LG
Life's Good

PLASMA TV
OWNER'S MANUAL

42PQ20	**42PQ60**
50PQ20	**50PQ60**
42PQ30	**50PS30**
50PQ30	**50PS60**
	60PS60

Please read this manual carefully before operating your set and retain it for future reference.
The model and serial number of the TV is located on the back and one side of the TV.
Record it below should you ever need service.

Model:

Serial:

This product qualifies for ENERGY STAR in the "factory default (Home Use mode)" setting and this is the setting in which power savings will be achieved.

Changing the factory default picture setting or enabling other features will increase power consumption that could exceed the limits necessary to quality for Energy Star rating.

ENERGY STAR

1−800−243−0000	USA, Consumer User
1−888−865−3026	USA, Commercial User
1−888−542−2623	CANADA
LG Customer Information Center	

P/NO : SAC33575901 (0901 -REV02)

WARNING / CAUTION

WARNING / CAUTION

RISK OF ELECTRIC SHOCK
DO NOT OPEN

TO REDUCE THE RISK OF ELECTRIC SHOCK
DO NOT REMOVE COVER (OR BACK). NO
USER SERVICEABLE PARTS INSIDE. REFER TO
QUALIFIED SERVICE PERSONNEL.

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

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

WARNING/CAUTION

TO REDUCE THE RISK OF FIRE AND ELECTRIC SHOCK, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE.

NOTE TO CABLE/TV INSTALLER

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

WARNING / CAUTION

To prevent fire or shock hazards, do not expose this product to rain or moisture.

FCC NOTICE

Class B digital device

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

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

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

CAUTION

Do not attempt to modify this product in any way without written authorization from LG Electronics. Unauthorized modification could void the user's authority to operate this product

A

SAFETY INSTRUCTIONS

IMPORTANT SAFETY INSTRUCTIONS

Read these instructions.
Keep these instructions.
Heed all warnings.
Follow all instructions.

1 Do not use this apparatus near water.

2 Clean only with dry cloth.

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

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

5 Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong, The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

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

7 Only use attachments/accessories specified by the manufacturer.

8 Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.

S3125A

9 Unplug this apparatus during lighting storms or when unused for long periods of time.
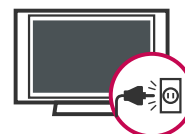
10 Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
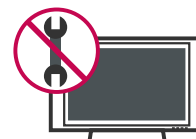
SAFETY INSTRUCTIONS

11 Never touch this apparatus or antenna during a thunder or lighting storm.

12 When mounting a TV on the wall, make sure not to install the TV by the hanging power and signal cables on the back of the TV.

13 Do not allow an impact shock or any objects to fall into the product, and do not drop onto the screen with something.

14 CAUTION concerning the Power Cord:

It is recommend that appliances be placed upon a dedicated circuit; that is, a single outlet circuit which powers only that appliance and has no additional outlets or branch circuits. Check the specification page of this owner's manual to be certain.

Do not connect too many appliances to the same AC power outlet as this could result in fire or electric shock.

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

Do not make the TV with the power cord plugged in. Do not use a damaged or loose power cord. Be sure do grasp the plug when unplugging the power cord. Do not pull on the power cord to unplug the TV.

15 WARNING - To reduce the risk of fire or electrical shock, do not expose this product to rain, moisture or other liquids. Do not touch the TV with wet hands. Do not install this product near flammable objects such as gasoline or candles or expose the TV to direct air conditioning.

16 Do not expose to dripping or splashing and do not place objects filled with liquids, such as vases, cups, etc. on or over the apparatus (e.g. on shelves above the unit).

17 GROUNDING

Ensure that you connect the earth ground wire to prevent possible electric shock (i.e. a TV with a three-prong grounded AC plug must be connected to a three-prong grounded AC outlet). If grounding methods are not possible, have a qualified electrician install a separate circuit breaker.

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

Power Supply

Short-circuit Breaker
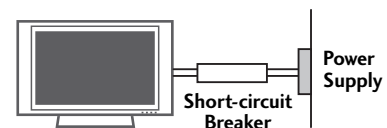
18 DISCONNECTING DEVICE FROM MAINS

Mains plug is the disconnecting device. The plug must remain readily operable.

19 "As long as this unit is connected to the AC wall outlet, it is not disconnected from the AC power source even if you turn off this unit by SWITCH"
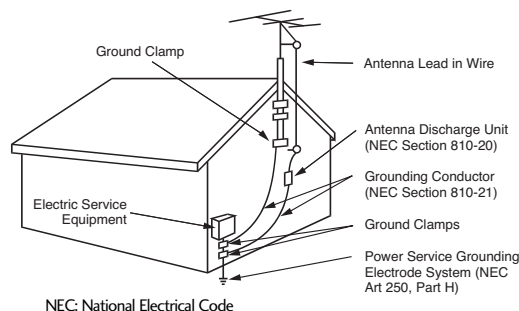
20 **ANTENNAS**
Outdoor antenna grounding

If an outdoor antenna is installed, follow the precautions below. An outdoor antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can come in contact with such power lines or circuits as death or serious injury can occur.

Be sure the antenna system is grounded so as to provide some protection against voltage surges and built-up static charges.

Section 810 of the National Electrical Code (NEC) in the U.S.A. provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna discharge unit, connection to grounding electrodes and requirements for the grounding electrode.

Antenna grounding according to the National Electrical Code, ANSI/NFPA 70

Ground Clamp

Antenna Lead in Wire

Antenna Discharge Unit
(NEC Section 810-20)

Grounding Conductor
(NEC Section 810-21)

Electric Service
Equipment

Ground Clamps

Power Service Grounding
Electrode System (NEC
Art 250, Part H)

NEC: National Electrical Code

21 **Cleaning**

When cleaning, unplug the power cord and scrub gently with a soft cloth to prevent scratching. Do not spray water or other liquids directly on the TV as electric shock may occur. Do not clean with chemicals such as alcohol, thinners or benzene.

22 **Moving**

Make sure the product is turned off, unplugged and all cables have been removed. It may take 2 or more people to carry larger TVs. Do not press against or put stress on the front panel of the TV.

23 **Ventilation**

Install your TV where there is proper ventilation. Do not install in a confined space such as a bookcase. Do not cover the product with cloth or other materials (e.g.) plastic while plugged in. Do not install in excessively dusty places.

24 If you smell smoke or other odors coming from the TV or hear strange sounds, unplug the power cord contact an authorized service center.

25 Do not press strongly upon the panel with hand or sharp object such as nail, pencil or pen, or make a scratch on it.
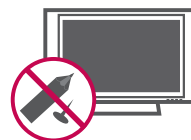
26 Keep the product away from direct sunlight.

CONTENTS

FEATURE OF THIS TV

■ This feature is not available for all models.

SRS
SRS TruSurround XT

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

DOLBY DIGITAL

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

THX DISPLAY

THX Cinema mode is recommended for watching movies. Designed for use in a dark room. (This feature is not available for all models.)

isf

This TV contains the detailed calibrations necessary for professional certification by the Imaging Science Foundation. The resulting ISF "day" and "night" modes will then be accessible by the user to experience the best their LG HDTV has to offer.
CALIBRATE LIKE A PRO: Sophisticated and detailed calibrations can be made through the ISFccc mode. Detailed calibration requires a licensed technician. Please contact your local dealer to inquire about an ISF certified technician.

HDTV

High-definition television. High-resolution digital television broadcast and playback system composed of roughly a million or more pixels, 16:9 aspect-ratio screens, and AC3 digital audio. A subset of digital television, HDTV formats include 1080i and 720p resolutions.

HDMI™

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

⚠ IMPORTANT INFORMATION TO PREVENT "IMAGE BURN / BURN-IN" ON YOUR TV SCREEN

■ When a fixed image (e.g. logos, screen menus, video game, and computer display) is displayed on the TV for an extended period, it can become permanently imprinted on the screen. This phenomenon is known as "image burn" or "burn-in." Image burn is not covered under the manufacturer's warranty.

■ In order to prevent image burn, avoid displaying a fixed image on your TV screen for a prolonged period (2 or more hours for LCD, 1 or more hours for Plasma).

■ Image burn can also occur on the letterboxed areas of your TV if you use the 4:3 aspect ratio setting for an extended period.
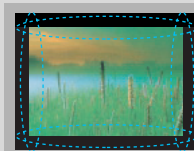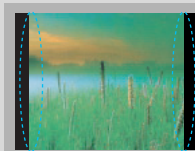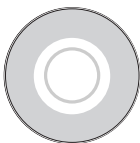
PREPARATION

ACCESSORIES

Ensure that the following accessories are included with your TV. If an accessory is missing, please contact the dealer where you purchased the TV.
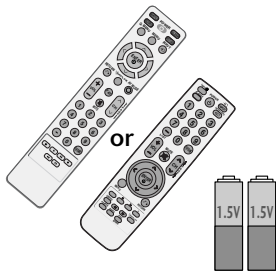
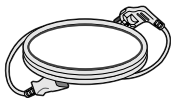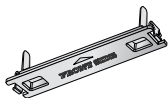The accessories included may differ from the images below.
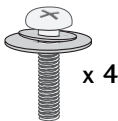
Owner's Manual

CD Manual

or

1.5V 1.5V

Remote Control, Batteries

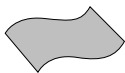**Power Cord**

x 4

x 2

Protection Cover (Refer to P.11)
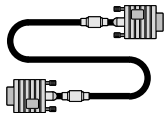
Bolts for stand assembly (Refer to P.11)

Cable Holder

Polishing Cloth
(Not included with all models)

* Wipe spots on the exterior only with the polishing cloth.
* Do not wipe roughly when removing stain. Excessive pressure may cause scratch or discoloration.

Option Extras

D-sub 15 pin Cable

When using the VGA (D-sub 15 pin cable) PC connection, the user must use shielded signal interface cables with ferrite cores to maintain standards compliance.
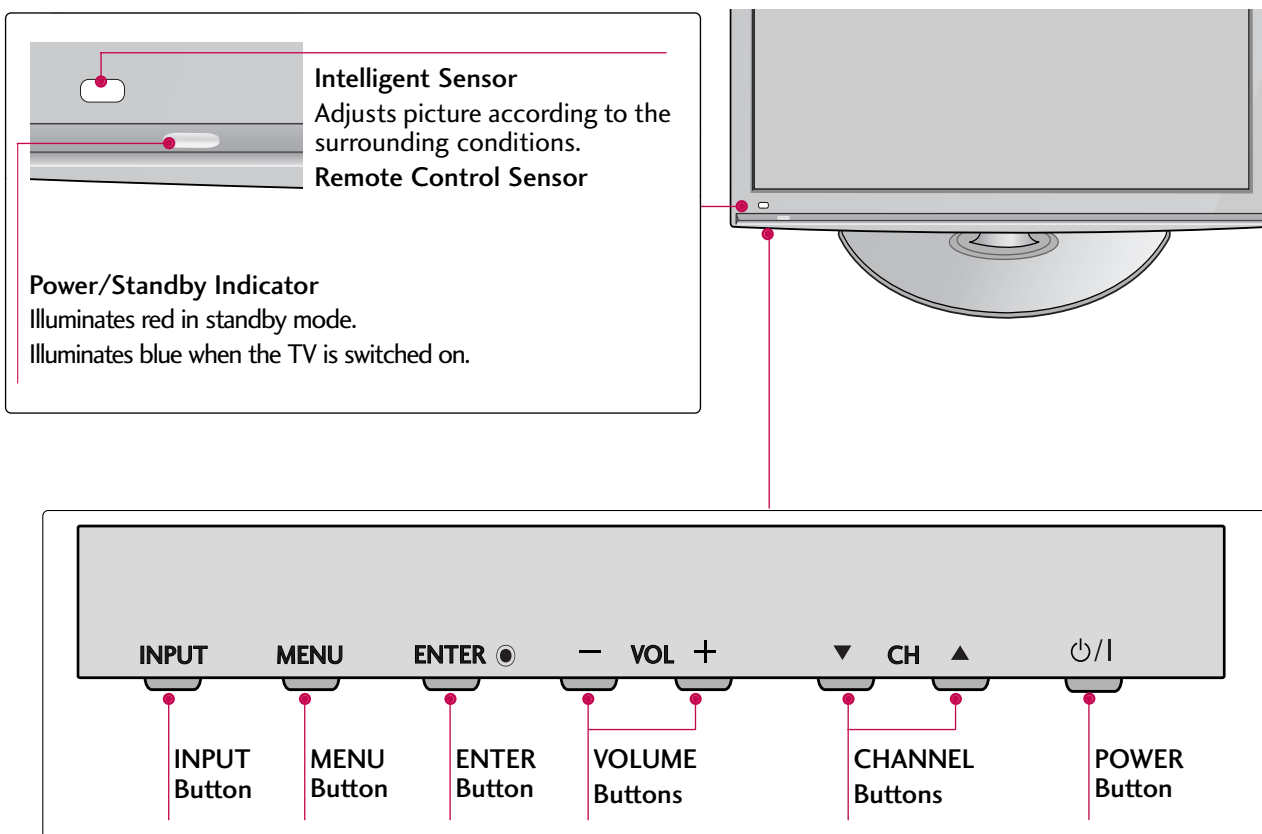
PREPARATION

FRONT PANEL INFORMATION

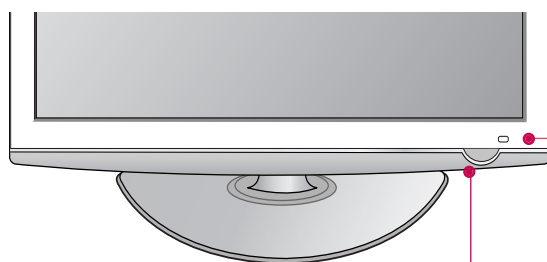■ Image shown may differ from your TV.

