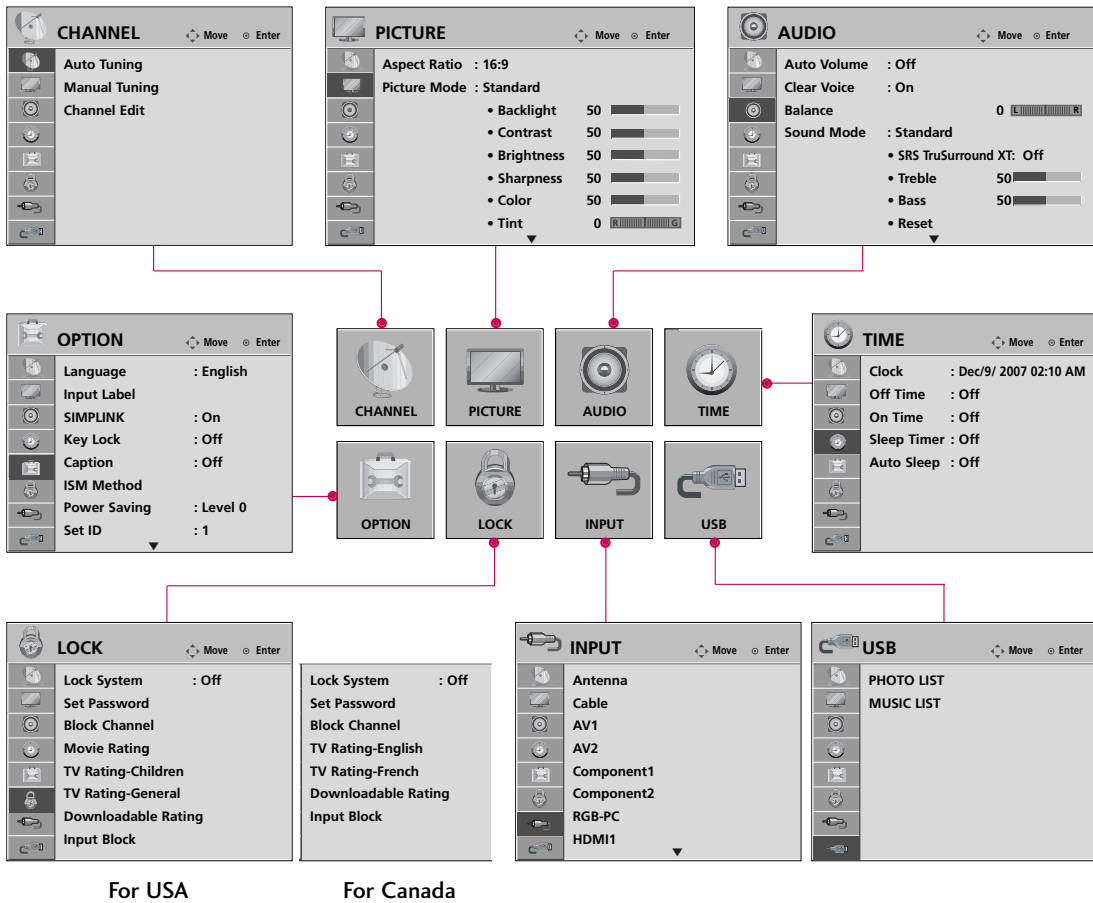
WATCHING TV /CHANNEL CONTROL

ON-SCREEN MENUS SELECTION

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

* Only 32/37/42/47/52LG50/60/70, 50/60PG30/60

WATCHING TV / CHANNEL CONTROL

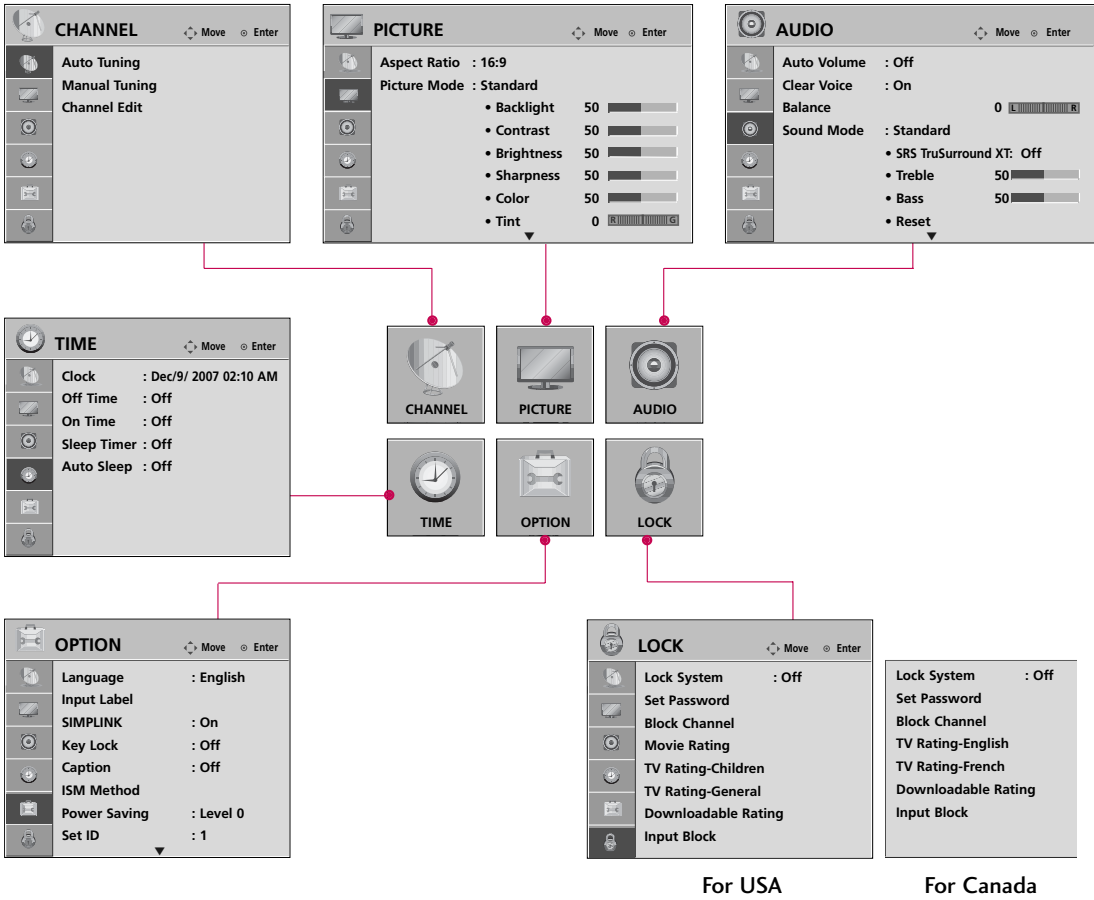


- 1 Display each menu.
- 2 Select a menu item.
- 3 Enter to the pop up menu.
- 4 Return to TV viewing

NOTE

- ▶ ISM Method, Power Saving: Only Plasma TV.
- ▶ Backlight, Power Indicator, TruMotion Demo: Only LCD TV. (But, TruMotion Demo: Only for 32/37/42/47/52LG60/70)

Only 32/37/42LG30



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

NOTE

- ▶ ISM Method, Power Saving: Only Plasma TV.
- ▶ Backlight: Only LCD TV.

WATCHING TV /CHANNEL CONTROL

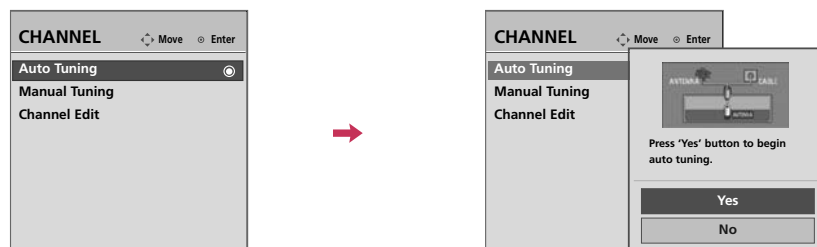
CHANNEL SETUP










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.

WATCHING TV / CHANNEL CONTROL



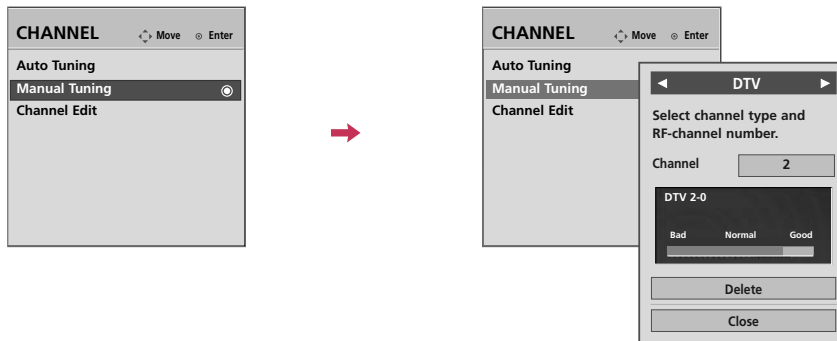
-   Select **CHANNEL**.
-   Select **Auto Tuning**.
-   Select **Yes**.
-  Run **Auto tuning**.
-  Return to the previous menu.
-  Return to TV viewing

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



Add/Delete Channel (Manual Tuning)

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



- 1 Select **CHANNEL**.
- 2 Select **Manual Tuning**.
- 3 Select **DTV, TV, CADTV, or CATV**.
- 4 Select channel you want to add or delete.
- 5 Select **Add or Delete**.
- 6 Return to the previous menu.
- Return to TV viewing

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

WATCHING TV / CHANNEL CONTROL

CHANNEL SETUP

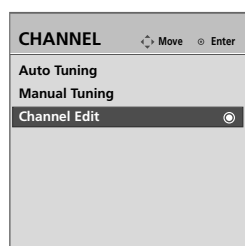
Channel Editing

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.

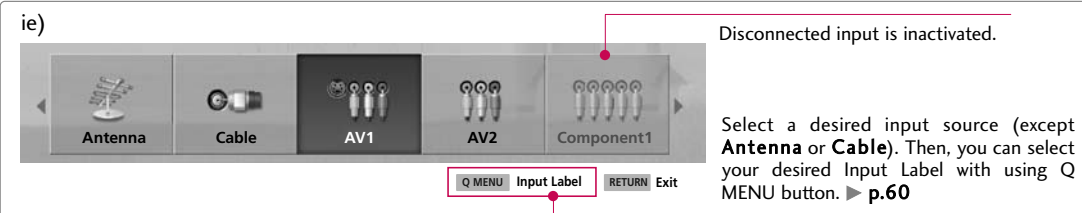
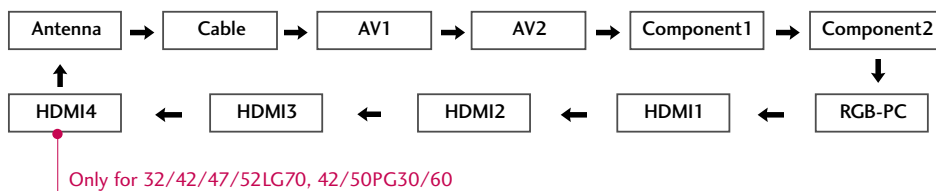
WATCHING TV / CHANNEL CONTROL



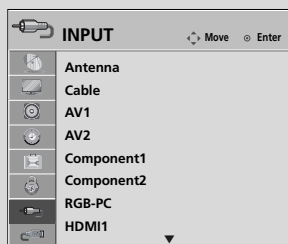
-   Select **CHANNEL**.
-   Select **Channel Edit**.
-   Select a channel.
-  Select channel you want to add or delete.
-  Return to the previous menu.
-  Return to TV viewing

INPUT LIST

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



- You can also select the desired input source in the **INPUT** menu (Only for 32/37/42/47/52LG50/60/70, 50/60PG60).

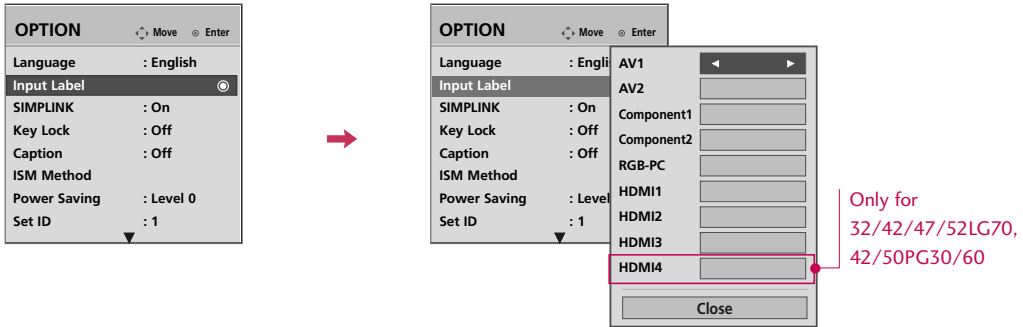


- **Antenna:** Select it to watch over-the-air broadcasts.
- **Cable:** Select it to watch cable and digital cable.
- **AV 1-2:** Select them to watch a VCR or other external equipment.
- **Component 1-2:** Select them to watch DVD or a Digital set-top box.
- **RGB-PC:** Select it to view PC input.
- **HDMI1-4:** Select them to watch high definition devices.