> ⚠ **CAUTION**
>
> ► When the TV cannot be turned on with the remote control, press the main power button on the TV. (The remote control will not work when the main power on the TV is switched off.)

42/50PQ20

Intelligent Sensor
Adjusts picture according to the surrounding conditions.
Remote Control Sensor

Power/Standby Indicator
Illuminates red in standby mode.
Illuminates blue when the TV is switched on.

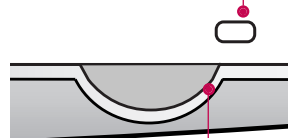| INPUT	MENU	ENTER ◉	― VOL ✛	▼ CH ▲	⏻/❘
INPUT Button	MENU Button	ENTER Button	VOLUME Buttons	CHANNEL Buttons	POWER Button

42/50PQ30, 42/50PS30
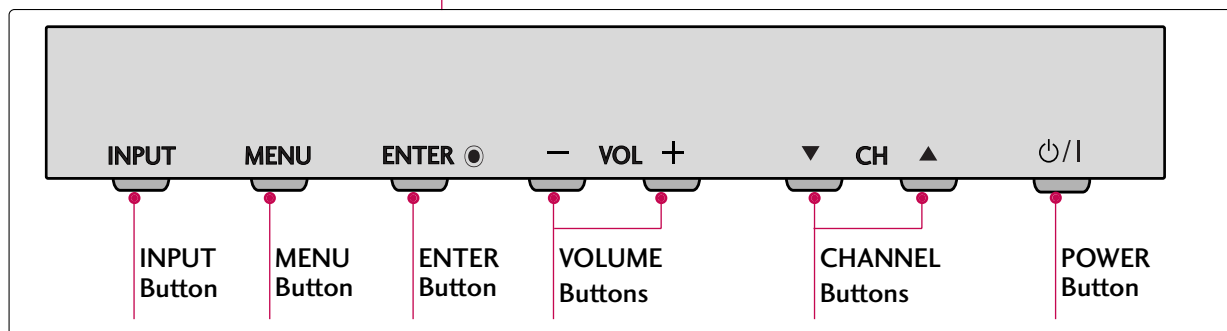
Remote Control Sensor
Intelligent Sensor
Adjusts picture according to
the surrounding conditions.

Power/Standby Indicator
Illuminates red in standby
mode.
Illuminates blue when the TV
is switched on.

INPUT	MENU	ENTER ◉	— VOL ＋	▼ CH ▲	⏻/丨
INPUT Button	MENU Button	ENTER Button	VOLUME Buttons	CHANNEL Buttons	POWER Button

42/50PQ60, 50/60PS60

CH▲
CH▼
CHANNEL Buttons

VOL＋
VOL—
VOLUME Buttons

ENTER ◉
ENTER Button

MENU
MENU Button

INPUT
INPUT Button

⏻/丨
POWER Button
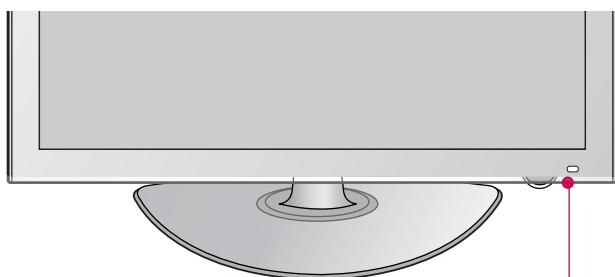
Remote Control Sensor
Intelligent Sensor
Adjusts picture according to
the surrounding conditions.

Power/Standby Indicator
Illuminates red in standby mode.
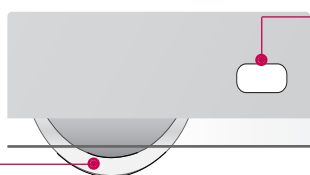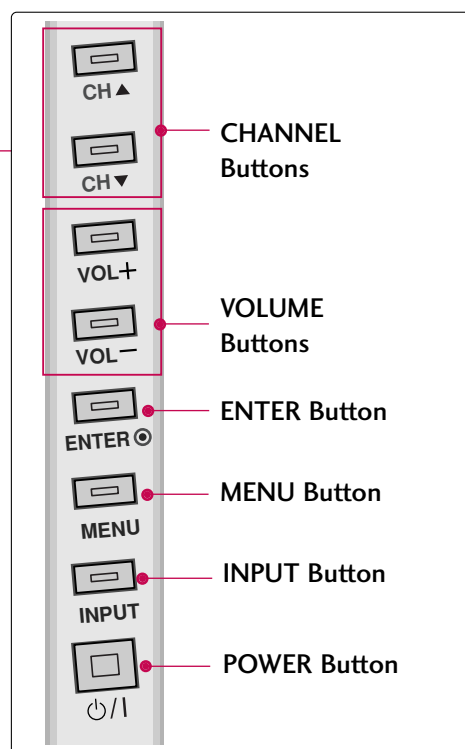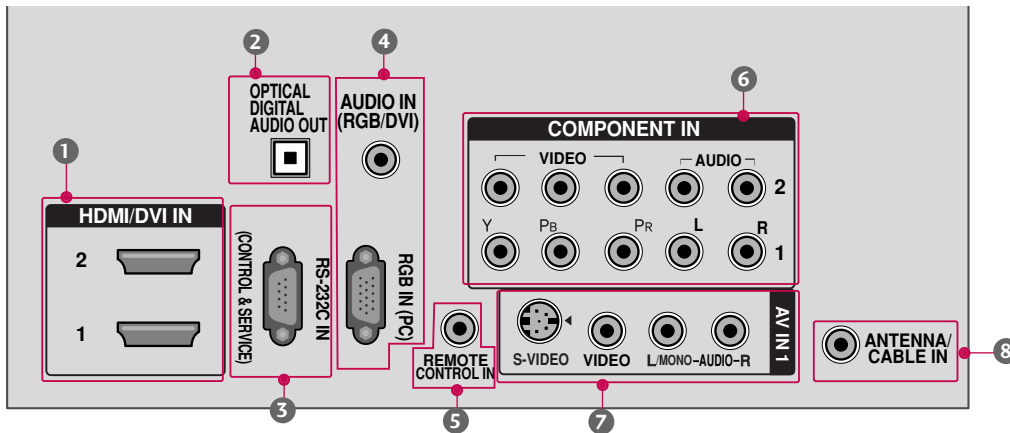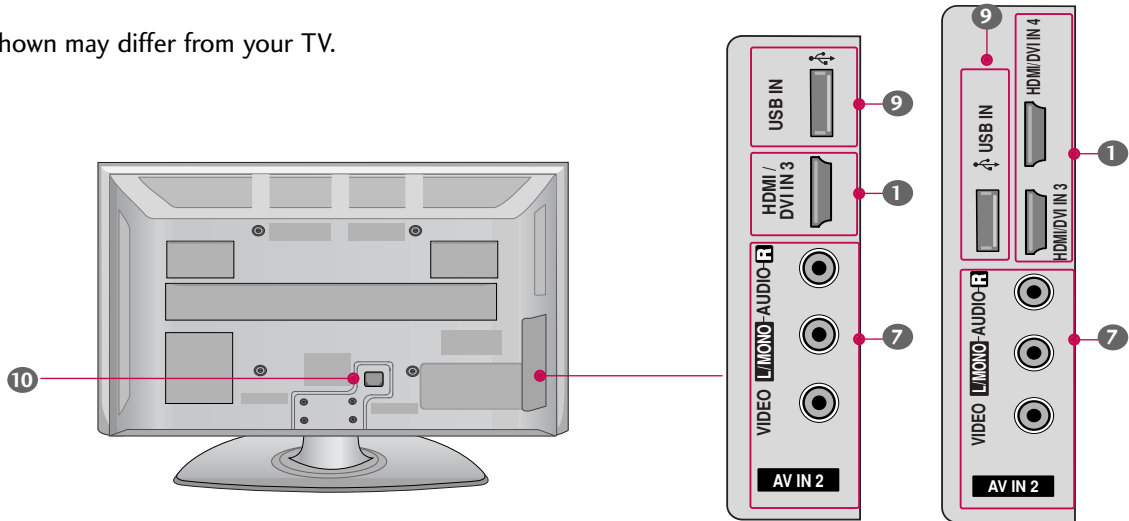Illuminates white when the TV is switched on
and goes out slowly .

BACK PANEL INFORMATION

Only 42/50PQ60, 50/60PS60

■ Image shown may differ from your TV.

❶ HDMI/DVI IN, HDMI IN
Digital Connection. Supports HD video and Digital audio. Doesn't support 480i.
Accepts DVI video using an adapter or HDMI to DVI cable (not included)

❷ OPTICAL DIGITAL AUDIO OUT
Optical digital audio output for use with amps and home theater systems.
Note: In standby mode, this port doesn't work.

❸ RS-232C IN (CONTROL & SERVICE) PORT
Used by third party devices.

❹ AUDIO IN (RGB/DVI)
1/8" headphone jack for analog PC audio input.
RGB IN (PC)
Analog PC Connection. Uses a D-sub 15 pin cable (VGA cable).

❺ REMOTE CONTROL IN PORT
For a wired remote control.

❻ COMPONENT IN
Analog Connection. Supports HD.
Uses a red, green, and blue cable for video & red and white for audio.

❼ AV (Audio/Video) IN
Analog composite connection. Supports standard definition video only (480i).
S-VIDEO
Better quality than standard composition. Supports standard definition video only (480i).

❽ ANTENNA/CABLE IN
Connect over-the air signals to this jack.
Connect cable signals to this jack.

❾ USB IN
Used for viewing photos and listening to MP3.

❿ Power Cord Socket
For operation with AC power.
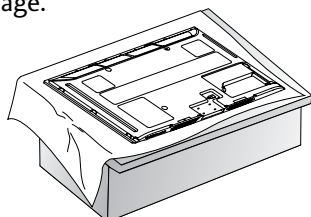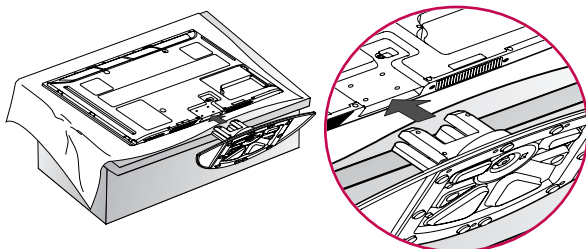Caution: Never attempt to operate the TV on DC power.

STAND INSTRUCTION

■ Image shown may differ from your TV.
■ This part of STAND INSTRUCTION mainly use picture for 42PQ30/60 models.
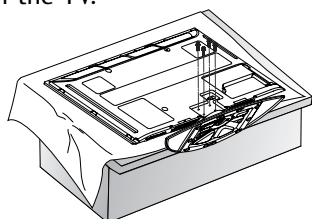
Installation

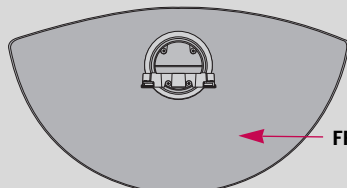**1** Carefully place the TV screen side down on a cushioned surface to protect the screen from damage.

2 Assemble the TV as shown.

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

❗ NOTE

FRONT

▶ When assembling the stand, make sure to distinguish and assemble the front and rear side of the stand correctly.

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

Detachment

1 Carefully place the TV screen side down on a cushioned surface to protect the screen from damage.
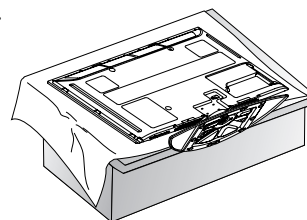
2 Loose the bolts from TV.
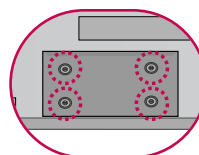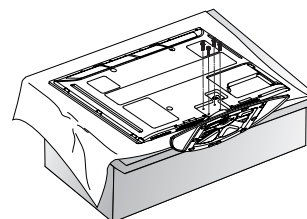
3 Detach the stand from TV.

Protection Cover

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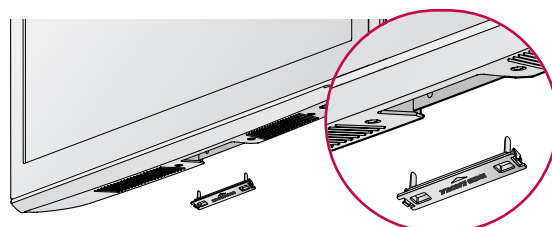
DESKTOP PEDESTAL INSTALLATION

■ Image shown may differ from your TV.
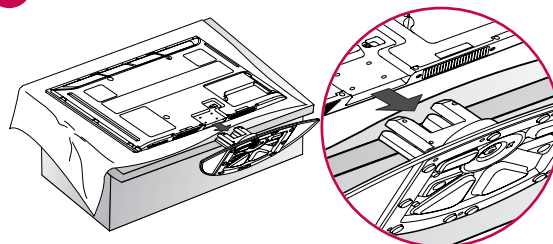
For proper ventilation, allow a clearance of 4 inches on all four sides from the wall.

4 inches

4 inches **4 inches** **4 inches**
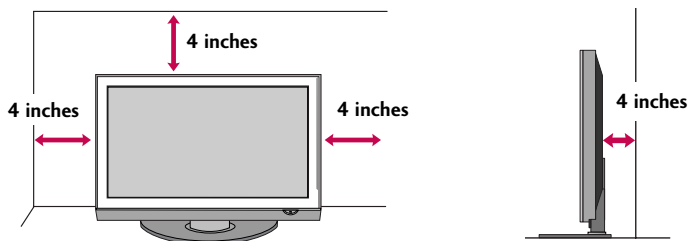
⚠ **CAUTION**   ► Ensure adequate ventilation by following the clearance recommendations.
► Do not mount near or above any type of heat source.

SWIVEL STAND

(This feature is not available for all models.)

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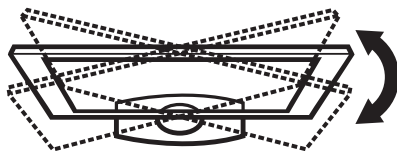
CABLE ARRANGEMENT

■ Image shown may differ from your TV.

After connecting the cables as necessary, install **CABLE HOLDER** as shown and bundle the cables.
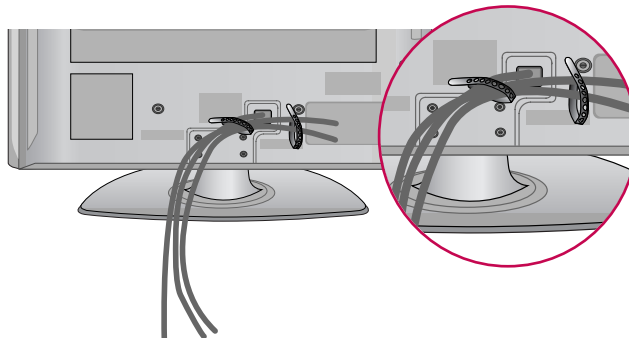
VESA WALL MOUNTING

Install your wall mount on a solid wall perpendicular to the floor. When attaching to other building materials, please contact your nearest installer.

If installed on a ceiling or slanted wall, it may fall and result in severe personal injury.

We recommend that you use an LG brand wall mount when mounting the TV to a wall.

LG recommends that wall mounting be performed by a qualified professional installer.

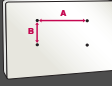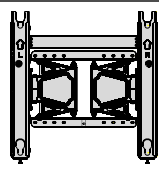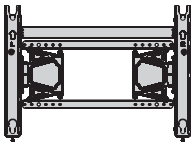| Model	VESA (A * B)	Standard Screw	Quantity	Wall Mounting bracket (sold separately)
42PQ20, 42PQ30, 42PQ60, 50PQ20, 50PQ30, 50PQ60, 50PS30, 50PS60	400 * 400	M6	4	AW-50PG60MS
60PS60	600 * 400	M8	4	AW-60PG60MS

🔔 NOTE

▶ Screw length needed depends on the wall mount used. For further information, refer to the instructions included with the mount.

▶ Standard dimensions for wall mount kits are shown in the table.

▶ When purchasing our wall mount kit, a detailed installation manual and all parts necessary for assembly are provided.

▶ Do not use screws longer then the standard dimension, as they may cause damage to the inside to the TV.

▶ For wall mounts that do not comply with the VESA standard screw specifications, the length of the screws may differ depending on their specifications.

▶ Do not use screws that do not comply with the VESA standard screw specifications.

Do not use fasten the screws too strongly, this may damage the TV or cause the TV to a fall, leading to personal injury. LG is not liable for these kinds of accidents.

▶ LG is not liable for TV damage or personal injury when a non-VESA or non specified wall mount is used or the consumer fails to follow the TV installation instructions.

⚠ CAUTION

▶ Do not install your wall mount kit while your TV is turned on. It may result in personal injury due to electric shock.

SECURING THE TV TO THE WALL TO PREVENT FALLING WHEN THE TV IS USED ON A STAND

■ You should purchase necessary components to prevent the TV from tipping over (when not using a wall mount).
■ Image shown may differ from your TV.

We recommend that you set up the TV close to a wall so it cannot fall over if pushed backwards.
Additionally, we recommend that the TV be attached to a wall so it cannot be pulled in a forward direction, potentially causing injury or damaging the product.
Caution: Please make sure that children don't climb on or hang from the TV.
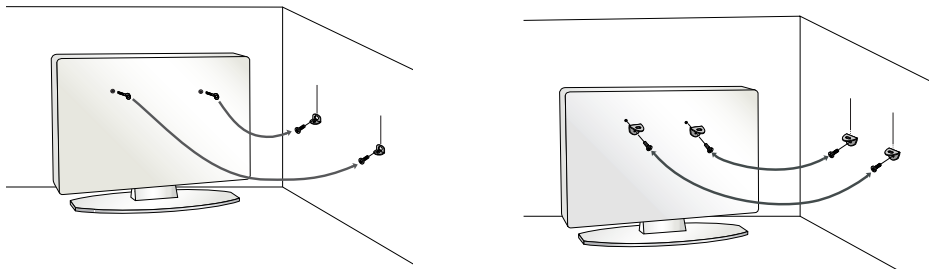
■ Insert the eye-bolts (or TV brackets and bolts) to tighten the product to the wall as shown in the picture.
   *If your product has the bolts in the eye-bolts position before inserting the eye-bolts, loosen the bolts.
   * Insert the eye-bolts or TV brackets/bolts and tighten them securely in the upper holes.
   Secure the wall brackets with the bolts (sold separately) to the wall. Match the height of the bracket that is mounted on the wall to the holes in the product.
   Ensure the eye-bolts or brackets are tightened securely.
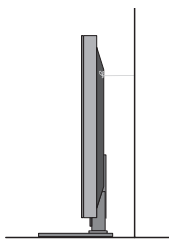
■ Use a sturdy rope (sold separately) to tie the product. It is safer to tie the rope so it becomes horizontal between the wall and the product.

🛈 NOTE

► Use a platform or cabinet strong enough and large enough to support the size and weight of the TV.
► To use the TV safely, make sure that the height of the bracket on the wall and the one on the TV are the same.

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

ANTENNA OR CABLE CONNECTION

1. Antenna (Analog or Digital)

Wall Antenna Socket or Outdoor Antenna without a Cable Box Connection.
For optimum picture quality, adjust antenna direction if needed.

Wall Antenna Socket

Multi-family Dwellings/Apartments (Connect to wall antenna socket)

Outdoor Antenna (VHF, UHF)

RF Coaxial Wire (75 ohm)

Single-family Dwellings /Houses (Connect to wall jack for outdoor antenna)

ANTENNA/ CABLE IN

Copper Wire

Be careful not to bend the copper wire when connecting the antenna.

2. Cable

Cable TV Wall Jack

RF Coaxial Wire (75 ohm)

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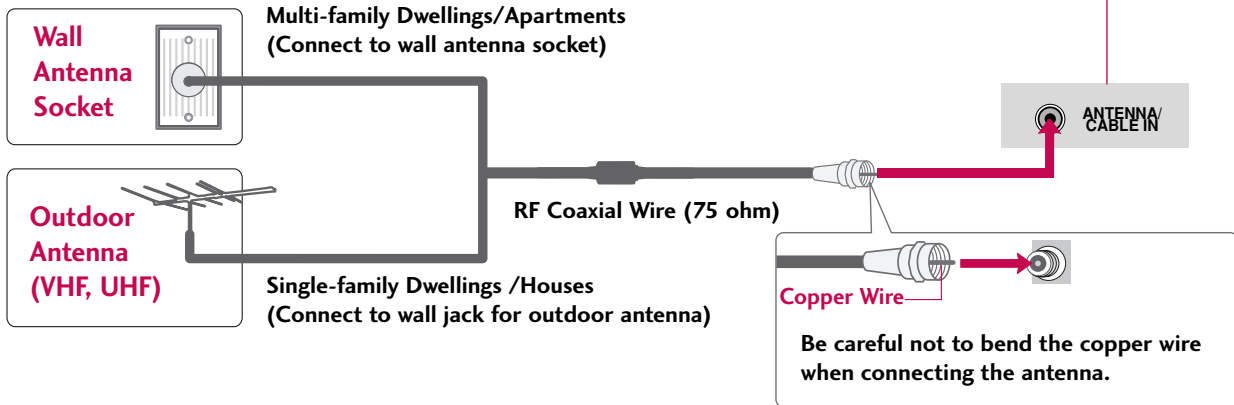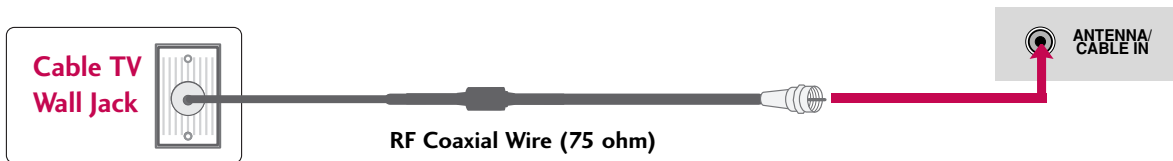
■ To improve the picture quality in a poor signal area, please purchase a signal amplifier and install properly.
■ If the antenna needs to be split for two TV's, install a 2-Way Signal Splitter.
■ If the antenna is not installed properly, contact your dealer for assistance.

EXTERNAL EQUIPMENT SETUP

■ To prevent the equipment damage, never plug in any power cords until you have finished connecting all equipment.

■ Image shown may differ from your TV.

HD RECEIVER SETUP

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

Component Connection

1. How to connect

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

② Connect the audio output of the digital set-top box to the **COMPONENT IN AUDIO 1** jacks on the TV.

2. How to use

■ Turn on the digital set-top box.
(Refer to the owner's manual for the digital set-top box. operation)

■ Select the **Component1** input source on the TV using the **INPUT** button on the remote control.

■ If connected to **COMPONENT IN 2** input, select the **Component2** input source on the TV.
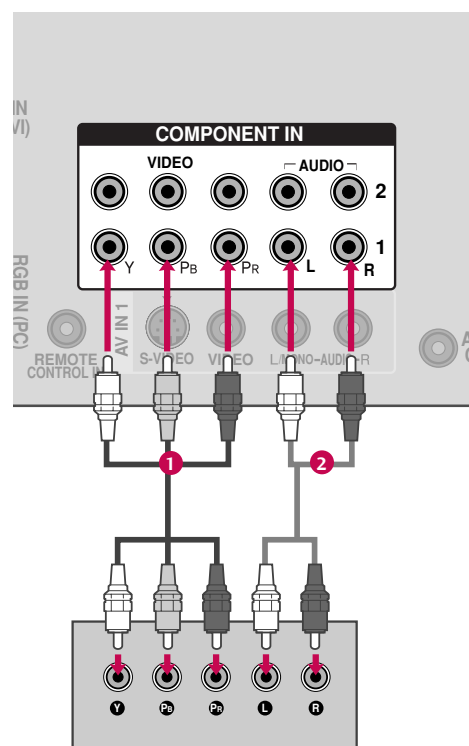
Supported Resolutions

Signal	Component	HDMI
480i	Yes	No
480p	Yes	Yes
720p	Yes	Yes
1080i	Yes	Yes
1080p	Yes	Yes

Y, Cв/Pв, CR/PR

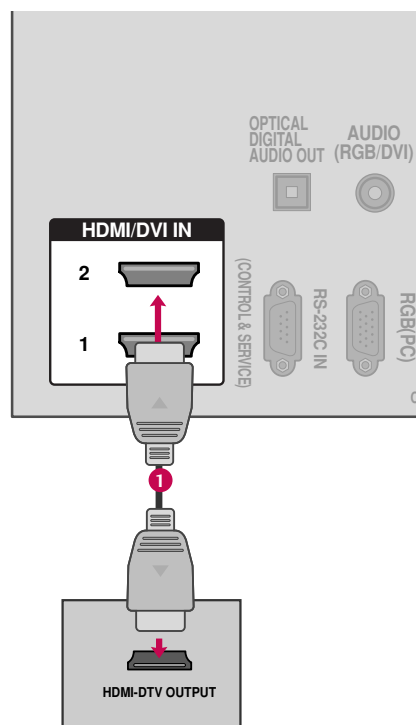| Resolution	Horizontal Frequency(KHz)	Vertical Frequency(Hz)
720x480i	15.73 15.73	59.94 60.00
720x480p	31.47 31.50	59.94 60.00
1280x720p	44.96 45.00	59.94 60.00
1920x1080i	33.72 33.75	59.94 60.00
1920x1080p	27.00 33.75 67.43 67.50	24.00 30.00 59.94 60.00

HDMI Connection

1. How to connect

1 Connect the digital set-top box to **HDMI/DVI IN 1**, **2**, **3** or **4** (Only 42/50PQ60, 50/60PS60) jack on the TV.