WATCHING TV / CHANNEL CONTROL

INPUT LABEL

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



WATCHING TV / CHANNEL CONTROL

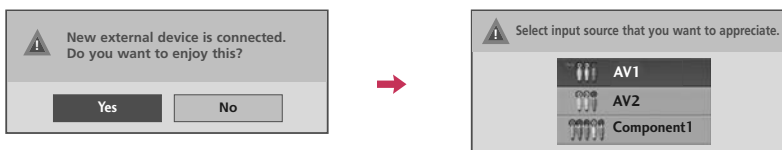
With using OPTION menu

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

With using INPUT button

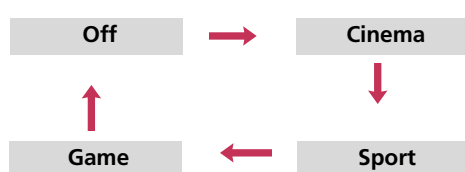
- 1 Select the source.
- 2 Select the label.
- 3 Return to the previous menu.
- Return to TV viewing.

- 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

You can select the optimal images and sounds when connecting AV devices to external input.



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



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

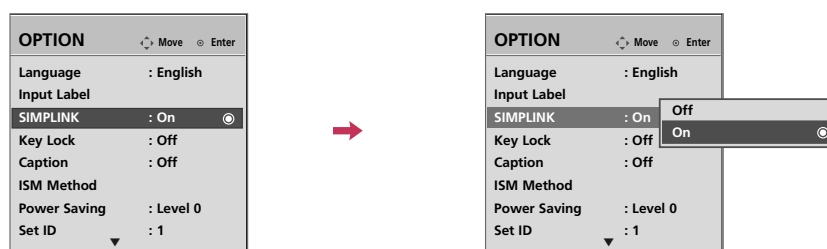
WATCHING TV / CHANNEL CONTROL











This function operates only with devices with the SIMPLINK logo.

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

To start using SIMPLINK, turn it on in the user menus.



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

! NOTE

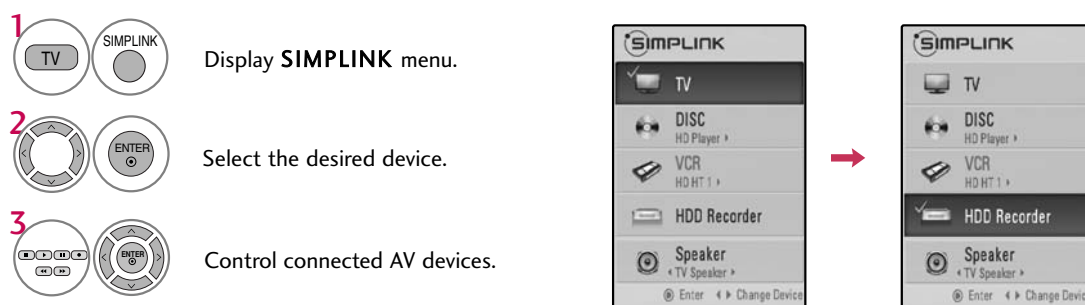
- ▶ Connect the HDMI/DVI IN or HDMI IN terminal of the TV to the rear terminal (HDMI terminal) of the SIMPLINK device with the HDMI cable.
- ▶ When you switch the Input source with the INPUT button on the remote control, the SIMPLINK device will stop.
- ▶ When you select a device with home theater functionality, the sound output automatically switches to the home theater speakers.
- ▶ If a connected SIMPLINK home theater system doesn't play the audio from the TV, connect the DIGITAL AUDIO OUT terminal on the back of the TV to the DIGITAL AUDIO IN terminal on the back of the SIMPLINK device with an OPTICAL cable.

SIMPLINK Functions

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

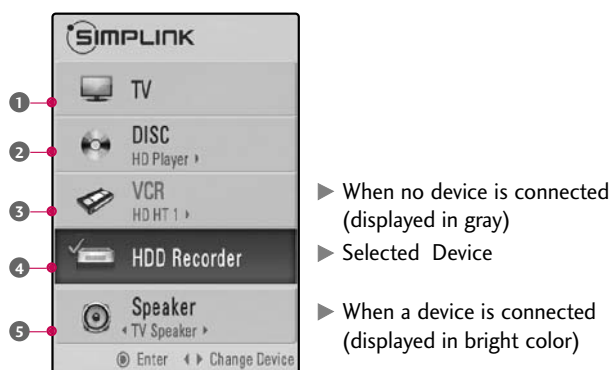
(A device, which is connected to the TV through a HDMI cable but does not support SIMPLINK, does not provide this function)

Note: To operate SIMPLINK, an HDMI cable over Version 1.2 with *CEC function should be used. (*CEC: Consumer Electronics Control).



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:** Control the connected VCR.
- 4 **HDD Recordings playback:** Control recordings stored in HDD.
- 5 **Audio Out to Home Theater speaker/Audio Out to TV:** Select Home Theater speaker or TV speaker for Audio Out.



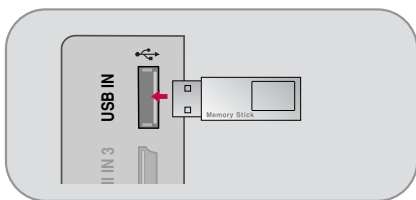
USB

- This feature is only for 32/37/42/47/52LG50/60/70, 50/60PG60.

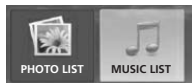
ENTRY MODES

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.



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



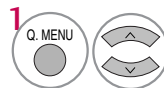
- 3



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

When removing the USB device

Select the **USB Eject** menu before removing the USB device.



Select **USB Eject**.



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.
- ▶ In case of a card reader, up to four memory cards are concurrently recognizable.
- ▶ 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 FAT or NTFS 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 important files because data on USB device may be damaged. Data management is consumer's responsibility and as a result, the manufacturer does not cover data damage.

PHOTO LIST

You can view .JPG files from USB storage devices.



The On Screen Display on your model may be slightly different.

Supported photo file: *.JPG

- You can play JPG files only.
- Only baseline scan is supported among JPG.




Screen Components

1

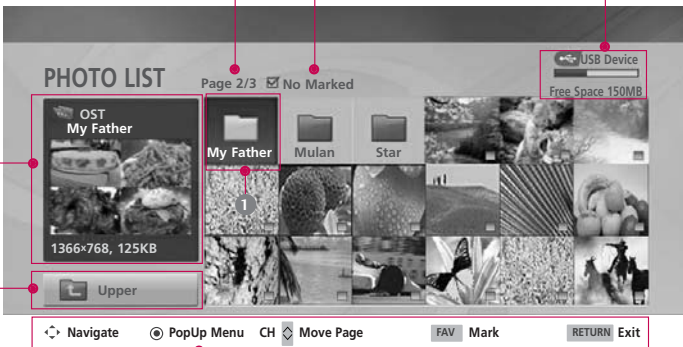
Select **USB**.

2

Select **PHOTO LIST**.

- ① Moves to upper level file
- ② Preview: Display the thumbnail/folder name of the photo in 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

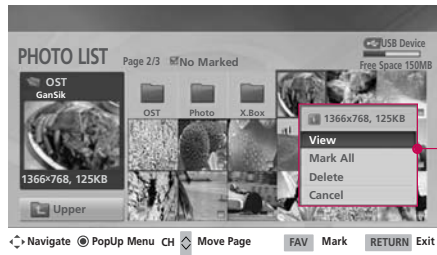
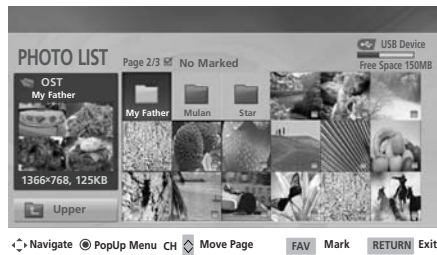


The screenshot shows a 'PHOTO LIST' interface. At the top, it says 'Page 2/3' and 'No Marked'. A 'USB Device' status bar shows 'Free Space 150MB'. The main area displays a grid of photo thumbnails. One thumbnail is highlighted with a red box and labeled '1'. A folder named 'Upper' is visible at the bottom left of the grid. At the bottom of the screen, there is a navigation bar with buttons: 'Navigate', 'PopUp Menu', 'CH', 'Move Page', 'FAV Mark', and 'RETURN Exit'. A red box highlights these buttons, with a callout '6' pointing to it.

USB


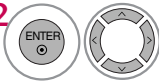


Photo Selection and Popup Menu

USB



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

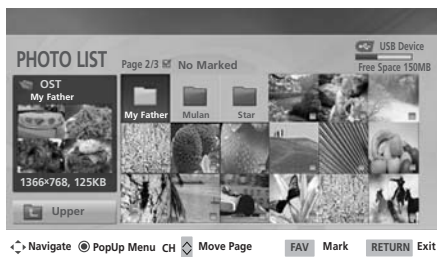
- ▶ **View:** Display the selected item.
- ▶ **Mark All:** Mark all photos on the screen.
- ▶ **Unmark All:** Deselect all marked photos.
- ▶ **Delete:** Delete the selected photo item.
- ▶ **Cancel:** Close the pop-up menu.

-  Select the target folder or drive.
-  Select the desired photos.
-  Show the Popup menu.
-  Select the desired Popup menu.







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


Full Screen Menu

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



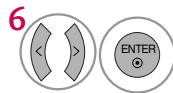
The aspect ratio of a photo may change the size of the photo displayed on the screen in full size.

- 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  button to navigation in the photo page.

USB

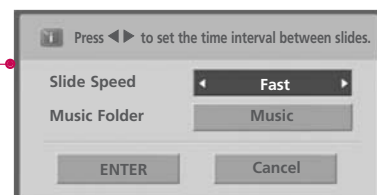
USB



Select the **Sideshow**, **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.

- ▶ **Sideshow:** 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**.
 - A slide show continues for a maximum of 4 hours. After 4 hours, the slide show will end and go to TV mode or external input mode.
- ▶ **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°, 180°, 270°, 360° 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 not be able to decode most JPEG images saved using the Progressive option.

MUSIC LIST

You can use the Music List menu to play MP3 files from a USB storage device.
 This TV cannot play back copy-protected files.
 The On Screen Display on your model may be slightly different.



Supported music file: *.MP3
 Bit rate range 40Kbps ~ 320Kbps
 •Sampling rate (Sampling Frequency)
 MPEG1 : 32000, 44100, 48000Hz
 MPEG2 : 16000, 24000, 22050Hz
 MPEG2.5 : 16 ~ 48KHz



USB




Screen Components

1

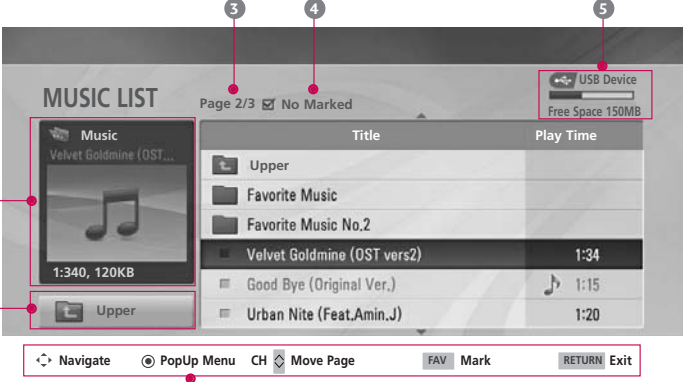
Select **USB**.

2

Select **MUSIC LIST**.

- ① 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

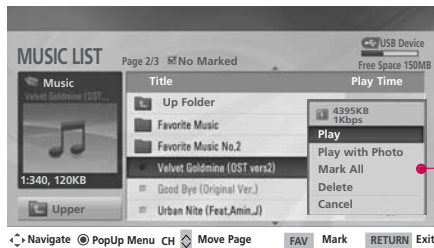
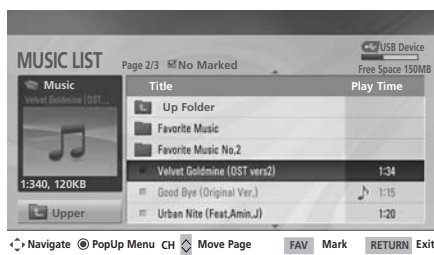


The screenshot shows the 'MUSIC LIST' interface. At the top, it displays 'Page 2/3' and 'No Marked'. A 'USB Device' status bar shows 'Free Space 150MB'. The main content area is a table with columns for 'Title' and 'Play Time'. The first row is 'Upper' with a folder icon. The second row is 'Favorite Music' with a folder icon. The third row is 'Favorite Music No.2' with a folder icon. The fourth row is 'Velvet Goldmine (OST vers2)' with a play button icon and a play time of 1:34. The fifth row is 'Good Bye (Original Ver.)' with a play button icon and a play time of 1:15. The sixth row is 'Urban Nite (Feat.Amin.J)' with a play button icon and a play time of 1:20. A preview window on the left shows a music note icon and the text '1:340, 120KB'. At the bottom, a navigation bar contains buttons for 'Navigate', 'PopUp Menu', 'CH', 'Move Page', 'FAV', 'Mark', and 'RETURN Exit'.








Music Selection and Popup Menu

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

USB



- ▶ **Play (During stop):** Play the selected music. Once a song 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 music.
- ▶ **Delete:** Delete the selected music.
- ▶ **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.
- 5  Return to TV viewing

- Use the **CH** ^ v button to navigation in the music page.
- Use **FAV** 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.

- 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 an 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**, , **RETURN** button to stop the screen saver.
- ▶ The **PLAY** () , **Pause** () ,  ,  ,  buttons on the remote control are also available in this mode.
- ▶ This TV cannot play music files of less than 16 Kbytes.