2 No separate audio connection is necessary. HDMI supports both audio and video.

2. How to use

■ Turn on the digital set-top box.
  (Refer to the owner's manual for the digital set-top box.)
■ Select the **HDMI1**, **2**, **3** or **4** (Only 42/50PQ60, 50/60PS60) input source on the TV using the **INPUT** button on the remote control.

❶ NOTE

▶ Check HDMI cable over version 1.3.
  If the HDMI cables don't support HDMI version 1.3, it can cause flickers or no screen display. In this case use the latest cables that support HDMI version 1.3.

HDMI-DTV

Resolution	Horizontal Frequency(KHz)	Vertical Frequency(Hz)
720x480p	31.469 31.50	59.94 60.00
1280x720p	44.96 45.00	59.94 60.00
1920x1080i	33.72 33.75	59.94 60.00
1920x1080p	27.00 33.75 67.43 67.50	24.00 30.00 59.94 60.00

EXTERNAL EQUIPMENT SETUP

DVI to HDMI Connection

1. How to connect

① Connect the DVI output of the digital set-top box to the **HDMI/DVI IN 1**, **2**, **3** or **4** (Only 42/50PQ60, 50/60PS60) jack on the TV.

② Connect the audio output of the digital set-top box to the **AUDIO IN (RGB/DVI)** jack on the TV.

2. How to use

■ Turn on the digital set-top box. (Refer to the owner's manual for the digital set-top box.)

■ Select the **HDMI1**, **2**, **3** or **4** (Only 42/50PQ60, 50/60PS60) input source on the TV using the **INPUT** button on the remote control.

🛈 NOTE

► A DVI to HDMI cable or adapter is required for this connection. DVI doesn't support audio, so a separate audio connection is necessary.


18
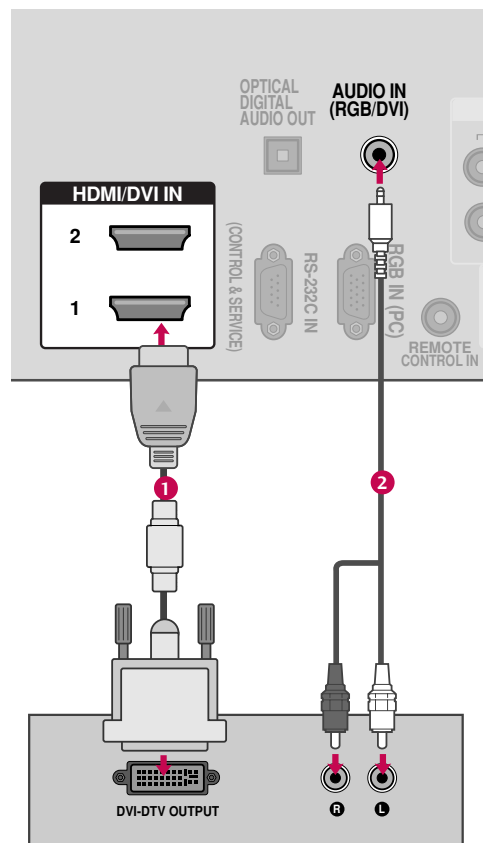
DVD SETUP

Component Connection

1. How to connect

1 Connect the video outputs (Y, PB, PR) of the DVD to the **COMPONENT IN VIDEO 1** jacks on the TV.
Match the jack colors (Y = green, PB = blue, and PR = red).

2 Connect the audio outputs of the DVD to the **COMPONENT IN AUDIO 1** jacks on the TV.

2. How to use

- Turn on the DVD player, insert a DVD.
- Select the **Component1** input source on the TV using the **INPUT** button on the remote control.
- If connected to **COMPONENT IN 2** input, select the **Component2** input source on the TV.
- Refer to the DVD player's manual for operating instructions.
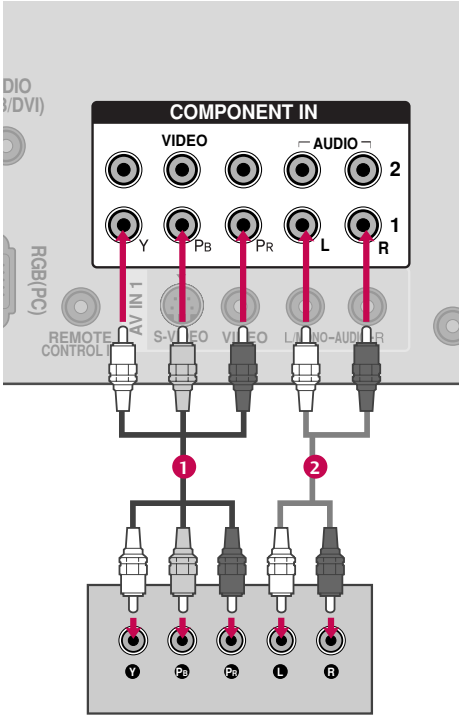
Component Input ports
To get better picture quality, connect a DVD player to the component input ports as shown below.

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

EXTERNAL EQUIPMENT SETUP

S-Video Connection

1. How to connect

1 Connect the S-VIDEO output of the DVD to the **S-VIDEO** input on the TV.

2 Connect the audio outputs of the DVD to the **AUDIO** input jacks on the TV.

2. How to use

- Turn on the DVD player, insert a DVD.
- Select the **AV1** input source on the TV using the **INPUT** button on the remote control.
- Refer to the DVD player's manual for operating instructions.
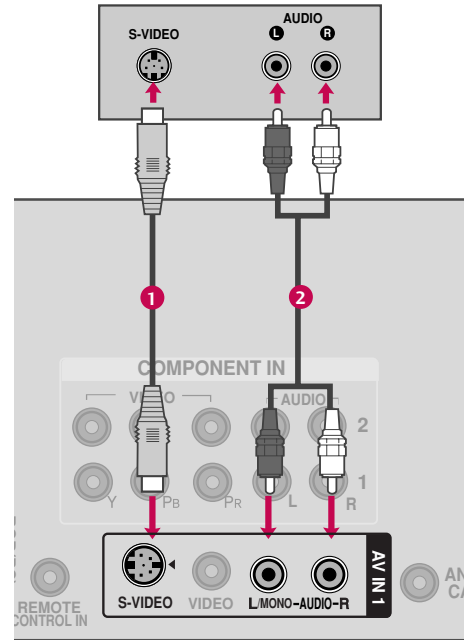
HDMI Connection

1. How to connect

1 Connect the HDMI output of the DVD to the **HDMI/DVI IN 1**, **2**, **3** or **4** (Only 42/50PQ60, 50/60PS60) jack on the TV.

2 No separate audio connection is necessary. HDMI supports both audio and video.

2. How to use

- Select the **HDMI1**, **2**, **3** or **4** (Only 42/50PQ60, 50/60PS60) input source on the TV using the **INPUT** button on the remote control.
- Refer to the DVD player's manual for operating instructions.
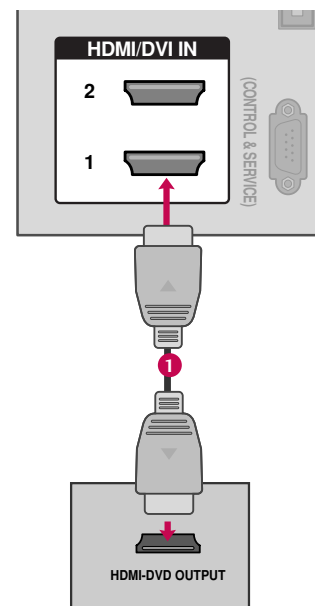
VCR SETUP

Antenna Connection

1. How to connect

1 Connect the RF antenna out socket of the VCR to the **ANTENNA/CABLE IN** socket on the TV.

2 Connect the antenna cable to the RF antenna in socket of the VCR.

2. How to use

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

ANTENNA/
CABLE IN

ANT OUT   S-VIDEO   VIDEO   L   R

ANT IN   OUTPUT
SWITCH   4 3

Wall Jack

Antenna
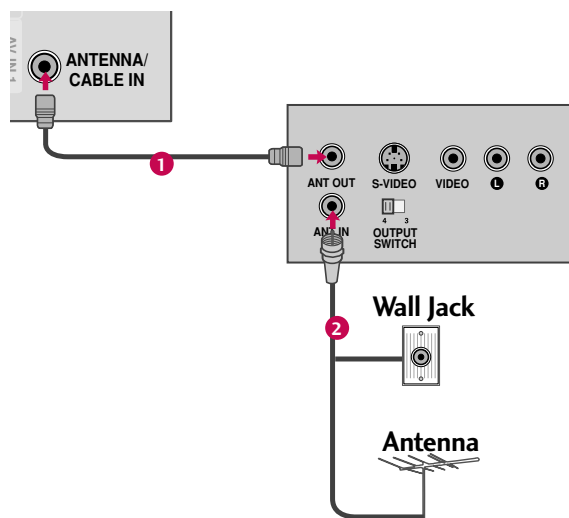
EXTERNAL EQUIPMENT SETUP

Composite (RCA) Connection

1. How to connect

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

2. How to use

■ Insert a video tape into the VCR and press PLAY on the VCR. (Refer to the VCR owner's manual.)
■ Select the **AV1** input source on the TV using the **INPUT** button on the remote control.
■ If connected to **AV IN 2**, select **AV2** input source on the TV.

❗ NOTE

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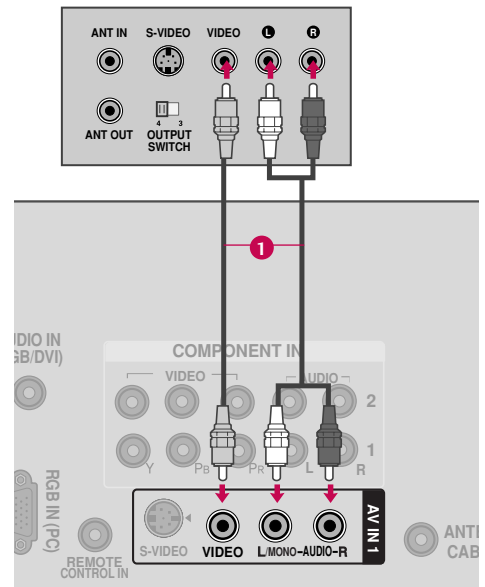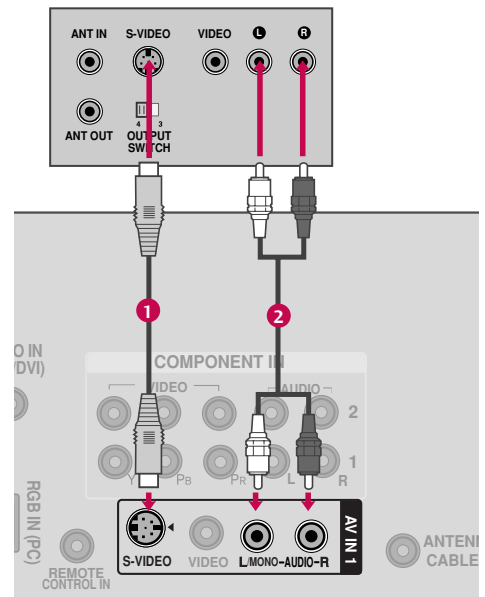
S-Video Connection

1. How to connect

1 Connect the S-VIDEO output of the VCR to the **S-VIDEO** input on the TV.

2 Connect the audio outputs of the VCR to the **AUDIO** input jacks on the TV.

2. How to use

■ Insert a video tape into the VCR and press PLAY on the VCR. (Refer to the VCR owner's manual.)
■ Select the **AV1** input source on the TV using the **INPUT** button on the remote control.

❗ NOTE

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

⚠ CAUTION

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

OTHER A/V SOURCE SETUP

Camcorder

Video Game Set

1. How to connect

1 Connect the **AUDIO/VIDEO** jacks between TV and external equipment. Match the jack colors.

(Video = yellow, Audio Left = white, and Audio Right = red)

2. How to use

- Select the **AV2** input source on the TV using the **INPUT** button on the remote control.
- If connected to **AV IN 1** input, select the **AV1** input source on the TV.
- Operate the corresponding external equipment.
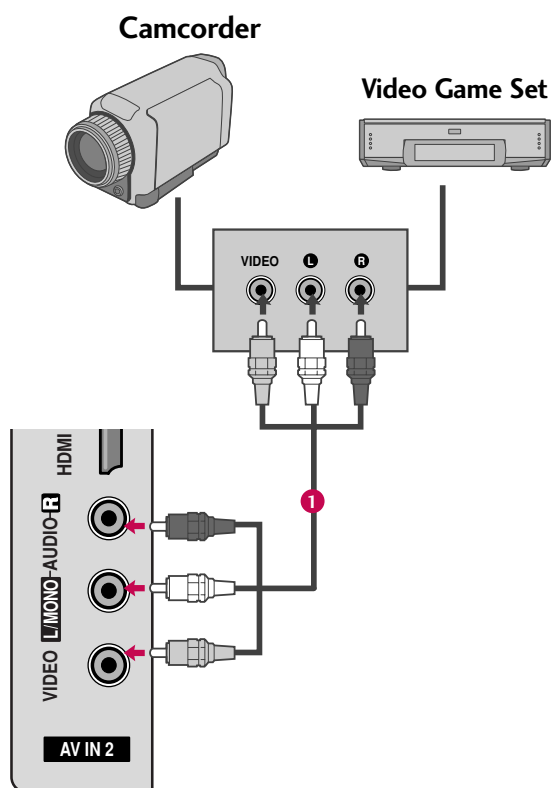
AUDIO OUT CONNECTION

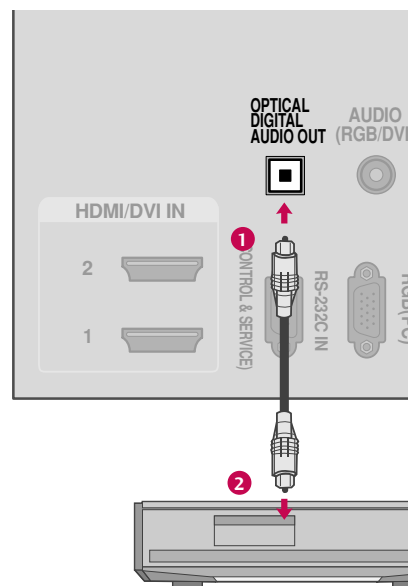Send the TV's audio to external audio equipment via the Audio Output port.

1. How to connect

1 Connect one end of the optical cable to the TV's **OPTICAL** port of **DIGITAL AUDIO OUT**.

2 Connect the other end of the optical cable to the digital audio input on the audio equipment.

3 Set the "TV Speaker option - Off" in the AUDIO menu. (▶p.76). See the external audio equipment instruction manual for operation.

🛈 NOTE

▶ When connecting with external audio equipment, such as amplifiers or speakers, you can turn the TV speakers off in the menu. (▶ p.76)
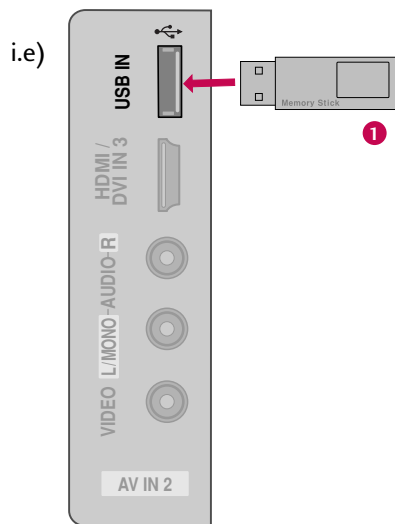
⚠ CAUTION

▶ Do not look into the optical output port. Looking at the laser beam may damage your vision.
▶ Audio with ACP (Audio Copy Protection) function may block digital audio output.

USB CONNECTION

i.e)

USB IN

HDMI /
DVI IN 3

VIDEO L/MONO-AUDIO-R

AV IN 2

Memory Stick

❶

1. How to connect

❶ Connect the USB device to the **USB IN** jack on the side of TV.

2. How to use

■ After connecting the **USB IN** jack, you use the USB function. (▶ **p.50**)

PC SETUP

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

VGA (D-Sub 15 pin) Connection

1. How to connect

1 Connect the VGA output of the PC to the **RGB IN (PC)** jack on the TV.

2 Connect the PC audio output to the **AUDIO IN (RGB/DVI)** jack on the TV.

2. How to use

■ Turn on the PC and the TV.
■ Select the **RGB-PC** input source on the TV using the **INPUT** button on the remote control.
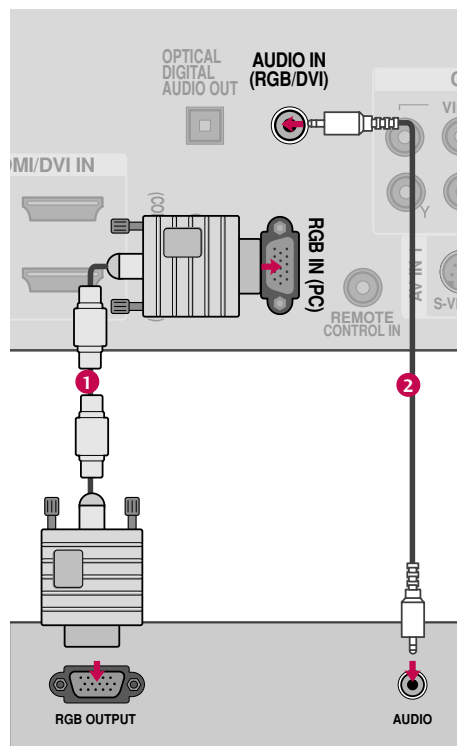
DVI to HDMI Connection

1. How to connect

1 Connect the DVI output of the PC to the **HDMI/DVI IN 1**, **2**, **3** or **4** (Only 42/50PQ60, 50/60PS60) jack on the TV.

2 Connect the PC audio output to the **AUDIO IN (RGB/DVI)** jack on the TV.

2. How to use

■ Turn on the PC and the TV.
■ Select the **HDMI1**, **2**, **3** or **4** (Only 42/50PQ60, 50/60PS60) input source on the TV using the **INPUT** button on the remote control.
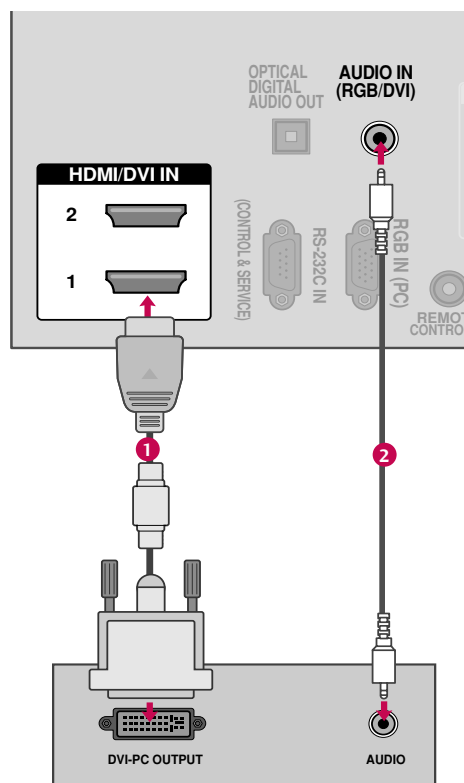
EXTERNAL EQUIPMENT SETUP

Supported Display Specifications (RGB-PC, HDMI-PC)

Resolution	Horizontal Frequency(KHz)	Vertical Frequency(Hz)
720x400	31.468	70.08
640x480	31.469	59.94
800x600	37.879	60.31
1024x768	48.363	60.00
1280x768	47.78	59.87
1360x768	47.72	59.80
1920x1080	66.647	59.988

❗ NOTES

▶ 42/50PQ20, 42/50PQ30, 42/50PQ60: To get the the best picture quality, adjust the PC graphics card to 1360x768.

▶ 50PS30, 50/60PS60: To get the the best picture quality, adjust the PC graphics card to 1920x1080.

▶ Depending on the graphics card, DOS mode may not work if a HDMI to DVI Cable is in use.

▶ In PC mode, there may be noise associated with the resolution, vertical pattern, contrast or brightness. If noise is present, change the PC output to another resolution, change the refresh rate to another rate or adjust the brightness and contrast on the PICTURE menu until the picture is clear.

▶ Avoid keeping a fixed image on the screen for a long period of time. The fixed image could become permanently imprinted on the screen.

▶ The synchronization input form for Horizontal and Vertical frequencies is separate.

▶ Depending on the graphics card, some resolution settings may not allow the image to be positioned on the screen properly.

Screen Setup for PC mode

Selecting Resolution

You can choose the resolution in RGB-PC mode.
The **Position**, **Phase**, and **Size** can also be adjusted.

	PICTURE	◇ Move ⊙ Enter
	Picture Mode	: Standard
	• Contrast	90
	• Brightness	50
	• Sharpness	60
	• Color	60
	• Tint	0 R |||||||| G
	• Advanced Control	
	• Reset	
	Screen (RGB-PC)	◎

Screen	◇ Move MENU Prev.
✛ Resolution ►	✓ 1024 x 768
	1280 x 768
⟳ Auto config.	1360 x 768
⊡ Position	
▭ Size	
▥ Phase	
↻ Reset	
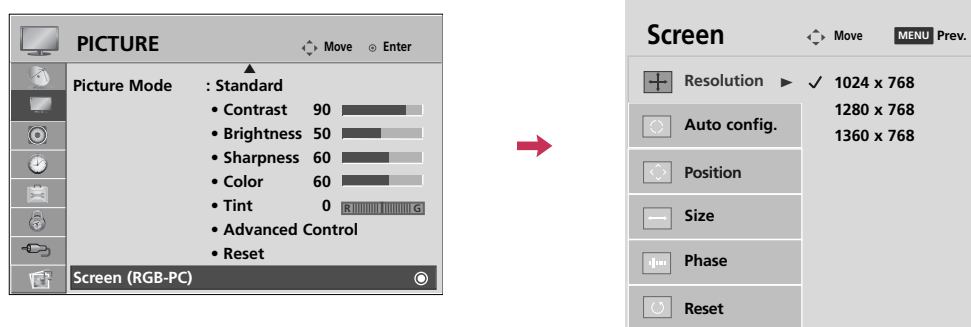
1 MENU — Select **PICTURE**.

2 ENTER — Select **Screen (RGB-PC)**.

3 ENTER — Select **Resolution**.

4 ENTER — Select the desired resolution.

5 ENTER

Auto Configure

Automatically adjusts picture position and minimizes image instability. After adjustment, if the image is still not correct, try using the manual settings or a different resolution or refresh rate on the PC.

Screen	◇ Move MENU Prev.
✛ Resolution	
⟳ Auto config. ►	
⊡ Position	**To Set**
▭ Size	Yes No
▥ Phase	
↻ Reset	
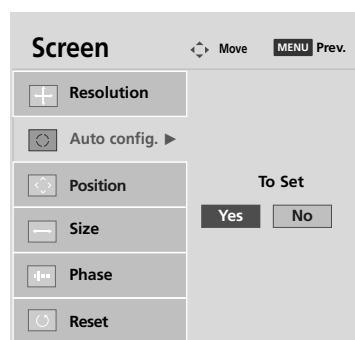
1 MENU — Select **PICTURE**.

2 ENTER — Select **Screen (RGB-PC)**.

3 ENTER — Select **Auto config.**.

4 ENTER — Select **Yes**.

5 ENTER — Start Auto Configuration.

• If the position of the image is still not correct, try Auto adjustment again.
• If picture needs to be adjusted again after Auto adjustment in RGB-PC, you can adjust the **Position**, **Size** or **Phase**.
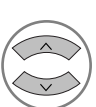
Adjustment for screen Position, Size, and Phase

If the picture is not clear after auto adjustment and especially if characters are still trembling, adjust the picture phase manually.
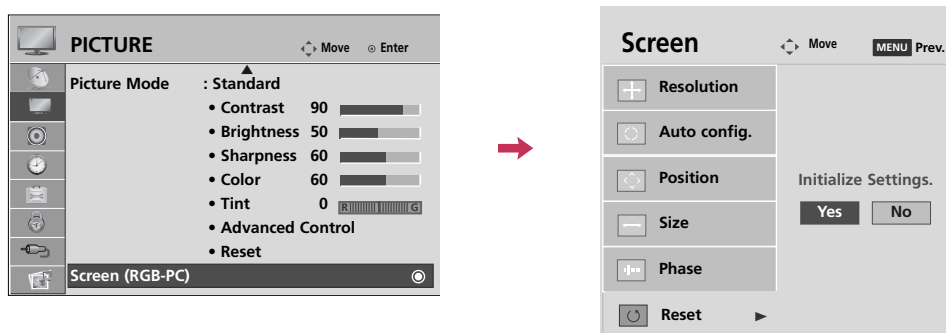
This feature operates only in RGB-PC mode.

PICTURE	⬙ Move ⊙ Enter
Picture Mode	: Standard
	• Contrast 90
	• Brightness 50
	• Sharpness 60
	• Color 60
	• Tint 0 R |||||||||| G
	• Advanced Control
	• Reset
Screen (RGB-PC)	◉

Screen	⬙ Move MENU Prev.
✛ Resolution	
Auto config.	
Position ▶	
Size	
Phase	
Reset	

1 MENU   Select **PICTURE**.

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

3 ENTER   Select **Position**, **Size**, or **Phase**.

4 ENTER   Make appropriate adjustments.

5 ENTER

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

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

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

Screen Reset (Reset to original factory values)

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

PICTURE	◇ Move ⊙ Enter
Picture Mode	: Standard
	• Contrast 90
	• Brightness 50
	• Sharpness 60
	• Color 60
	• Tint 0 R⬛⬛⬛⬛⬛⬛⬛G
	• Advanced Control
	• Reset
Screen (RGB-PC)	◉

Screen	◇ Move MENU Prev.
Resolution	
Auto config.	
Position	Initialize Settings.
Size	Yes No
Phase	
Reset	►

1 MENU Select **PICTURE**.

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

3 ENTER Select **Reset**.

4 ENTER Select **Yes**.

5 ENTER

WATCHING TV / CHANNEL CONTROL

REMOTE CONTROL FUNCTIONS

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

42/50PQ60, 50PS30, 50/60PS60

TV/STB/DVD Select the remote operating mode: TV, STB or DVD.

POWER Turns the TV on from standby or off to standby.

ENERGY SAVING Adjusts the Energy Saving.