PICTURE CONTROL

PICTURE SIZE (ASPECT RATIO) CONTROL

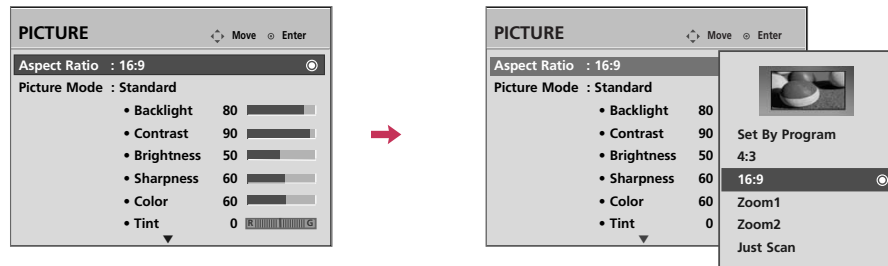
This feature lets you choose the way an analog picture with a 4:3 aspect ratio is displayed on your TV.









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

NOTE

- ▶ 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.

PICTURE CONTROL



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**.

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.



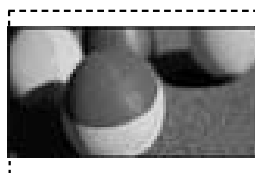
16:9

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



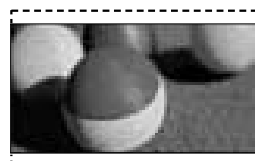
Zoom 1

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.



Just Scan

Following selection will lead to 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/CADTV/Component/HDMI-DTV/DVI-DTV (720p/1080i/1080p) input source.

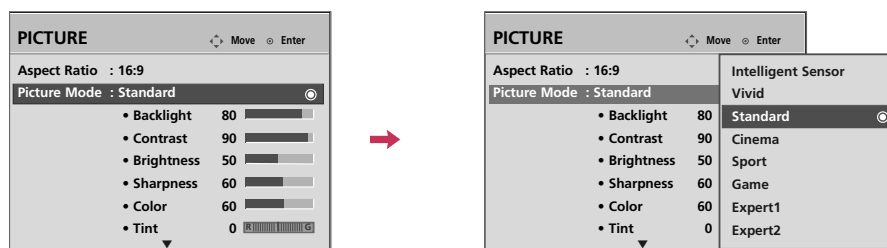


PICTURE CONTROL









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 use the Intelligent Sensor.



PICTURE CONTROL

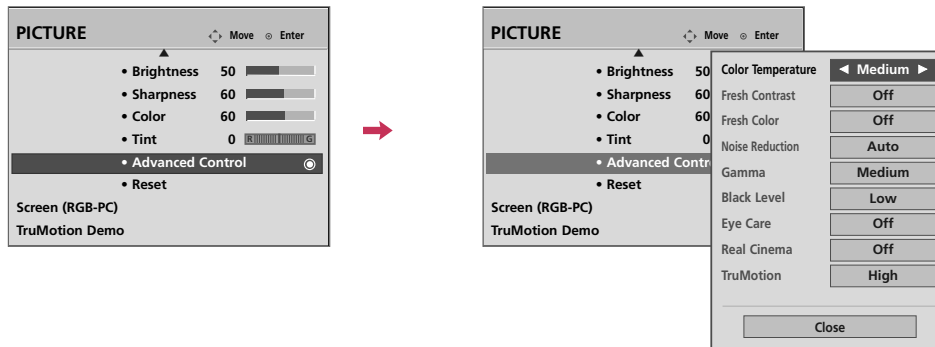
- 1   Select **PICTURE**.
- 2   Select **Picture Mode**.
- 3   Select **Intelligent Sensor** (Only 32/37/42/47/52LG50/60/70), **Vivid**, **Standard**, **Cinema**, **Sport**, or **Game**.
- 4  Return to the previous menu.
-  Return to TV viewing.











- **Intelligent Sensor, Vivid, Standard, Cinema, Sport, and Game** Settings are preset for the optimum picture quality at the factory and are not adjustable.
- When selecting **Intelligent Sensor** (Only 32/37/42/47/52LG50/60/70), the most suitable picture is automatically adjusted according to the surrounding conditions.
- You can also adjust **Picture Mode** in the **Q. Menu**.

Color Tone - Preset

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.

To initialize values (reset to default settings), select the Cool option.



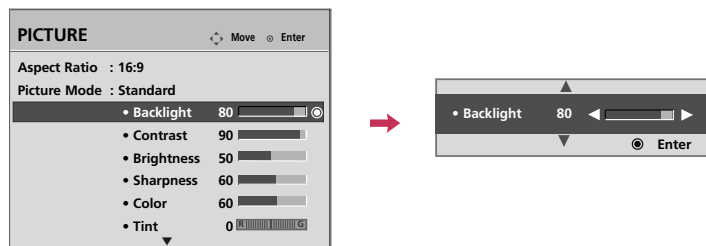
- 1   Select **PICTURE**.
- 2   Select **Advanced Control**.
- 3   Select **Color Temperature**.
- 4   Select **Cool, Medium, or Warm**.
- 5  Return to the previous menu.
-  Return to TV viewing.

PICTURE CONTROL













MANUAL PICTURE ADJUSTMENT

Picture Mode - User Mode

Adjust the picture appearance to suit your preference and viewing situations. This feature is disabled in "Picture Mode-Intelligent Sensor".

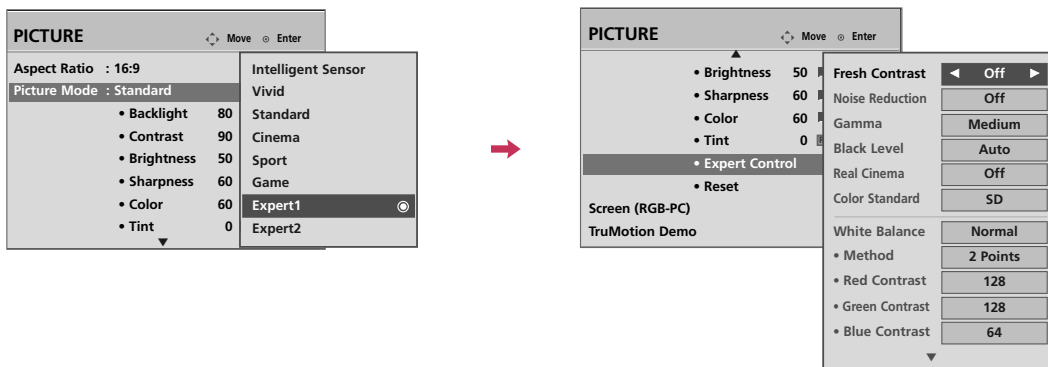















PICTURE CONTROL

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

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.



- 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 CONTROL

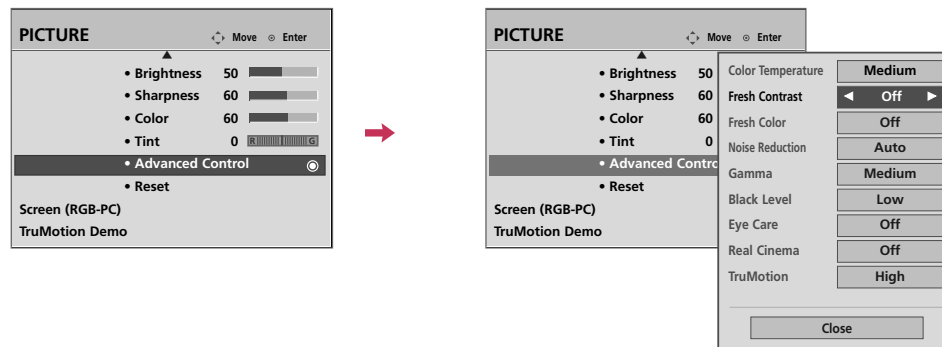
PICTURE IMPROVEMENT TECHNOLOGY

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.

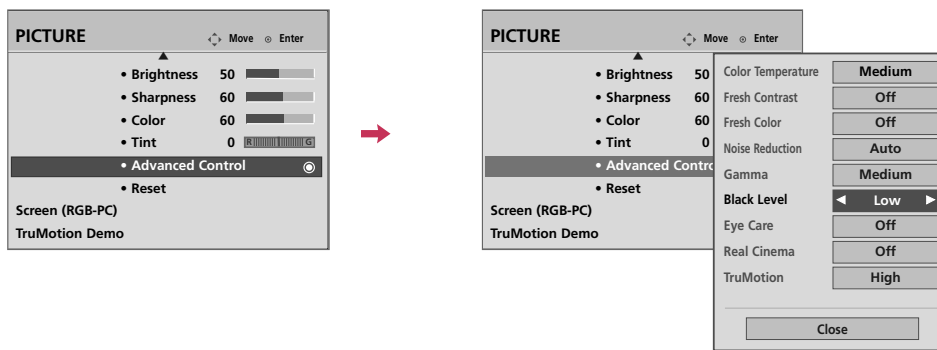












PICTURE CONTROL

-   Select **PICTURE**.
-   Select **Advanced Control**.
-   Select **Fresh Contrast, Fresh Color, Noise Reduction, or Gamma**.
-   Select your desired options.
-  Return to the previous menu.
-  Return to TV viewing.

ADVANCED CONTROL - BLACK (DARKNESS) LEVEL

Adjusting the contrast and the brightness of the screen using the black level of the screen.
This feature is disable in DTV and PC mode.



- 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.

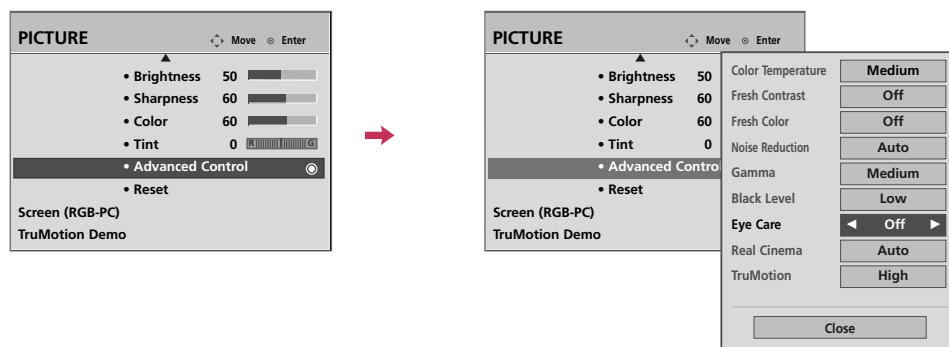
- **Low:** The reflection of the screen gets darker.
- **High:** The reflection of the screen gets brighter.
- **Auto:** Realizing the black level of the screen and set it to High or Low automatically.

PICTURE CONTROL











ADVANCED CONTROL - EYE CARE - LCD TV Only

Dims extremely bright pictures.

This feature is disabled in "Picture Mode-Vivid, Cinema".



PICTURE CONTROL

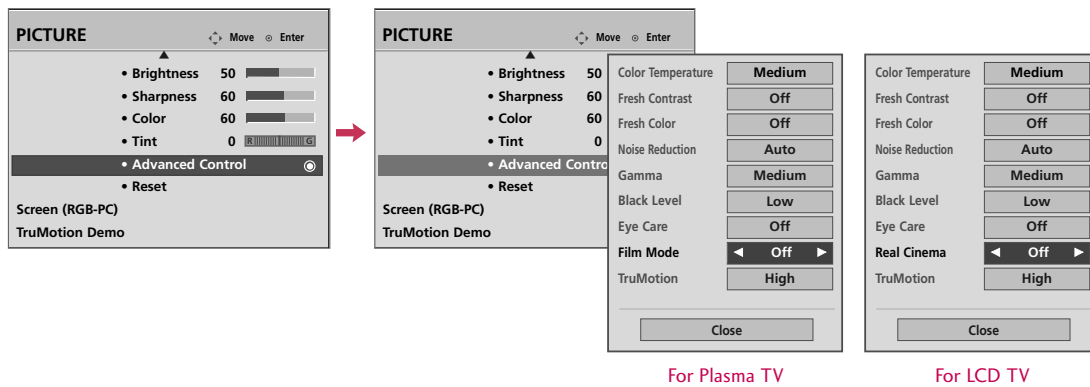
-   Select **PICTURE**.
-   Select **Advanced Control**.
-   Select **Eye Care**.
-   Select **On** or **Off**.
-  Return to the previous menu.
-  Return to TV viewing.

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.

This feature operates only in TV (Analog TV/CATV, Digital DTV/CADTV), AV1, AV2, Component 480i/1080i, and HDMI 1080i mode.



PICTURE CONTROL

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

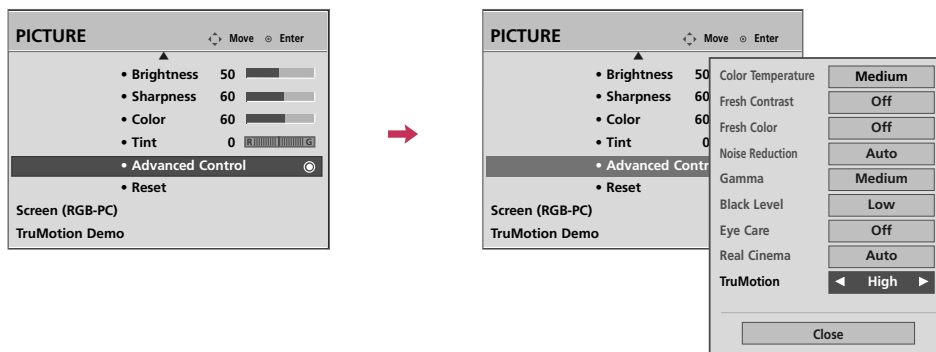
PICTURE CONTROL

ADVANCED CONTROL - TRUMOTION - Only 32/37/42/47/52LG60/70











TruMotion provides even better quality for movies than 3:2 Pull-Down conversions.