Q.MENU Opens the list of Quick Menu options. ▶ **p.38**

MENU Displays the main menu or clears all on-screen displays and returns to TV viewing.

INPUT Rotates through inputs.
Also switches the TV on from standby. ▶ **p.45**

NUMBER button

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

LIST Displays the channel list.

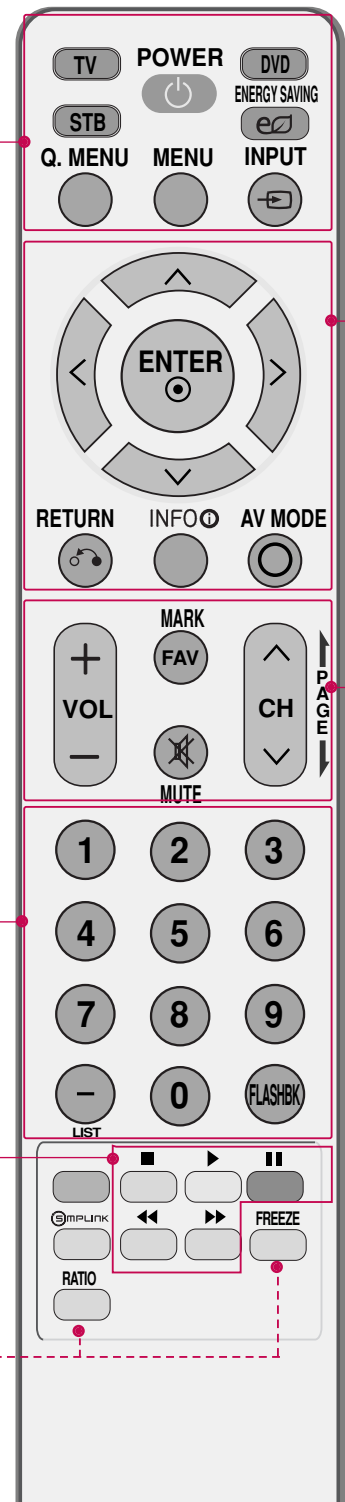**FLASHBK** Tunes to the last channel viewed.

VCR, USB, SIMPLINK Control buttons
∘ Controls USB menu (PHOTO LIST and MUSIC LIST).
∘ Controls the SIMPLINK compatible devices.

SIMPLINK See a list of AV devices connected to TV.
When you toggle this button, the SIMPLINK menu appears at the screen. ▶ **p.48-49**

RATIO Changes the aspect ratio of the video. ▶ **p.58**

FREEZE Freezes the current frame.

TV   POWER   DVD
STB   ENERGY SAVING
Q. MENU   MENU   INPUT

ENTER

RETURN   INFO ⓘ   AV MODE

MARK
FAV
VOL   CH
MUTE   PAGE

1   2   3
4   5   6
7   8   9
–   0   FLASHBK
LIST

SIMPLINK   ◀◀ ▶▶   FREEZE
RATIO

THUMBSTICK (Up/Down/Left Right/ENTER)	Navigates the on-screen menus and adjusts the system settings to your preference.
RETURN	Allows the user to move return one step in an interactive application or other user interaction function.
INFO	Displays channel information at the top of the screen.
AV MODE	Toggles through preset Video and Audio modes. ▶**p.47**

VOLUME UP /DOWN	Adjusts the volume.
FAV	Scroll through the programmed Favorite channels. ▶**p.43**
MARK	Use to mark or unmark a photo/music ▶**p.52**
MUTE	Switches the sound on or off. ▶**p.34**
CHANNEL UP/DOWN	Changes the channel.
PAGE UP/DOWN	Moves from one full set of screen information to the next one.

Installing Batteries
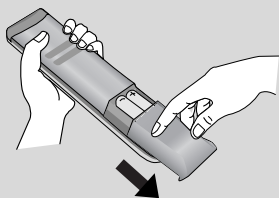
■ Open the battery compartment cover on the back side and install the batteries matching correct polarity.

■ Install two 1.5V AAA batteries. Don't mix old or used batteries with new ones.

■ Close cover.

42/50PQ20, 42/50PQ30

INFO	Displays channel information at the top of the screen.
AV MODE	Toggles through preset Video and Audio modes. ▶**p.47**
POWER	Turns the TV on from standby or off to standby.
INPUT	Rotates through inputs. Also switches the TV on from standby. ▶**p.45**
ENERGY SAVING	Adjusts the Energy Saving.

VOLUME UP /DOWN	Adjusts the volume.
MUTE	Switch the sound on or off. ▶**p.34**
CHANNEL UP/DOWN	Changes the channel.
PAGE UP/DOWN	Moves from one full set of screen information to the next one.

VCR, USB, SIMPLINK Control buttons	● Controls USB menu (PHOTO LIST and MUSIC LIST). ● Controls the SIMPLINK compatible devices.

Q.MENU	Opens the list of Quick Menu options. ▶**p.38**
SIMPLINK	See a list of AV devices connected to TV. When you toggle this button, the SIMPLINK menu appears at the screen. ▶**p.48-49**
FREEZE	Freezes the current frame.
RATIO	Changes the aspect ratio of the video. ▶**p.58**
FAV	Scroll through the programmed Favorite channels. ▶**p.43**
MARK	Use to mark or unmark a photo/music ▶**p.52**
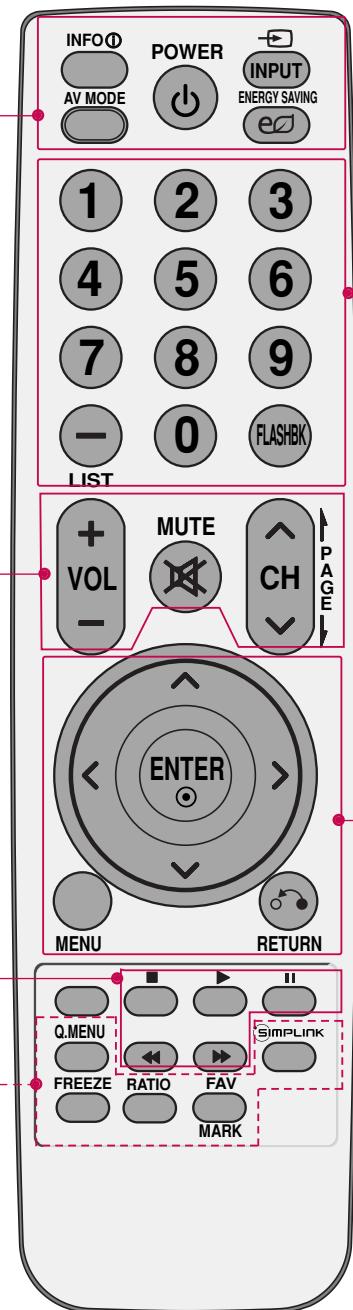
| NUMBER button	
— (DASH)	Used to enter a program number for multiple program channels such as 2-1, 2-2, etc.
LIST	Displays the channel list.
FLASHBK	Tunes to the last channel viewed.

THUMBSTICK (Up/Down/Left Right/ENTER)	Navigates the on-screen menus and adjusts the system settings to your preference.
MENU	Displays the main menu or clears all on-screen displays and returns to TV viewing.
RETURN	Allows the user to move return one step in an interactive application or other user interaction function.

Installing Batteries
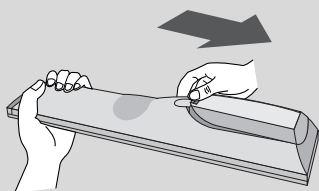
- Open the battery compartment cover on the back and install the batteries matching correct polarity.

- Install two 1.5V AAA batteries. Do not mix old or used batteries with new ones.

- Close cover.

WATCHING TV / CHANNEL CONTROL

TURNING ON TV

Turning on TV just after installation

1 First, connect power cord correctly.
At this moment, TV is in standby mode.
■ In standby mode to turn TV on, press the **INPUT**, **CH (▲** or **▼)** button on the TV or press the **POWER**, **INPUT**, **CH(∧** or **∨)**, **Number (0~9)** button on the remote control.

2 Select the viewing source by using the **INPUT** button on the remote control.
■ This TV is programmed to remember which power state it was last set to, even if the power cord is out.

Turning on TV in use (power cord is still connected)

Case 1) Press the **POWER** button on the remote control. The TV reverts to standby mode.
- To turn TV on, press the **INPUT**, **CH (▲** or **▼)** button on the TV or press the **POWER**, **INPUT**, **CH(∧** or **∨)**, **Number (0~9)** button on the remote control.
You can press the main power to shutdown the TV from standby mode to use even less power that standby mode.

Case 2) Main power(⏻/I) on the TV is switched off.
- To turn TV on, you must press the main power (⏻/I) button on the TV.

Case 3) Press the **POWER** button on the remote control and then main power(⏻/I) on the TV is switched off.
- To turn TV on, you must press the main power (⏻/I) button on the TV.

> ❗ **NOTE** ► If you intend to be away on vacation, disconnect the power plug from the wall power outlet.
> ► If you unplug the TV once or turn the main power off, the clock function reset.

CHANNEL SELECTION

1 Press the **CH (∧** or **∨)** or **NUMBER** buttons to select a channel number.

VOLUME ADJUSTMENT

Adjust the volume to suit your personal preference.

1 Press the **VOL (+** or **-)** button to adjust the volume.

2 If you want to switch the sound off, press the **MUTE** button.

3 You can cancel the Mute function by pressing the **MUTE** or **VOL (+** or **-)** button.
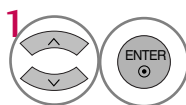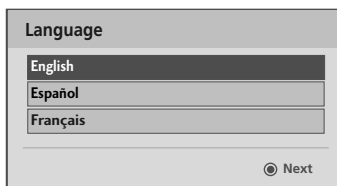
INITIAL SETTING

This Function guides the user to easily set the essential items for viewing the TV for the first time when purchasing the TV. It will be displayed on the screen when turning the TV on for the first time. It can also be activated from the user menus.
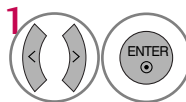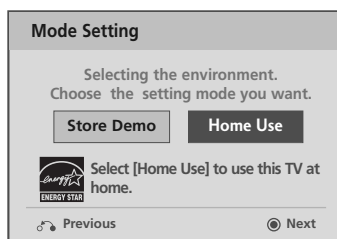
- Default selection is "**Home Use**". We recommend setting the TV to "**Home Use**" mode for the best picture in your home environment.
- "**Store Demo**" Mode is only intended for use in retail environments. Customers can adjust the "**Picture** menu - **Picture mode**" manually while inspecting the TV, but the TV will automatically return to preset in-store mode after 5 minutes.
- You can also adjust **Initial Setting** in the **OPTION** menu.

  Factory defaults are set when you choose "**Home Use**".
- If you do not complete the **Initial setting**, it will appear whenever the TV is switched on until the **Initial setting** procedure is completed.

Step1. Language Selecting

Language
English
Español
Français
◉ Next

1 ⌃⌄ ENTER ⊙   Select menu Language.

Step2. Mode setting

Mode Setting
Selecting the environment. Choose the setting mode you want.
Store Demo   **Home Use**
ENERGY STAR Select [Home Use] to use this TV at home.
↶ Previous   ◉ Next

1 ‹ › ENTER ⊙   Select **Home Use** mode.

Step3. Time setting

Time Setting	
Current Time Setting	◄ **Auto** ►
Year	2007
Month	11
Date	15
Hour	5 PM
Minute	52
Time Zone	**Eastern**
Daylight Saving	**Off**
⟲ Previous	⊙ Next

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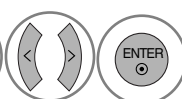
2 Select desired time option.

ENTER

Step4. Auto Tuning

Auto Tuning

Check your antenna connection.
The previous channel information will be updated during Auto Tuning.

⟲ Previous   ⊙ Next

1 Start **Auto Tuning**.

ENTER

ON-SCREEN MENUS SELECTION

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

CHANNEL   ⬍ Move   ◉ Enter

Auto Tuning
Manual Tuning
Channel Edit

PICTURE   ⬍ Move   ◉ Enter

Aspect Ratio   : 16:9
Energy Saving : Intelligent Sensor
Picture Mode   : Standard
• Contrast   90
• Brightness 50
• Sharpness   60
• Color   60
• Tint   0   R||||||||||||G
• Advanced Control

AUDIO   ⬍ Move   ◉ Enter

Auto Volume   : Off
Clear Voice II   : On
• Level   0   - ||||||||||| +
Balance   0   L|||||||||R
Sound Mode   : Standard
• SRS TruSurround XT:Off
• Treble   50
• Bass   50
• Reset

OPTION   ⬍ Move   ◉ Enter

Menu Language(Language): English
Audio Language   : English
Input Label
SIMPLINK   : On
Key Lock   : Off
Caption   : Off
Demo Mode   : Off
ISM Method   : Normal
Set ID   : 1

CHANNEL	PICTURE	AUDIO	TIME

OPTION	LOCK	INPUT	USB

TIME   ⬍ Move   ◉ Enter

Clock
Off Time   : Off
On Time   : Off
Sleep Timer : Off

LOCK   ⬍ Move   ◉ Enter

Lock System   : Off
Set Password
Block Channel
Movie Rating
TV Rating-Children
TV Rating-General
Downloadable Rating
Input Block

Lock System   : Off
Set Password
Block Channel
TV Rating-English
TV Rating-French
Downloadable Rating
Input Block

INPUT   ⬍ Move   ◉ Enter

TV
AV1
AV2
Component1
Component2
RGB-PC
HDMI1
HDMI2
HDMI3

USB   ⬍ Move   ◉ Enter

Photo List
Music List

For USA   **For Canada**

1 MENU ⌃⌄‹› — Display each menu.

2 ENTER ⊙ ⌃⌄ — Select a menu item.

3 ENTER ⊙ — Accept the current selection.

4 MENU — Return to TV viewing.

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.
- ■ **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**: Changes the audio language (Digital signal).
  SAP: Selects MTS sound (Analog 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.
- ■ **Eject USB**: Select "Eject" in order to eject a USB device.