TruMotion means the panel supports faster frame rates that normal panels which makes for smoother motion in video. TruMotion LCD models support 120Hz instead of 60Hz. This means twice the information on the screen in the same amount of time and easier film conversions (120 is equally divisible by 24, so no interpretations or double frames are needed).

TruMotion works with all inputs except PC mode.



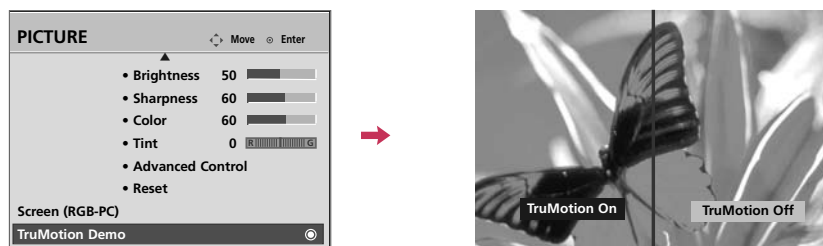
PICTURE CONTROL








- 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”.

TRUMOTION DEMO - Only 32/37/42/47/52LG60/70

Use this feature to see the difference TruMotion makes.
TruMotion works with all inputs except PC mode.

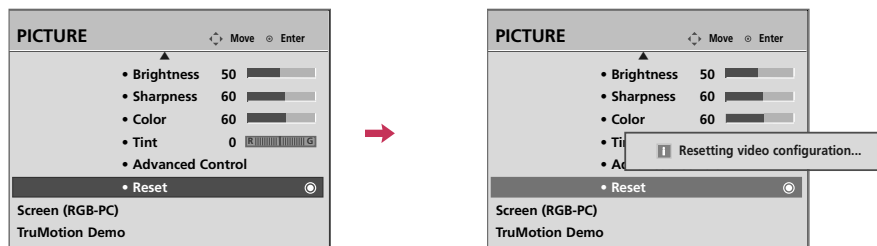


- 1   Select **PICTURE**.
- 2   Select **TruMotion Demo**.
- 3   Select **TruMotion On** or **Off**.
- 4  Stop **TruMotion**.







PICTURE CONTROL

PICTURE RESET

Settings of the selected picture modes return to the default factory settings.

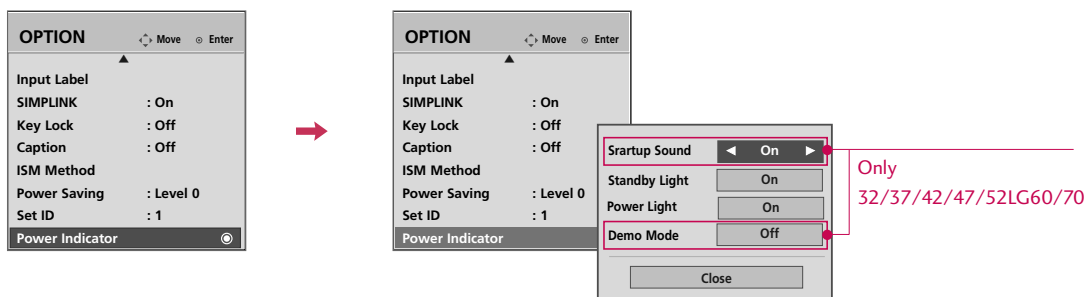











PICTURE CONTROL

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

POWER INDICATOR

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



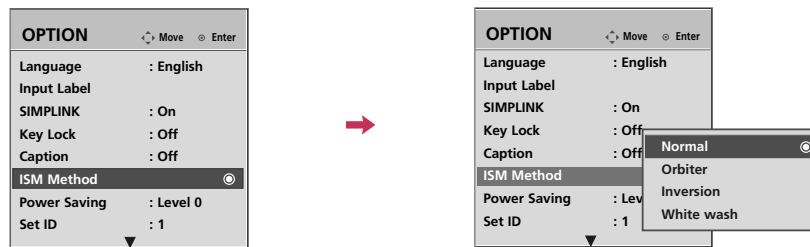
- 1   Select **OPTION**.
- 2   Select **Power Indicator**.
- 3   Select **Startup Sound, Standby Light, Power Light or Demo Mode**.
- 4  Select your desired options.
- 5  Return to the previous menu.
-  Return to TV viewing.

- **Startup Sound:** If you select "On", there will be a start up sound.
- **Standby Light, Power Light:**
Off: Power/Standby indicator will turn off.
On: Power/Standby indicator will turn on.
- **Demo Mode:** It shows how power on/off lighting works.
Red LED gradually fades into White LED and White LED gradually fades into Red LED.









PICTURE CONTROL

IMAGE STICKING MINIMIZATION (ISM) METHOD - Plasma TV Only

A frozen still picture from a PC/video game displayed on the screen for prolonged periods can result in a ghost image. You can use Orbiter to help prevent image sticking. The other two functions are for removing a ghost image.



PICTURE CONTROL

- 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.

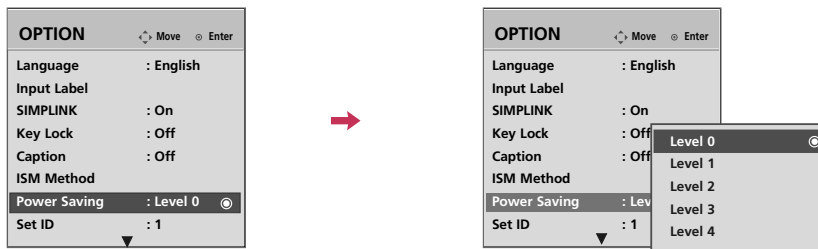
- **Normal:** If image sticking is never a problem, ISM is not necessary - set to Normal.
- **Orbiter:** Orbiter may help prevent ghost images. However, it is best not to allow any fixed image to remain on the screen. To avoid a ghost image on the screen, the image will move every 2 minutes.
- **Inversion:** 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.

POWER SAVING PICTURE MODE - Plasma TV Only

Low power reduces the plasma display's power consumption.



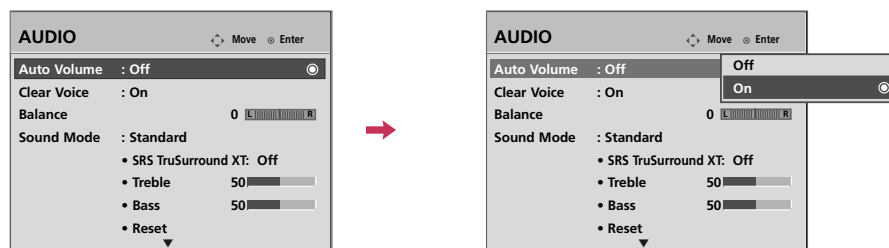
- 1   Select **OPTION**.
- 2   Select **Power Saving**.
- 3   Select **Level 0, Level 1, Level 2, Level 3, or Level 4**.
- 4  Return to the previous menu.
-  Return to TV viewing.









- Level 0 is the brightest.
- 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.

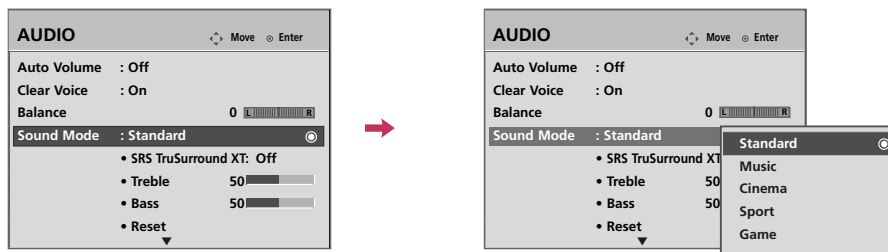










-   Select **AUDIO**.
-   Select **Auto Volume**.
-   Select **On** or **Off**.
-  Return to the previous menu.
-  Return to TV viewing.

PRESET SOUND SETTINGS (SOUND MODE)

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

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

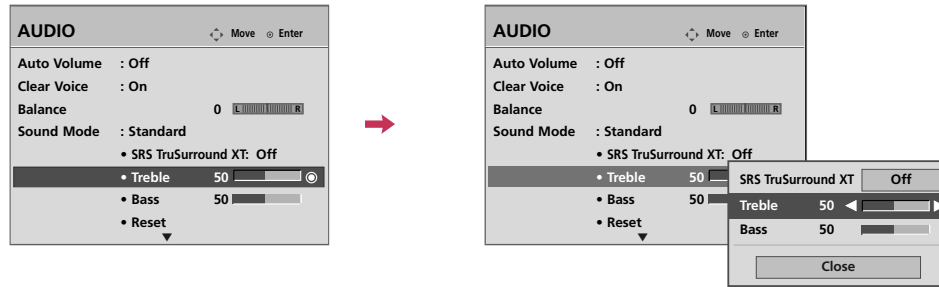










-   Select **AUDIO**.
-   Select **Sound Mode**.
-   Select **Standard, Music, Cinema, Sport, or Game**.
-  Return to the previous menu.
-  Return to TV viewing.




■ You can also adjust **Sound Mode** in the **Q. Menu**.

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.

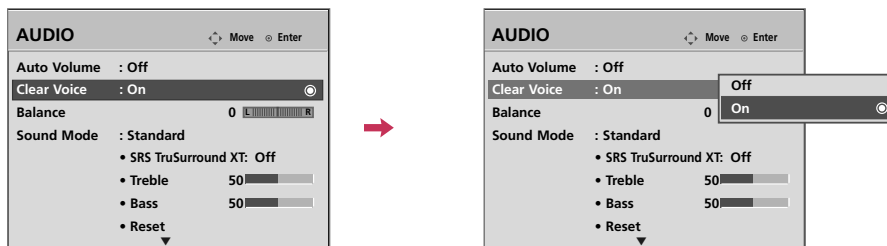
SRS TRUSURROUND XT









- 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.

CLEAR VOICE

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



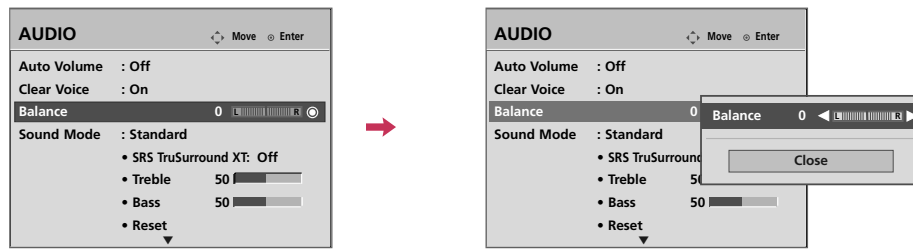
- 1   Select **AUDIO**.
- 2   Select **Clear Voice**.
- 3   Select **On** or **Off**.
- 4  Return to the previous menu.
-  Return to TV viewing.

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









SOUND & LANGUAGE CONTROL

BALANCE

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

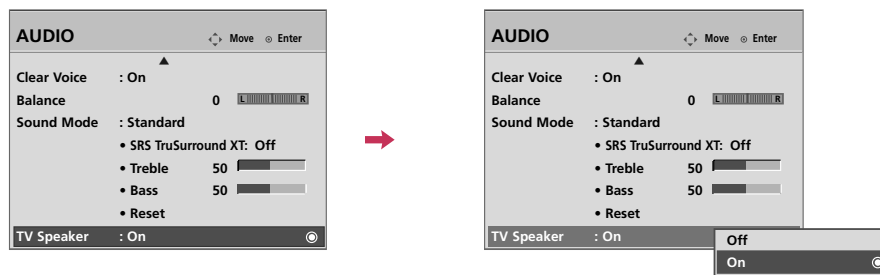










SOUND & LANGUAGE CONTROL

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

TV SPEAKERS ON/OFF SETUP

Turn the TV speakers off if using external audio equipment.

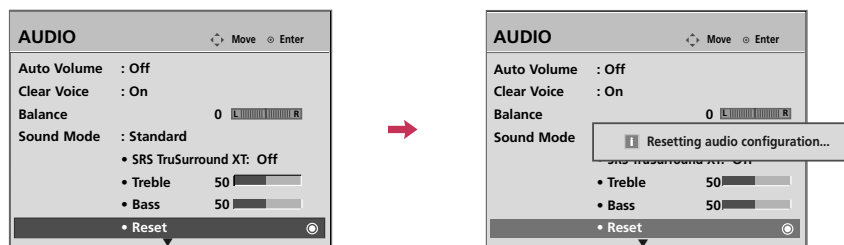








-   Select **AUDIO**.
-   Select **TV Speaker**.
-   Select **On** or **Off**.
-  Return to the previous menu.
-  Return to TV viewing.

SOUND & LANGUAGE CONTROL

AUDIO RESET

Settings of the selected Sound Mode return to the default factory settings.

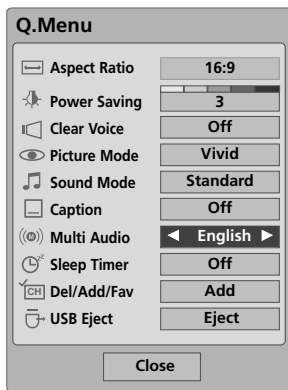


- 1   Select **AUDIO**.
- 2   Select **Reset**.
- 3  Initialize the adjusted value.
- 4  Return to TV viewing.