Q.Menu	
Aspect Ratio	◄ 16:9 ►
Picture Mode	Vivid
Sound Mode	Standard
Caption	Off
Multi Audio	English
Sleep Timer	Off
Del/Add/Fav	Add
Eject USB	Eject
Close	

1
Q. MENU   Display each menu.

2
Make appropriate adjustments.
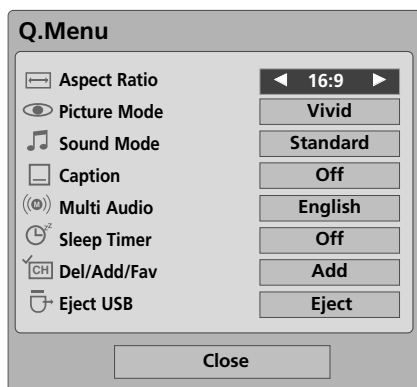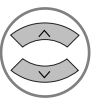
3
Q. MENU   Return to TV viewing.

CHANNEL SETUP

Auto Scan (Auto Tuning)

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

CHANNEL	◇ Move ⊙ Enter
Auto Tuning	◉
Manual Tuning	
Channel Edit	

➡

CHANNEL	◇ Move ⊙ Enter
Auto Tuning	
Manual Tuning	
Channel Edit	

ANTENNA   CABLE
ANTENNA

Press 'Yes' button to begin auto tuning.

Yes
No

➡

ANTENNA   CABLE
ANTENNA

Processing Auto Tuning...

23%   DTV Channel 8
DTV : 0 Found Channel(s)
ATV : 0 Found Channel(s)

Next(TV)
Close

1
MENU   Select **CHANNEL**.
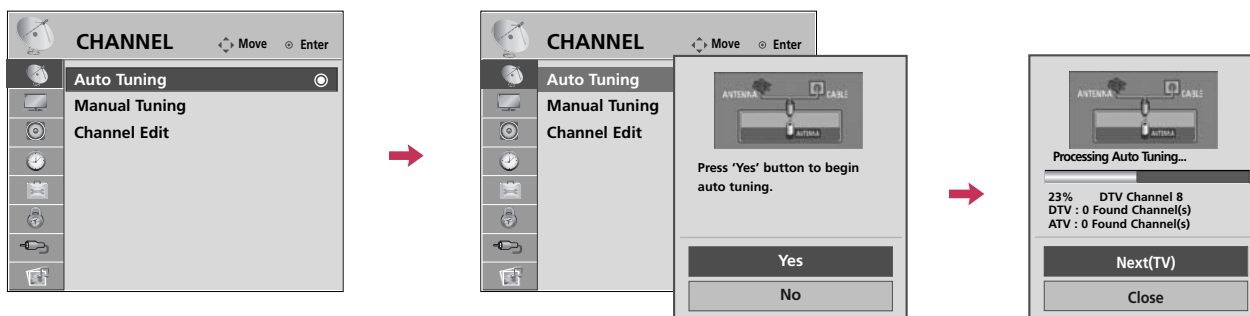
2
ENTER   Select **Auto Tuning**.

3
ENTER   Select **Yes**.

4
ENTER   Run **Auto Tuning**.

5
RETURN   Return to the previous menu.

MENU   Return to TV viewing.

■ The TV will ask for a password if parental control has been activated (Lock Menu). Use the password you set up in the Lock Menu to allow a channel search.

Add/Delete Channel (Manual Tuning)

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

CHANNEL ⟨⟩Move ⊙ Enter	**CHANNEL** ⟨⟩Move ⊙ Enter
Auto Tuning	Auto Tuning
Manual Tuning ◉	Manual Tuning
Channel Edit	Channel Edit

◄ **DTV** ►

Select channel type and RF-channel number.

Channel   2

DTV 2-1

Bad   Normal   Good

Delete

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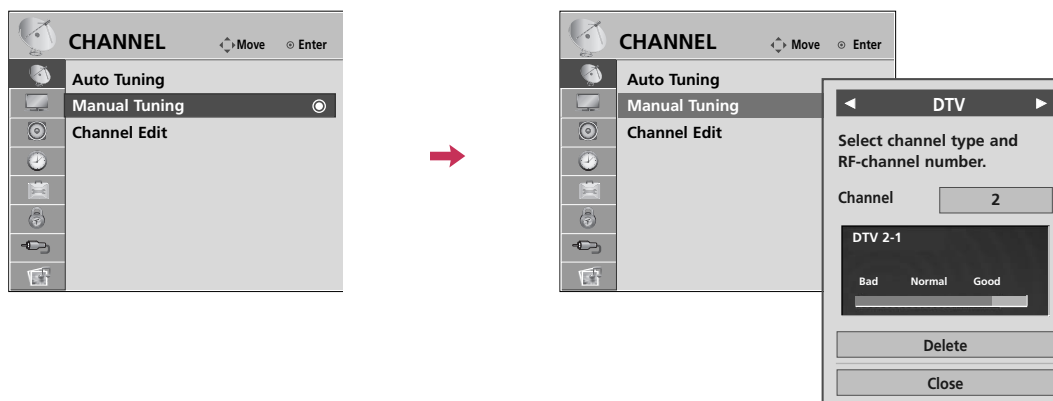
1 MENU		Select **CHANNEL**.
2 ENTER		Select **Manual Tuning**.
3 ENTER		Select **DTV**, **TV**, **CADTV**, or **CATV**.
4		Select channel you want to add or delete.
5 ENTER		Select **Add** or **Delete**.
6 RETURN		Return to the previous menu.
MENU		Return to TV viewing.

■ The TV will ask for a password if parental control has been activated (Lock Menu). Use the password you set up in the Lock Menu to allow a channel search.

Channel Editing

When a channel number is deleted, it means that you will be unable to select it using CH ∧ , ∨ button during TV viewing.

If you wish to select the deleted channel, directly enter the channel number with the NUMBER buttons or select it in the Channel Edit menu.

CHANNEL	⟨᠅⟩ Move ⊙ Enter
Auto Tuning	
Manual Tuning	
Channel Edit	⊙

7-1	DTV	TV	CA3TV	CATV
	7-1	9-1	9-5	11-1
	13-1	13-2	13-3	13-4
	13-5	15-1	15-2	15-3
	15-4			

⊙ Ch.Change   ⟨᠅⟩ Move   CH ◇ Move Page   ⟳ Previous   ▯ Add/Delete
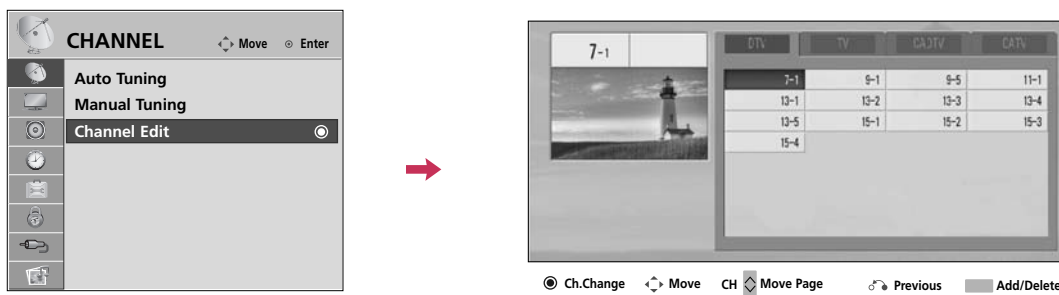
1 MENU Select **CHANNEL**.

2 ENTER Select **Channel Edit**.

3 ENTER Select a channel.

4 ❚❚ Add or delete the channel.

5 RETURN Return to the previous menu.

MENU Return to TV viewing.

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CHANNEL LIST

You can check channels which are stored in the memory by displaying the channel list.

🔒 This padlock is displayed when the channel is locked with parental control

```
Channel List

DTV  83-0              ⦿
DTV  15-1
DTV  18-2




            Exit
```
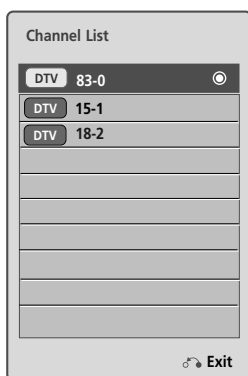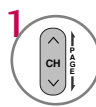
Displaying Channel List

1 LIST — Display the **Channel List**.

Selecting a channel in the channel list

1 ∧∨ — Select a channel.

2 ENTER ⦿ — Switch to the chosen channel number.

Paging through a channel list

1 CH PAGE — Turn the pages.

2 RETURN — Return to TV viewing.

FAVORITE CHANNEL SETUP

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

Favorite Channels are a convenient feature that lets you quickly select channels of your choice without waiting for the TV to select through all the in-between channels.
To tune to a favorite channel, press the **FAV** (Favorite) button repeatedly.

Q.Menu

▭ Aspect Ratio	**16:9**
◉ Picture Mode	**Vivid**
♫ Sound Mode	**Standard**
▢ Caption	**Off**
((◉)) Multi Audio	**English**
⏱ Sleep Timer	**Off**
CH Del/Add/Fav	◄ **Favorite** ►
⊡ Eject USB	**Eject**

Close
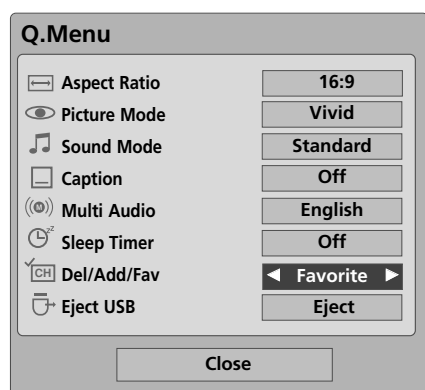
1 CH PAGE or [number pad] Select your desired channel.

2 Q. MENU Select **Del/Add/Fav**.

3 Select **Favorite**.

4 Q. MENU Return to TV viewing.

FAVORITE CHANNEL LIST

Favorite List

DTV	83-0	◉
DTV	15-1	
DTV	18-2	

🕹 Exit
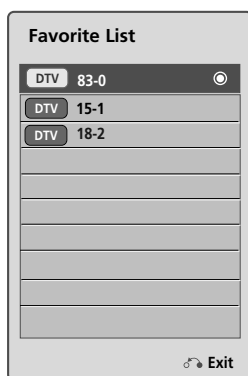
Displaying the favorite channel list

1 MARK FAV or FAV MARK Display the Favorite channel list.

Selecting a channel in the favorite channel list

1 Select a channel.

2 ENTER Switch to the chosen channel number.

Paging through a favorite channel list

1 CH PAGE Turn the pages.

2 RETURN Return to TV viewing.

BRIEF INFORMATION

Brief Info shows the present screen information.