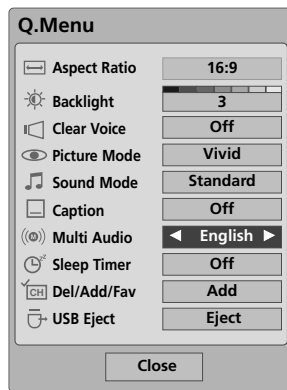
STEREO/SAP BROADCAST SETUP

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







LCD TV



Analog TV

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

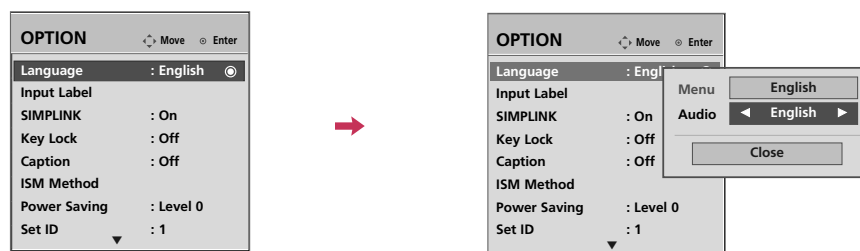
Digital TV

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

SOUND & LANGUAGE CONTROL

AUDIO LANGUAGE

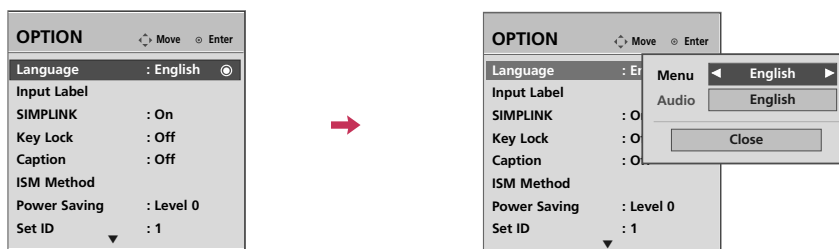
Other languages may be available if a digital signal is provided by the broadcasting station.
This feature operates only in DTV/CADTV mode.












-   Select **OPTION**.
-   Select **Language**.
-   Select **Audio**.
-  Select your desired language:
English, Spanish, or French
-  Return to the previous menu.
-  Return to TV viewing.

ON-SCREEN MENUS LANGUAGE SELECTION

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



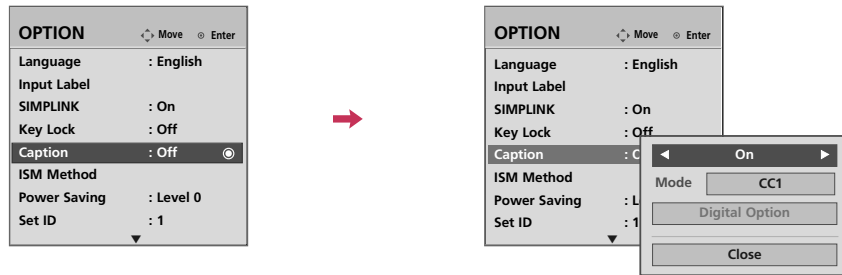
- 1   Select **OPTION**.
- 2   Select **Language**.
- 3   Select **Menu**.
- 4  Select your desired language.
From this point on, the on-screen menus will be shown in the selected language.
- 5  Return to the previous menu.
-  Return to TV viewing.

SOUND & LANGUAGE CONTROL

CAPTION MODE

Analog Broadcasting System Captions

Caption must be provided to help people with hearing loss watch TV. 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 both digital and analog channels on the Antenna/Cable. This TV is programmed to memorize the caption/text mode which was last set when you turned the power off. This function is only available when **Caption Mode** is set **On**.



SOUND & LANGUAGE CONTROL

- 1 Select **OPTION**.
 - 2 Select **Caption**.
 - 3 Select **On**.
 - 4 Select **CC1-4** or **Text1-4**.
 - 5 Return to the previous menu.
- Return to TV viewing.

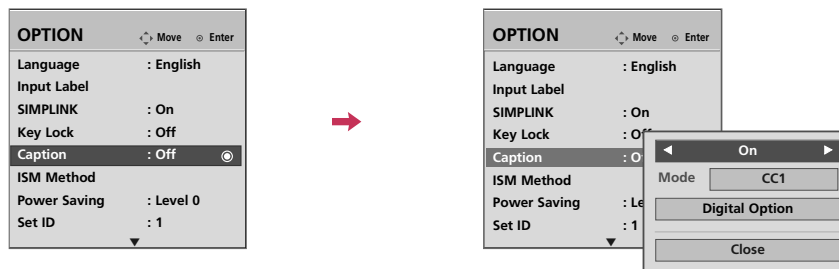
- When selecting **Off**, Sub-menus for Analog, DTV, and Digital Option become disabled.
- **CAPTION**
The term for the words that scroll across the bottom of the TV screen; usually the audio portion of the program provided for the hearing impaired.
- **TEXT**
The term for the words that appear in a large black frame and almost cover the entire screen; usually messages provided by the broadcaster.











Digital Broadcasting System Captions

Choose the language you want the DTV/CADTV Captions to appear in.

Other Languages can be chosen for digital sources only if they are included on the program.

This function is only available when **Caption Mode** is set **On**.

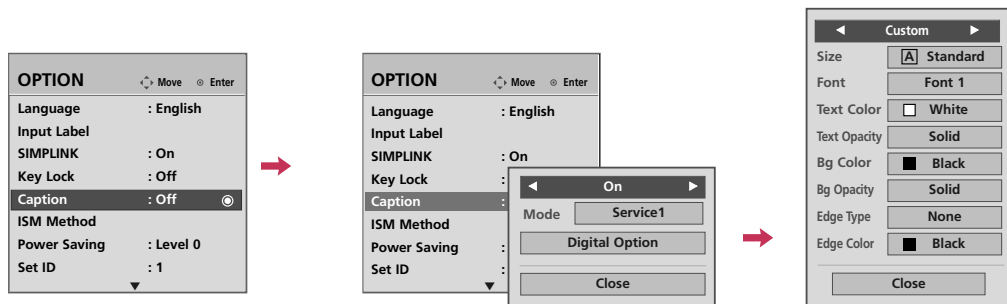


- 1   Select **OPTION**.
- 2   Select **Caption**.
- 3   Select **On**.
- 4   Select **CC1-4, Text1-4, or Service1 - 6**.
- 5  Return to the previous menu.
-  Return to TV viewing.















SOUND & LANGUAGE CONTROL

Caption Option

Customize the DTV/CADTV captions that appear on your screen.
This function is only available when **Caption Mode** is set **On**.



SOUND & LANGUAGE CONTROL

- 1   Select **OPTION**.
- 2   Select **Caption**
- 3   Select **On**.
- 4   Select **Digital Option**.
- 5   Select **Custom**.
- 6   Customize the **Style, Font**, etc., to your preference. A preview icon is provided at the bottom of the screen, use it to see the caption language.
- 7  Return to the previous menu.
-  Return to TV viewing.

- **Size:** Set the word size.
- **Font:** Select a typeface for the text.
- **Text Color:** Choose a color for the text.
- **Text Opacity:** Specify the opacity for the text color.
- **Bg (Background) Color:** Select a background color.
- **Bg (Background) Opacity:** Select the opacity for the background color.
- **Edge Type:** Select an edge type.
- **Edge Color:** Select a color for the edges.

TIME SETTING

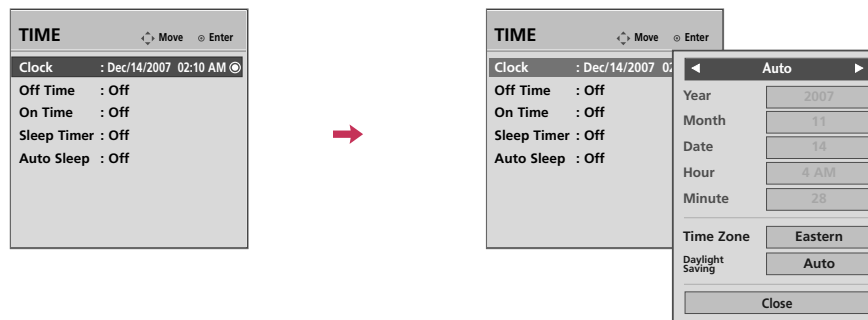
CLOCK SETTING













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.

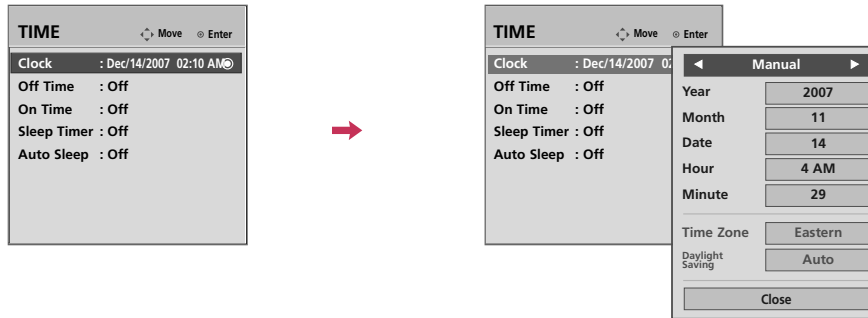
Set the clock manually if the current time is set incorrectly by the auto clock function.













- 1   Select **TIME**.
- 2   Select **Clock**.
- 3   Select **Auto**.
- 4   Select your viewing area time zone.
 - U.S.A: **Eastern, Central, Mountain, Pacific, Alaska, or Hawaii.**
 - Canada: **Eastern, Central, Mountain, Pacific, New F.land, or Atlantic.**
- 5   Select **Auto, Off, or On** (depending on whether or not your viewing area observes Daylight Saving time).
- 6  Return to the previous menu.
-  Return to TV viewing.

Manual Clock Setup

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



-   Select **TIME**.
-   Select **Clock**.
-   Select **Manual**.
-  Select the Year, Month, Date, Hour, or Minutes option.
-  Set the Year, Month, Date, Hour, or Minutes option.
-  Return to the previous menu.
-  Return to TV viewing.

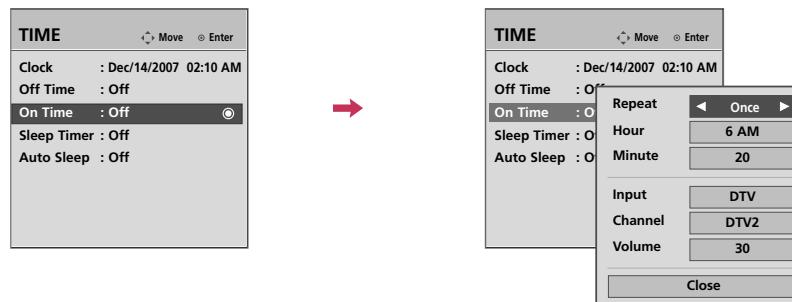
AUTO ON/OFF TIME SETTING

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.



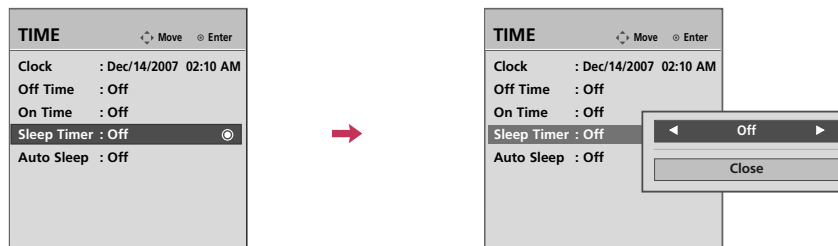
- 1 Select **TIME**.
- 2 Select **Off time** or **On time**.
- 3 Select **Repeat**.
- 4 Select **Once, Everyday, Mon~Fri, Mon~Sat, Weekend, or Sunday**.
- 5 Select and set **Hour** or **Minute**.
- 6 Return to the previous menu.
- Return to TV viewing.









- 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 HDMI1-4**.
- 3 When Selecting **TV**: set the channel at turn-on.
- 4 Adjust to sound level at turn-on.

SLEEP TIMER SETTING

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

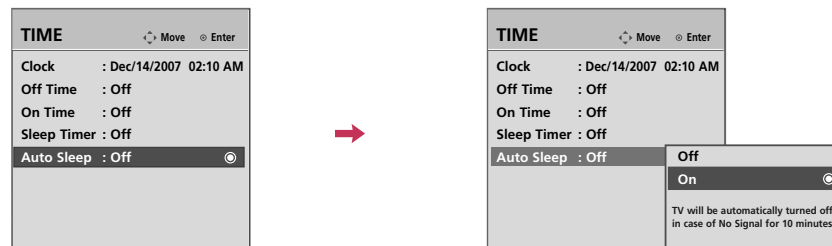










-   Select **TIME**.
-   Select **Sleep Timer**.
-   Select **10, 20, 30, 60, 90, 120, 180, or 240** minutes.
-  Return to the previous menu.
-  Return to TV viewing.

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

AUTO SHUT-OFF SETTING

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



- 1   Select **TIME**.
- 2   Select **Auto Sleep**.
- 3   Select **On** or **Off**.
- 4  Return to the previous menu.
-  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 (V-Chip) 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

V-Chip rating and categories

Rating guidelines are provided by broadcasting stations. Most television programs and television movies can be blocked by TV Rating and/or Individual Categories. Movies that have been shown at the theaters or direct-to-video movies use the Movie Rating System (MPAA) only.

Ratings for Television programs including made-for-TV movies :





- TV-G (General audience)
- TV-PG (Parental guidance suggested)
- TV-14 (Parents strongly cautioned)
- TV-MA (Mature audience only)
- TV-Y (All children)
- TV-Y7 (Children 7 years older)

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.

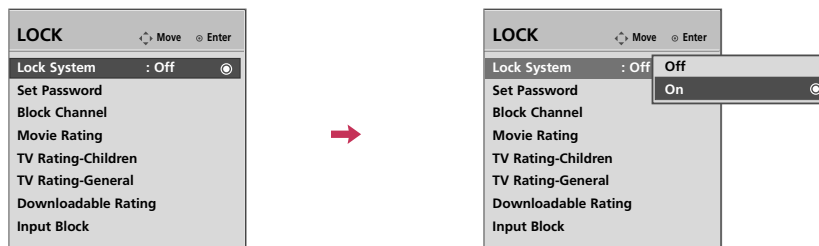





1.    Select **LOCK**.
2.  Input the password.


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

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.

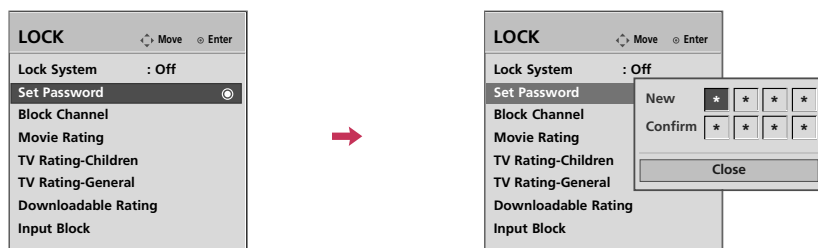
 Return to TV viewing.




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


PARENTAL CONTROL / RATINGS

Set Password



Change the password by inputting a new password twice.





1    Select **LOCK**.

2  Input the password.

3  Select **Set password**.

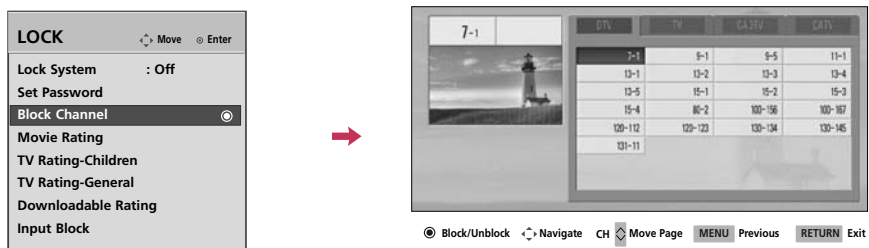
4   Choose any 4 digits for your new password.
As soon as the 4 digits are entered, re-enter the same 4 digits on the **Confirm**.











5  Return to the previous menu.

 Return to TV viewing.

CHANNEL BLOCKING

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



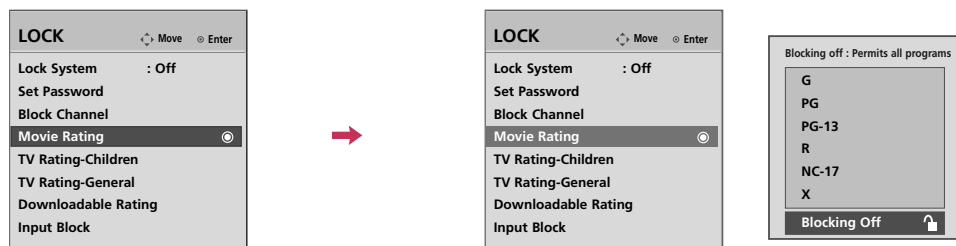
- 1    Select **LOCK**.
- 2  Input the password.
- 3  Select **Block Channel**.
- 4   Select a channel to block or unblock.
- 5  Block or unblock a channel.
- 6  Return to the previous menu.
-  Return to TV viewing.










PARENTAL CONTROL / RATINGS

MOVIE & TV RATING

Movie Rating (MPAA) - For USA only

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.

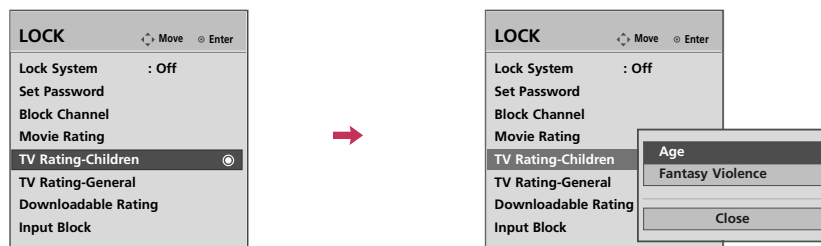





- 1    Select **LOCK**.
- 2  Input the password.
- 3  Select **Movie Rating**.
- 4   Select **G, PG, PG-13, R, NC-17** or **X**.
- 5  Return to the previous menu.
-  Return to TV viewing.


- G (General audience)
- PG (Parental guidance suggested)
- PG-13 (Parents strongly cautioned)
- R (Restricted)
- NC-17 (No one 17 and under admitted)
- X (Adult only)
- Blocking Off (Permits all programs)
- ▶ If you set PG-13: G and PG movies will be available, PG-13, R, NC-17 and X will be blocked.

TV Rating Children - For USA only

Prevents children from watching certain children's TV programs, according to the ratings limit set. The children rating does not apply to other TV programs. Unless you block certain TV programs intended for mature audiences in the TV Rating - sub menu, your children can view those programs.




1    Select **LOCK**.


2  Input the password.

3  Select **TV Rating-Children**.

4   Select **Age** or **Fantasy Violence**.

5   Select block options.

6  Return to the previous menu.

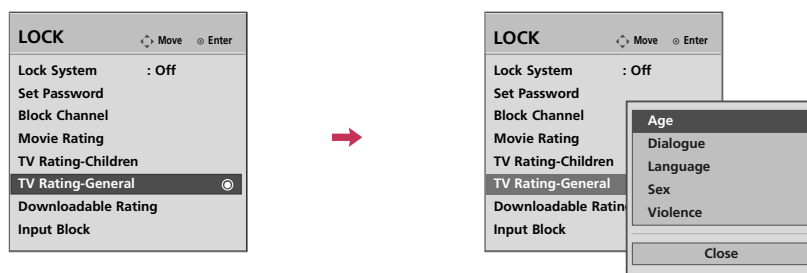
 Return to TV viewing.




- Age (applies to TV-Y, TV-Y7)
- Fantasy Violence (applies to TV-Y7)


PARENTAL CONTROL / RATINGS

TV Rating General - For USA only

Based on the ratings, blocks certain TV programs that you and your family do not want to view.




1    Select **LOCK**.


2  Input the password.

3  Select **TV Rating-General**.

4   Select **Age, Dialogue, Language, Sex or Violence**.

5   Select block options.

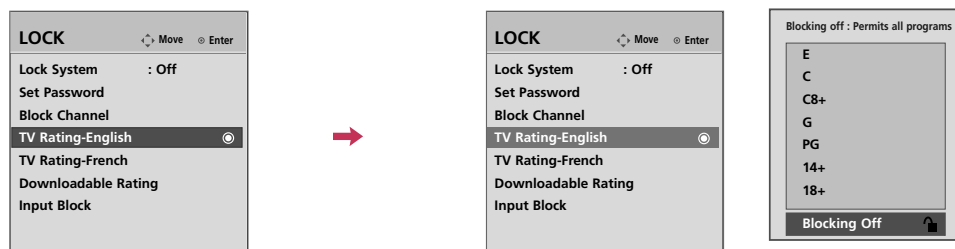
6  Return to the previous menu.

 Return to TV viewing.

- Age (applies to TV-G,TV-PG,TV-14,TV-MA).
- Dialogue-sexual dialogue (applies to TV-PG,TV-14).
- Language-adult language (applies to TV-PG, TV-14, TV-MA).
- Sex-sexual situations (applies to TV-PG, TV-14, TV-MA).
- Violence (applies to TV-PG, TV-14, TV-MA).

TV Rating English - For CANADA only

Selecting canadian english language rating system.



1 Select **LOCK**.

2 Input the password.

3 Select **TV Rating-English**.

4 Select **E, C, C8+, G, PG, 14+, 18+, or Blocking Off**.

5 Return to the previous menu.

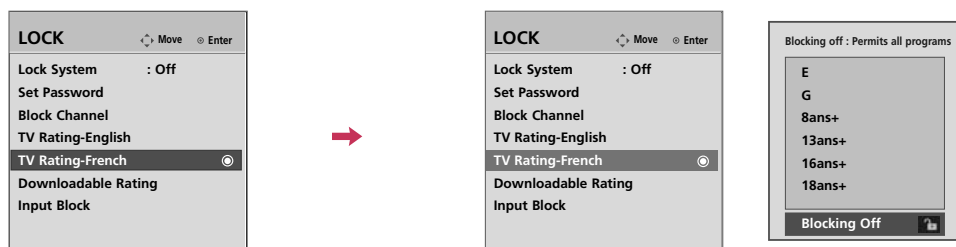
Return to TV viewing.




- E (Exempt)
- C (Children)
- C8+ (Children eight years and older)
- G (General programming, suitable for all audiences)
- PG (Parental Guidance)
- 14+ (Viewers 14 years and older)
- 18+ (Adult programming)
- Blocking Off (Permits all programs)


PARENTAL CONTROL / RATINGS

TV Rating French - For CANADA only



Selecting canadian french language rating system.





1    Select **LOCK**.

2  Input the password.

3  Select **TV Rating-French**.

4   Select **E, G, 8ans+, 13ans+, 16ans+, 18ans+, or Blocking off**.

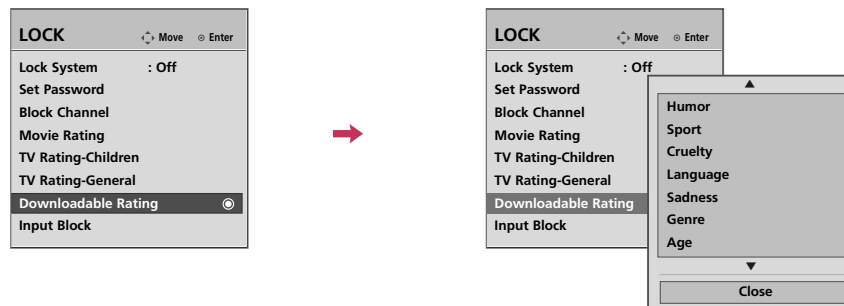
5  Return to the previous menu.














 Return to TV viewing.

- E (Exempt)
- G (General)
- 8ans+ (General-Not convenient for little children)
- 13ans+ (Not convenient for children of 13 years and younger)
- 16ans+ (Not convenient for children of 16 years and younger)
- 18ans+ (This programs is only for adults)
- Blocking off (Permits all programs)

DOWNLOADABLE RATING

This function may become available in the future and will be available only for digital channels.
This function operates only when TV has received Region5 Rating data.



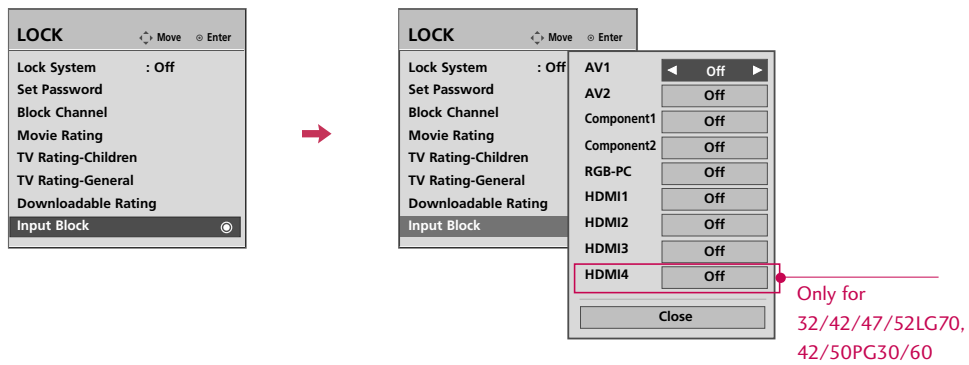
- 1    Select **LOCK**.
- 2  Input the password.
- 3  Select **Downloadable Rating**.
- 4   Select desired **Downloadable Rating** option.
- 5   Select desired **Humor, Sport, Cruelty, Language, Sadness, Genre, Age, or Movie** option.
- 6   Select block options.
- 7  Return to the previous menu.
-  Return to TV viewing.











■ Based on rating table, your TV's OSD (On Screen Display) may differ slightly from what is shown in this manual.

PARENTAL CONTROL / RATINGS

EXTERNAL INPUT BLOCKING

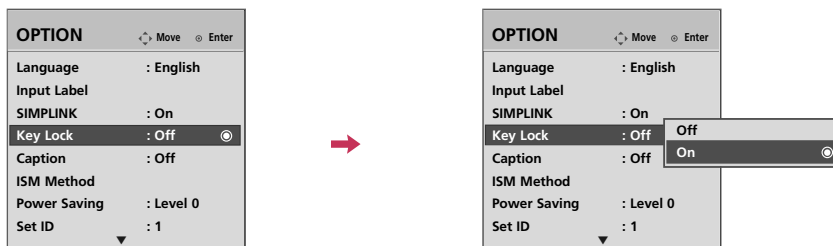
Enables you to block an input.











-    Select **LOCK**.
-  Input the password.
-  Select **Input Block**.
-   Select input 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.

- In **Key Lock 'On'**, if the TV is turned off, press the \odot / I, INPUT, CH \wedge \vee button on the TV or POWER, INPUT, CH \wedge \vee or NUMBER buttons on the remote control.
- 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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> Check for local interference such as an electrical appliance or power tool.
Poor reception on some channels	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> Check antenna (Change the direction of the antenna).

The audio function does not work.	
Picture OK & No sound	<ul style="list-style-type: none"> ■ 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	<ul style="list-style-type: none"> ■ Adjust Balance in menu option.
Unusual sound from inside the product	<ul style="list-style-type: none"> ■ 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	<ul style="list-style-type: none"> ■ Adjust resolution, horizontal frequency, or vertical frequency. ■ Check the input source.
Vertical bar or stripe on background & Horizontal Noise & Incorrect position	<ul style="list-style-type: none"> ■ Work the Auto configure or adjust clock, phase, or H/V position. (Option)
Screen color is unstable or single color	<ul style="list-style-type: none"> ■ Check the signal cable. ■ Reinstall the PC video card.



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

MODELS		32LG30 (32LG30-UA)	37LG30 (37LG30-UA)	42LG30 (42LG30-UA)
Dimensions (Width x Height x Depth)	With stand	31.6 x 23.8 x 8.9 inches 801.8 x 604.2 x 227.3 mm	36.2 x 26.9 x 11.6 inches 919.6 x 682.3 x 293.8 mm	40.7 x 29.2 x 11.6 inches 1032.8 x 742.3 x 293.8 mm
	Without stand	31.6 x 21.4 x 4.0 inches 801.8 x 544.1 x 101.0 mm	36.2 x 24.0 x 4.5 inches 919.6 x 610.3 x 114.3 mm	40.7 x 26.4 x 4.5 inches 1032.8 x 670.1 x 115.1 mm
Weight	With stand	29.5 pounds / 13.4 kg	41.4 pounds / 18.8 kg	52.0 pounds / 23.6 kg
	Without stand	26.0 pounds / 11.8 kg	35.7 pounds / 16.2 kg	46.3 pounds / 21.0 kg
MODELS		37LG50 (37LG50-UA)	42LG50 (42LG50-UA)	
Dimensions (Width x Height x Depth)	With stand	36.9 x 27.0 x 11.6 inches 936.4 x 684.4 x 293.8 mm	36.9 x 27.0 x 11.6 inches 936.4 x 684.4 x 293.8 mm	
	Without stand	36.9 x 24.1 x 3.5 inches 936.4 x 612.8 x 88.0 mm	36.9 x 24.1 x 3.5 inches 936.4 x 612.8 x 88.0 mm	
Weight	With stand	40.3 pounds / 18.3 kg	40.3 pounds / 18.3 kg	
	Without stand	34.4 pounds / 15.6 kg	34.4 pounds / 15.6 kg	
MODELS		47LG50 (47LG50-UA)	52LG50 (52LG50-UA)	
Dimensions (Width x Height x Depth)	With stand	45.4 x 31.8 x 12.8 inches 1153.7 x 807.2 x 326.0 mm	50.9 x 35.1 x 13.5 inches 1291.7 x 892.2 x 342.9 mm	
	Without stand	45.4 x 29.0 x 4.1 inches 1153.7 x 734.5 x 103.0 mm	50.9 x 32.2 x 4.5 inches 1291.7 x 817.0 x 115.3 mm	
Weight	With stand	85.1 pounds / 38.6 kg	87.1 pounds / 39.5 kg	
	Without stand	77.0 pounds / 34.9 kg	77.0 pounds / 34.9 kg	
Power requirement Television System Program Coverage External Antenna Impedance		AC100-240V ~ 50/60Hz NTSC-M, ATSC, 64 & 256 QAM VHF 2-13, UHF 14-69, CATV 1-135, DTV 2-69, CADTV 1-135 75 ohm		
Environment condition	Operating Temperature Operating Humidity	32 ~ 104°F (0 ~ 40°C) Less than 80%		
	Storage Temperature Storage Humidity	-4 ~ 140°F (-20 ~ 60°C) Less than 85%		

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

APPENDIX

MODELS		32LG60 (32LG60-UA)	37LG60 (37LG60-UA)	42LG60 (42LG60-UA)
Dimensions (Width x Height x Depth)	With stand	31.8 x 23.9x 9.8 inches 806.6 x 606.5 x 249.0mm	36.5 x 27.3 x 11.0 inches 927.0 x 692.8 x 280.5 mm	40.7 x 29.5 x 11.3 inches 1033.4 x 750.0 x 287.6 mm
	Without stand	31.8 x 21.7 x 3.1 inches 806.6 x 552.3 x 79.0 mm	36.5 x 24.8 x 3.5 inches 927.0 x 630.0 x 88.0 mm	40.7 x 27.0x 3.5 inches 1033.4 x 686.8 x 88.5 mm
Weight	With stand	30.2 pounds / 13.7 kg	44.1 pounds / 20.0 kg	54.9 pounds / 24.9 kg
	Without stand	24.7 pounds / 11.2 kg	35.3 pounds / 16.0 kg	45.0 pounds / 20.4 kg
MODELS		47LG60 (47LG60-UA)	52LG60 (52LG60-UA)	
Dimensions (Width x Height x Depth)	With stand	45.4 x 31.8 x 12.8 inches 1153.7 x 807.2 x 326.0 mm	50.9 x 35.1 x 13.5 inches 1291.7 x 892.2 x 342.9 mm	
	Without stand	45.4 x 29.0 x 4.1 inches 1153.7 x 734.5 x 103.0 mm	50.9 x 32.2 x 4.5 inches 1291.7 x 817.0 x 115.3 mm	
Weight	With stand	85.1 pounds / 38.6 kg	87.1 pounds / 39.5 kg	
	Without stand	77.0 pounds / 34.9 kg	77.0 pounds / 34.9 kg	
MODELS		32LG70 (32LG70-UA)	42LG70 (42LG70-UA)	
Dimensions (Width x Height x Depth)	With stand	31.8 x 23.9x 9.8 inches 806.6 x 606.5 x 249.0mm	40.7 x 29.5 x 11.3 inches 1033.4 x 750.0 x 287.6 mm	
	Without stand	31.8 x 21.7 x 3.1 inches 806.6 x 552.3 x 79.0 mm	40.7 x 27.0x 3.5 inches 1033.4 x 686.8 x 88.5 mm	
Weight	With stand	30.2 pounds / 13.7 kg	54.9 pounds / 24.9 kg	
	Without stand	24.7 pounds / 11.2 kg	45.0 pounds / 20.4 kg	
MODELS		47LG70 (47LG70-UA)	52LG70 (52LG70-UA)	
Dimensions (Width x Height x Depth)	With stand	45.4 x 31.8 x 12.8 inches 1153.7 x 807.2 x 326.0 mm	50.9 x 35.1 x 13.5 inches 1291.7 x 892.2 x 342.9 mm	
	Without stand	45.4 x 29.0 x 4.1 inches 1153.7 x 734.5 x 103.0 mm	50.9 x 32.2 x 4.5 inches 1291.7 x 817.0 x 115.3 mm	
Weight	With stand	85.1 pounds / 38.6 kg	87.1 pounds / 39.5 kg	
	Without stand	77.0 pounds / 34.9 kg	77.0 pounds / 34.9 kg	
Power requirement Television System Program Coverage External Antenna Impedance		AC100-240V ~ 50/60Hz NTSC-M, ATSC, 64 & 256 QAM VHF 2-13, UHF 14-69, CATV 1-135, DTV 2-69, CADTV 1-135 75 ohm		
Environment condition	Operating Temperature Operating Humidity	32 ~ 104°F (0 ~ 40°C) Less than 80%		
	Storage Temperature Storage Humidity	-4 ~ 140°F (-20 ~ 60°C) Less than 85%		

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

MODELS		42PG20 (42PG20-UA) 42PG20C (42PG20C-UA)	50PG20 (50PG20-UA) 50PG20C (50PG20C-UA)
Dimensions (Width x Height x Depth)	With stand	41.3 x 30.2 x 12.2 inches 1048.0 x 766.0 x 310.0 mm	48.9 x 34.9 x 14.6 inches 1242.0 x 887.6 x 370.0 mm
	Without stand	41.3 x 28.1 x 3.3 inches 1048.0 x 713.0 x 83.5 mm	48.9 x 32.6 x 3.5 inches 1242.0 x 827.2 x 88.0 mm
Weight	With stand	61.7 pounds / 28.0 kg	86.6 pounds / 39.3 kg
	Without stand	54.2 pounds / 24.6 kg	76.3 pounds / 34.6 kg
MODELS		50PG30 (50PG30F-UA)	60PG30 (60PG30F-UA)
Dimensions (Width x Height x Depth)	With stand	48.9 x 34.9 x 14.6 inches 1242.0 x 887.6 x 370.0 mm	57.3 x 38.8 x 16.3 inches 1455.0 x 985.0 x 414.0 mm
	Without stand	48.9 x 32.6 x 3.5 inches 1242.0 x 827.2 x 88.0 mm	57.3 x 38.5 x 15.8 inches 1455.0 x 914.8 x 82.8 mm
Weight	With stand	86.6 pounds / 39.3 kg	137.6 pounds / 62.4 kg
	Without stand	76.3 pounds / 34.6 kg	127.8 pounds / 58.0 kg
MODELS		50PG60 (50PG60F-UA)	60PG60 (60PG60F-UA)
Dimensions (Width x Height x Depth)	With stand	48.9 x 34.9 x 14.6 inches 1242.0 x 887.6 x 370.0 mm	57.3 x 38.8 x 16.3 inches 1455.0 x 985.0 x 414.0 mm
	Without stand	48.9 x 32.6 x 3.5 inches 1242.0 x 827.2 x 88.0 mm	57.3 x 38.5 x 15.8 inches 1455.0 x 914.8 x 82.8 mm
Weight	With stand	86.6 pounds / 39.3 kg	137.6 pounds / 62.4 kg
	Without stand	76.3 pounds / 34.6 kg	127.8 pounds / 58.0 kg
Power requirement Television System Program Coverage External Antenna Impedance		AC100-240V ~ 50/60Hz NTSC-M, ATSC, 64 & 256 QAM VHF 2-13, UHF 14-69, CATV 1-135, DTV 2-69, CADTV 1-135 75 ohm	
Environment condition	Operating Temperature Operating Humidity	32 ~ 104°F (0 ~ 40°C) Less than 80%	
	Storage Temperature Storage Humidity	-4 ~ 140°F (-20 ~ 60°C) Less than 85%	

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

APPENDIX

PROGRAMMING THE REMOTE CONTROL

The provided universal remote control can be programmed to operate most remote-controllable devices. Note that the remote may not control all models of 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 STB and press the corresponding mode button (such as **STB**) on the remote control, while pointing at the component. Test the **POWER** and **CH** ^ ∨ 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** Turn on the component to be programmed, then press the corresponding mode button (such as **STB**) on the remote control. The remote control button of the desired device is illuminated.
- 3** Press the **MENU** and **MUTE** buttons simultaneously, and 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.

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
		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

Remote Control Code

HDSTB

Brand	Codes	Brand	Codes	Brand	Codes
ALPHASTAR DSR	123	HOUSTON TRACKER	033 037 039 051	PROSAT	072
AMPLICA	050		057 104	RCA	066 106
BIRDVIEW	051 126 129	HUGHES	068	REALISTIC	043 074
CHANNEL MASTER	013 014 015 018	JANIEL	060 147	SAMSUNG	123
	036 055	JERROLD	061	SATELLITE SERVICE CO	028 035 047 057
CHAPARRAL	008 009 012 077	KATHREIN	108		085
CITOH	054	LEGEND	057	SCIENTIFIC ATLANTA	032 138
CURTIS MATHES	050 145	LG	001	SONY	103
DRAKE	005 006 007 010	LUTRON	132	STARCAST	041
	011 052 112 116	LUXOR	062 144	SUPER GUIDE	020 124 125
	141	MACOM	010 059 063 064	TEECOM	023 026 075 087
DX ANTENNA	024 046 056 076		065		088 090 107 130
ECHOSTAR	038 040 057 058	MEMOREX	057	TOSHIBA	002 127
	093 094 095 096	NEXTWAVE	028 124 125	UNIDEN	016 025 042 043
	097 098 099 100	NORSAT	069 070		044 045 048 049
	122	PACE SKY SATELLITE	143		078 079 080 086
ELECTRO HOME	089	PANASONIC	060 142		101 135 136
EUROPLUS	114	PANSAT	121	VIEWSTAR	115
FUJITSU	017 021 022 027	PERSONAL CABLE	117	WINEGARD	128 146
	133 134	PHILIPS	071	ZENITH	081 082 083 084
GENERAL INSTRUMENT	003 004 016 029	PICO	105		091 120
	031 059 101	PRESIDENT	019 102		
HITACHI	139 140	PRIMESTAR	030 110 111		

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		

IR CODES

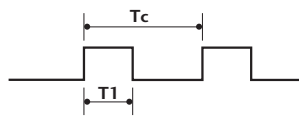
1. How to Connect

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

2. Remote Control IR Codes

■ Output waveform

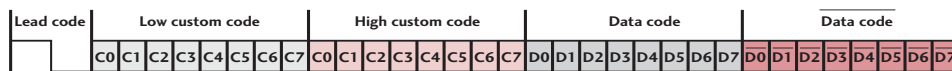
Single pulse, modulated with 37.917KHz signal at 455KHz



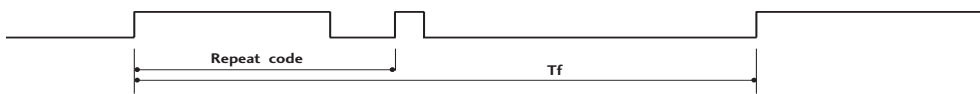
Carrier frequency
 $FCAR = 1/TC = fOSC/12$
 Duty ratio = $T1/TC = 1/3$

■ Configuration of frame

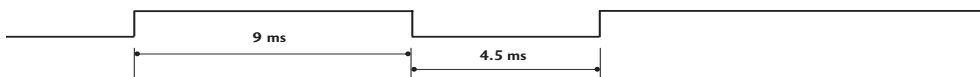
1st frame



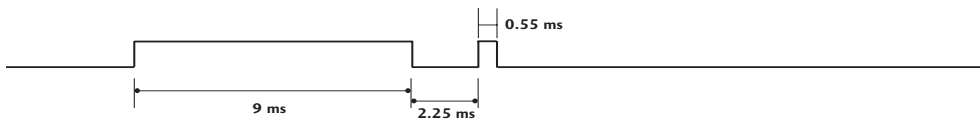
Repeat frame



■ Lead code

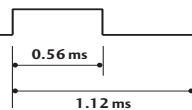


■ Repeat code

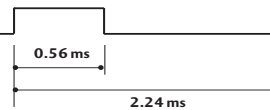


■ Bit description

Bit "0"



Bit "1"



■ Frame interval: Tf

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



APPENDIX

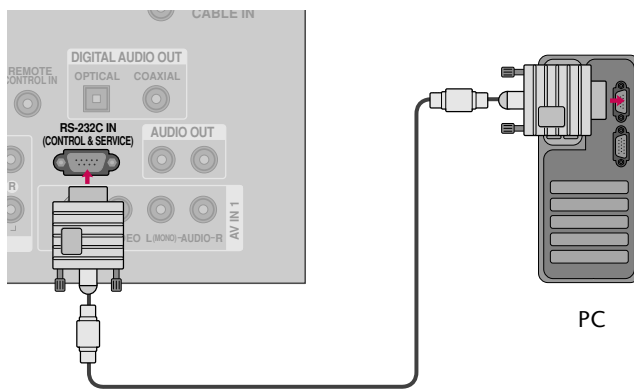
Code (Hexa)	Function	Note
08	POWER	Remote control Button (Power On/Off)
45	Q.MENU	Remote control Button
43	MENU	Remote control Button
0B	INPUT	Remote control Button
10-19	Number Key 0-9	Remote control Button
4C	- (Dash)	Remote control Button
1A	FLASHBK	Remote control Button
09	MUTE	Remote control Button
02	VOL +	Remote control Button
03	VOL -	Remote control Button
00	CH ^	Remote control Button
01	CH v	Remote control Button
1E	FAV	Remote control Button
40	^	Remote control Button
41	v	Remote control Button
07	<	Remote control Button
06	>	Remote control Button
44	ENTER	Remote control Button
5B	RETURN	Remote control Button
7E	SIMPLINK	Remote control Button
30	AV MODE	Remote control Button
B0	PLAY	Remote control Button
BA	PAUSE	Remote control Button
B1	STOP	Remote control Button
BD	REC	Remote control Button
8F	REW	Remote control Button
8E	FF	Remote control Button

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.

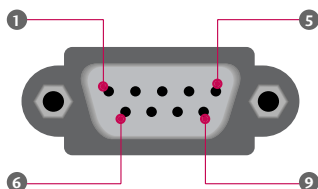
- Note: RS-232C on this unit is intended to be used with third party RS-232C control hardware and software. The instructions below are provided to help with programming software or to test functionality using telenet software.

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



Communication Parameters

- Baud rate : 9600 bps (UART)
- Data length : 8 bits
- Parity : None
- Stop bit : 1 bit
- Communication code : ASCII code
- Use a crossed (reverse) cable.

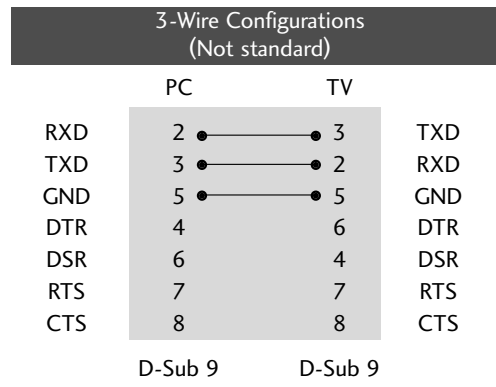
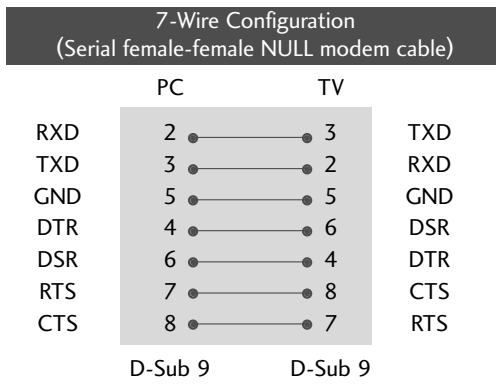
NOTE

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

APPENDIX

RS-232C Configurations

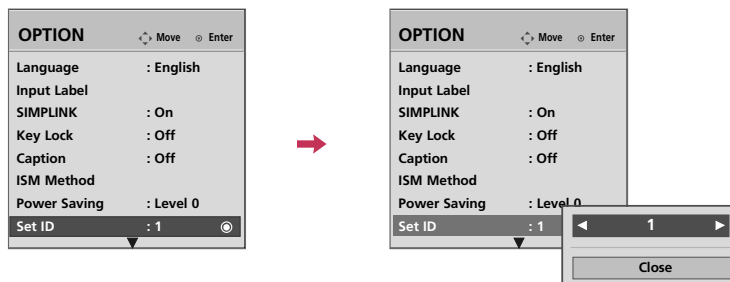
Either cable below can be used.











Set ID

Use this function to specify a TV ID number.

Refer to 'Real Data Mapping1'. ▶ p.133.



APPENDIX

- 1   Select **OPTION**.
- 2   Select **Set ID**.
- 3   Choose the desired TV ID number.
The adjustment range of Set ID is 1~99.
- 4  Return to the previous menu.
-  Return to TV viewing.

Command Reference List

	COMMAND1	COMMAND2	DATA (Hexadecimal)		COMMAND1	COMMAND2	DATA (Hexadecimal)
01. Power	k	a	00 ~ 01	15. Treble	k	r	00 ~ 64
02. Input Select	k	b	(▶ p.132)	16. Bass	k	s	00 ~ 64
03. Input Select	x	b	(▶ p.132)	17. Balance	k	t	00 ~ 64
04. Aspect Ratio	k	c	(▶ p.132)	18. Color Temperature	k	u	00 ~ 03
05. Screen Mute	k	d	00 ~ 01	19. ISM Method	j	p	(▶ p.134)
06. Volume Mute	k	e	00 ~ 01	20. Power Saving	j	q	00 ~ 01
07. Volume Control	k	f	00 ~ 64	21. Auto Configuration	j	u	(▶ p.134)
08. Contrast	k	g	00 ~ 64	23. Channel Add/Del	m	b	00 ~ 01
09. Brightness	k	h	00 ~ 64	24. Key	m	c	(▶ p.135)
10. Color	k	i	00 ~ 64	25. Backlight	m	g	00 ~ 64
11. Tint	k	j	00 ~ 64				
12. Sharpness	k	k	00 ~ 64				
13. OSD Select	k	l	00 ~ 01				
14. Remote Control Lock Mode	k	m	00 ~ 01				

Only Plasma TV Model

Only LCD TV Model

	COMMAND1	COMMAND2	DATA00 (Hexadecimal)	DATA01 (Hexadecimal)	DATA02 (Hexadecimal)	DATA03 (Hexadecimal)	DATA04 (Hexadecimal)	DATA05 (Hexadecimal)
22. 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

APPENDIX

01. Power (Command: k a)

To control Power On/Off of the TV.

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

Data 00: Power Off Data 01: 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 acknowledge.

02. Input Select (Command: k b)

To select input source for the TV.

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

Data 00: DTV Data 01: Analog

Data 02: AV1 Data 03: AV2

Data 04: Component 1 Data 05: Component 2

Data 07: RGB-PC Data 08: HDMI1

Data 09: HDMI2

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

* You can select HDMI3 using "command x b".

* If you select input source, we recommend "command x b".

03. Input Select (Command: x b)

To select input source for TV.

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

Data 00: DTV (Antenna) Data 01: DTV (Cable)

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]

04. Aspect Ratio (Command: k c)

To adjust the screen format.

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

Data 01: 4:3 05: Zoom 2

02: 16:9 06: Set by program

04: Zoom 1 09: Just scan

⋮

Reserved

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

05. Screen Mute (Command: k d)

To select screen mute on/off.

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

Data 00: Screen mute off (Picture on)

Data 01: Screen mute on (Picture off)

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

06. 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 00: Volume mute on (Volume off)

Data 01: Volume mute off (Volume on)

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

07. 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: 00 ~ Max: 64 (*transmit by Hexadecimal code)

*Refer to 'Real data mapping 1'. See page 133.

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

08. 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: 00 ~ Max: 64 (*transmit by Hexadecimal code)

*Refer to 'Real data mapping 1'. See page 133.

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

09. 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: 00 ~ Max: 64 (*transmit by Hexadecimal code)

*Refer to 'Real data mapping 1'. See page 133.

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

10. 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: 00 ~ Max: 64 (*transmit by Hexadecimal code)

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

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

11. 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: 00 ~ Green: 64 (*transmit by Hexadecimal code)

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

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

12. 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: 00 ~ Max: 64 (*transmit by Hexadecimal code)

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

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

13. OSD Select (Command: k l)

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

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

Data 00: OSD off Data 01: OSD on

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

14. 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 00: Lock off Data 01: 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.

15. 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: 00 ~ Max: 64 (*transmit by Hexadecimal code)

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

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

16. 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: 00 ~ Max: 64 (*transmit by Hexadecimal code)

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

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

17. 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: 00 ~ Max: 64 (*transmit by Hexadecimal code)

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

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

18. 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 00: Medium 01: Cool 02: Warm ~~03: User~~

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

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19. ISM Method (Command: j p)

(Only Plasma TV model)

To avoid having a fixed image remain on screen.

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

Data 01: Inversion 02: Orbiter
04: White Wash 08: Normal

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

20. Power saving (Command: j q)

(Only Plasma TV model)

To control the low power function on/off.

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

Data 00: Low Power off
01: Low Power on

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

21. Auto Configuration (Command: j u)

To adjust picture position and minimize image shaking automatically. Auto configuration only works in RGB-PC mode.

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

Data 1: To set

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

22. Channel Tuning (Command: m a)

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

Transmission [m][a][][Set ID][][Data00][][Data01][][Data02][][Data03][][Data04][][Data05][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 ATSC tuner automatically maps the channel to the Major number, the Physical number is not required when sending a command.

Data 00: Physical Channel Number

NTSC air: 02~45, NTSC cable: 01, 0E~7D

ATSC air: 01~45, ATSC cable: 01~87

Data 01 & 02: Major Channel Number

Data 01: High byte Data 02: Low byte

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

Data 03 & 04: Minor Channel Number

Not needed for NTSC.

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	NTSC Air
1	Sub	1	One	1	No Use	x		0	0	0	1	NTSC Cable
						x		0	0	1	0	ATSC Air
						x		0	0	1	1	ATSC Cable_std
						x		0	1	0	0	ATSC Cable_hrc
						x		0	1	0	1	ATSC Cable_irc
						x		0	1	1	0	ATSC cable_auto
						x		0	1	1	1	Reserved
						x	x	x	x	x	x	...
						x	1	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 NTSC 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 NTSC.
- * 5th bit: Use 0 with NTSC since it can only use the physical channel number. Normally use 1 for ATSC 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 (NTSC) cable channel 35.

Data 00 = Physical of 35 = 23
 Data 01 & 02 = No Major = 00 00
 Data 03 & 04 = No Minor = 00 00
 Data 05 = 0000 0001 in binary = 01
 Total = ma 00 23 00 00 00 00 01

2. Tune to the digital (ATSC) local channel 30-3.

Data 00 = Don't know Physical = 00
 Data 01 & 02 = Major is 30 = 00 1E
 Data 03 & 04 = Minor is 3 = 00 03
 Data 05 = 0010 0010 in binary = 22
 Total = ma 00 00 00 1E 00 03 22

```
Acknowledgement[a][ ][Set ID][ ][OK][Data00][Data01][Data02][Data03][Data04][x][a][ ][Set ID][ ][NG][Data00][x]
```

23. Channel Add/Del (Command: m b)

To add and delete the channels

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

Data 00: Channel Delete Data 01: Channel Add

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

24. Key (Command: m c)

To send IR remote key code.

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

Data Key code: Refer to page 128.

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

25. Backlight (Command: m g)

(Only LCD TV model)

To adjust screen backlight.

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

Data Min:00 ~ Max:64 (*transmit by Hexadecimal code)

*Refer to 'Real data mapping 1': See page 133.

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

APPENDIX

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APPENDIX

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You must cause all covered code to which you contribute to contain a file documenting the changes You made to create that covered code and the date of any change. You must include a prominent statement that the modification is derived, directly or indirectly, from original code provided by the initial developer and including the name of the initial developer in (a) the source code, and (b) in any notice in an executable version or related documentation in which you describe the origin or ownership of the covered code.

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