1
INFO ⓘ   or   ENTER   Show the Brief Info on the screen.

2
RETURN   Return to TV viewing

① ② ③ ④ ⑤ ⑥ ⑦

No Program Information.   10:40 AM
Wed, Aug 21, 2009   10:10 AM ▭━━━━▭ 11:40 AM
◎ Multilingual   CC Caption   16 : 9 1080i   🔒 MPAA PG

DTV   **11**–1
DOLBY DIGITAL HD
CNN
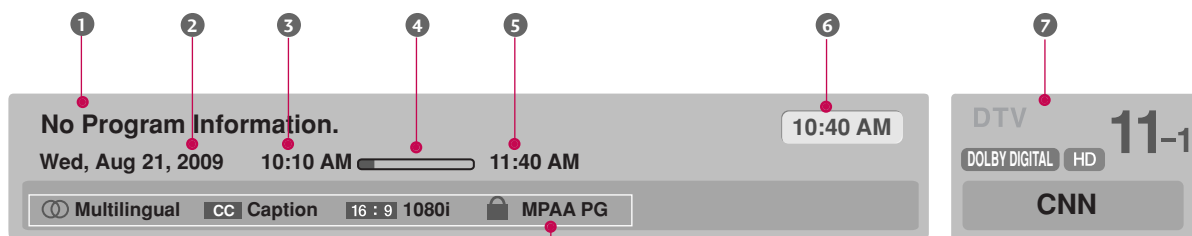
◎	**Multilingual** : The program contains two or more audio services. Use the **Q.MENU** menu to select wanted Audio.
CC	**Caption** : The program contains one or more caption services. Use the **Q.MENU** menu to select wanted Closed caption.
4:3	The original aspect ratio of the video is 4:3
16:9	The original aspect ratio of the video is 16:9 (wide)
480i	The video resolution is 720x480i
480p	The video resolution is 720x480p
720p	The video resolution is 1280x720p
1080i	The video resolution is 1920x1080i
1080p	The video resolution is 1920x1080p
🔒	**V-Chip**: The program contains V-Chip information. Refer to the LOCK menu: A (Age), D (Dialogue), L (Language), S (Sex), V (Violence), FV (Fantasy Violence)

① Program title
② Day, Month, Year
③ Program start time
④ Program progress bar
⑤ Program finish time
⑥ Present time
⑦ Banner information

INPUT LIST

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

(image row)

| TV | AV1 | AV2 | Component1 | Component2 |

1 Select the desired input source.

TV → AV1 → AV2 → Component1 → Component2

HDMI4 ← HDMI3 ← HDMI2 ← HDMI1 ← RGB-PC

or

HDMI3
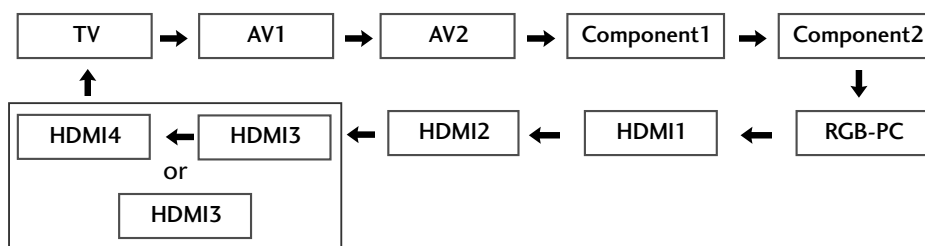
ie)
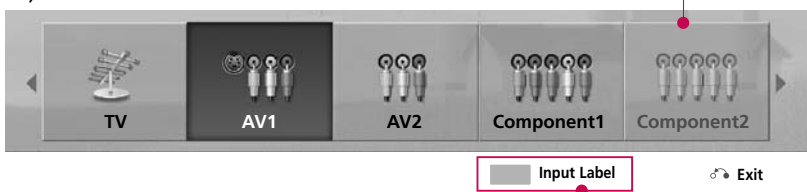
Disconnected inputs are inactive (grayed out)

| TV | AV1 | AV2 | Component1 | Component2 |

Input Label   Exit

Select a desired input source (except **TV**). Then, you can select your desired **Input Label** with using Blue button. ▶ **p.46**

ie) In case of changing the input label with using Blue button

■ 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**", popup menu for HDMI input will not be displayed.

⚠ New external device is connected. Do you want to enjoy this?

Yes   No

⚠ Select input source that you want to appreciate.

AV1
AV2
Component1
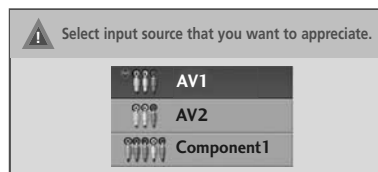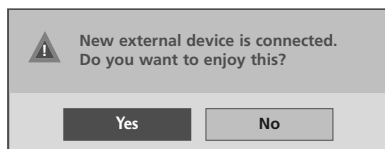
■ **TV**: Select it to watch over-the-air, cable and digital cable broadcasts.

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

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

■ **RGB-PC**: Select it to view PC input.

■ **HDMI1-3** or **1-4**: Select them to watch high definition devices.

(side tab)
WATCHING TV / CHANNEL CONTROL

(page number)
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INPUT LABEL

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

OPTION	↕ Move ⊙ Enter
Menu Language(Language): English	
Audio Language	: English
Input Label	◎
SIMPLINK	: On
Key Lock	: Off
Caption	: Off
Demo Mode	: Off
ISM Method	: Normal
Set ID	: 1

OPTION	↕ Move ⊙ Enter
Menu Language(Language): English	
Audio Language	: English
Input Label	
SIMPLINK	
Key Lock	
Caption	
Demo Mode	
ISM Method	
Set ID	

AV1	◄ ►
AV2	
Component1	
Component2	
RGB-PC	
HDMI1	
HDMI2	
HDMI3	
HDMI4	
Close	

Only 42/50PQ60, 50/60PS60

With using OPTION menu

1 MENU — Select **OPTION**.

2 ENTER — Select **Input Label**.

3 ENTER — Select the source.

4 — Select the label.

5 RETURN — Return to the previous menu.

MENU — Return to TV viewing.

With using INPUT button

1 INPUT or INPUT — Select the source(except **TV**).

2 ‖ — Select the label.

3 RETURN — Return to the previous menu.

MENU — Return to TV viewing.

AV MODE

AV Mode toggles through preset Video and Audio settings.

(Only for 50/60PS60)

| Off | → | Cinema | or | ⓉⒽⓍ Cinema |

| Game | ← | Sport |
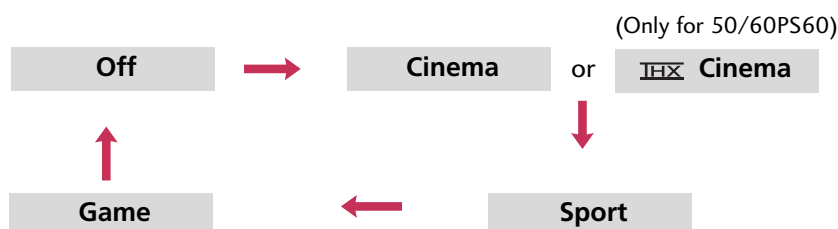
1 AV MODE — Press the **AV MODE** button repeatedly to select the desired source.

2 ENTER

- If you select "**Cinema / ⓉⒽⓍ 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 Mode**" and "**Sound Mode**" return to previous selected value.
- **Off**: Disables the AV MODE.
- **Cinema**: Optimizes video and audio for watching movies.
- **Sport**: Optimizes video and audio for watching sports events.
- **Game**: Optimizes video and audio for playing games.

SIMPLINK

Simplink allows you to control and play other AV devices connected with HDMI cable without additional cables and settings. This TV may work with devices with HDMI-CEC support, but only devices with the Simplink logo are fully supported.

SIMPLINK can be turned on and off in the user menus.
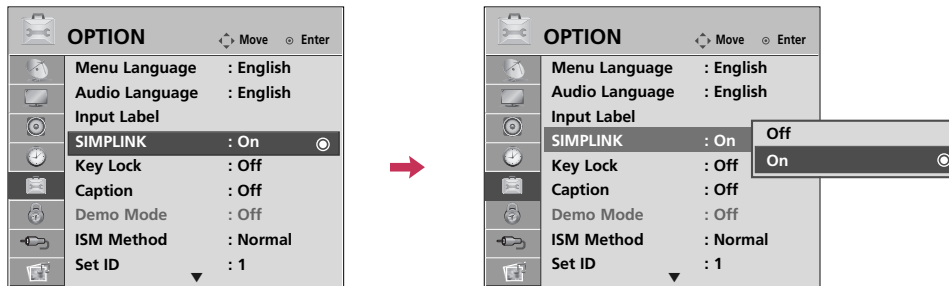
OPTION	◀▶ Move ⊙ Enter
Menu Language	: English
Audio Language	: English
Input Label	
SIMPLINK	: On
Key Lock	: Off
Caption	: Off
Demo Mode	: Off
ISM Method	: Normal
Set ID	: 1

OPTION	◀▶ Move ⊙ Enter
Menu Language	: English
Audio Language	: English
Input Label	
SIMPLINK	: On Off
Key Lock	: Off On
Caption	: Off
Demo Mode	: Off
ISM Method	: Normal
Set ID	: 1

1 MENU — Select **OPTION**.

2 ENTER — Select **SIMPLINK**.

3 ENTER — Select **On** or **Off**.

4 RETURN — Return to the previous menu.

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 SIM-PLINK 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 and the TV speakers are turned off.

► 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 SIM-PLINK 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 ∧ ∨ < >, **ENTER, ▶, ■, II, ◀◀** and **▶▶** 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 the equipment with Simplink function connected HDMI terminal starts to play, The TV will change automatically to turn on mode.

(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 1.3 with *CEC function should be used. (*CEC: Consumer Electronics Control).

1 Display **SIMPLINK** menu.

2 Select the desired device.

3 Control connected AV devices.

SIMPLINK Menu

❶ **TV viewing**: Switch to the previous TV channel regardless of the current mode.

❷ **DISC playback**: Select and play discs. When multiple discs are available, the titles of discs are conveniently displayed at the bottom of the screen.

❸ **VCR playback**: Control the connected VCR.

❹ **HDD Recordings playback**: Control recordings stored in HDD.

❺ **Audio Out to Home Theater speaker/Audio Out to TV**: Select Home Theater speaker or TV speaker for Audio Out.

▶ When no device is connected (displayed in gray)

▶ Selected Device

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

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USB

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.

■ It doesn't support USB HDD.

■ This TV supports JPG and MP3 files.
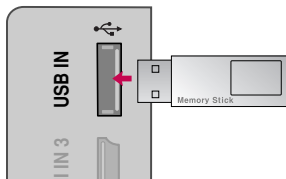
2 Select **Photo List** or **Music List**.

Photo List   Music List

3 ENTER
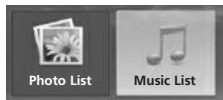
! NOTE

▶ In order to avoid losing the USB memory stick, use the USB connector to fix the USB memory stick to the USB connector holder of the TV.

USB connector holder

USB Input Port

USB Connector (sold separately)
- Fix the one end of the USB connector to the USB memory stick and the other end to the USB connector holder.
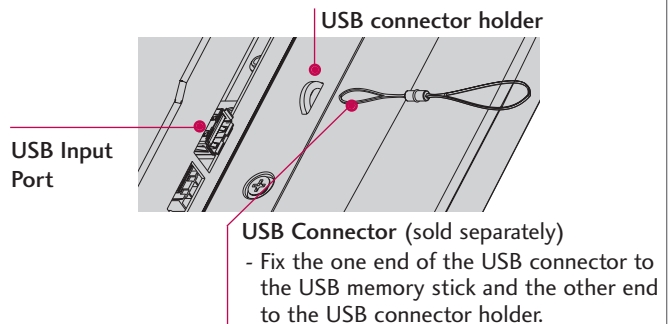
When removing the USB device
Select the **Eject USB** menu before removing the USB device.

1 Q. MENU   Select **Eject USB**.

2 ENTER   Select **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.
▶ Only use a USB storage device which has normal music files or image files.
▶ Please use only a USB storage device which was

formatted as a FAT16, FAT32 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 operate properly.
▶ The TV will display up to 128 characters of a files name.
▶ 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
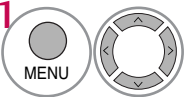
You can view .JPG files from USB storage devices.
The On Screen Display on your model may be slightly different.

Supported photo file: ∗.JPG

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

Screen Components

1 MENU 〈∧∨〉 Select **USB**.
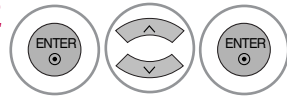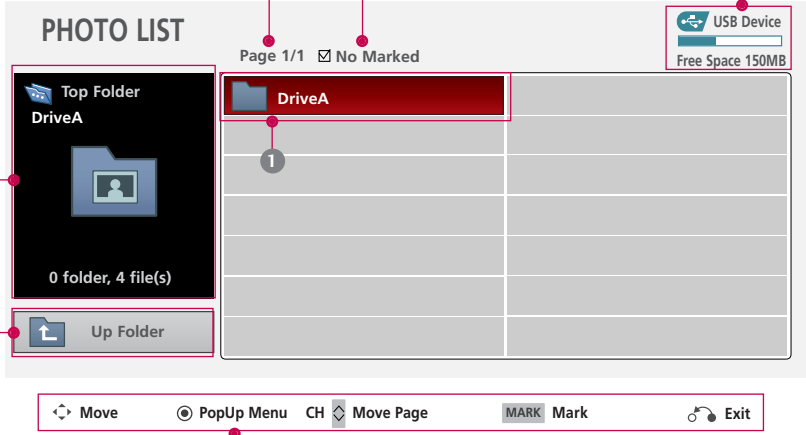
2 ENTER 〈∧∨〉 ENTER Select **Photo List**.

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

PHOTO LIST

Page 1/1 ☑ No Marked

USB Device
Free Space 150MB

Top Folder
DriveA

DriveA

0 folder, 4 file(s)

Up Folder

◇ Move   ◉ PopUp Menu   CH ◇ Move Page   MARK Mark   Exit

Photo Selection and Popup Menu

		USB Device
PHOTO LIST	Page 1/1 ☑ No Marked	Free Space 150MB

Top Folder
DriveA

DriveA

0 folder, 4 file(s)

Up Folder

Move · PopUp Menu CH Move Page MARK Mark Exit

		USB Device
PHOTO LIST	Page 1/1 ☑No Marked	Free Space 150MB

DriveA
Butterfly

Up Folder
Photo
X.Box
DSC0001 — 1366x768, 125KB
DSC0002   View
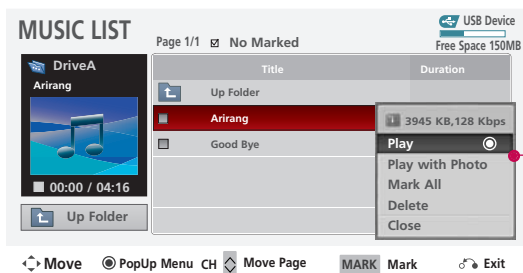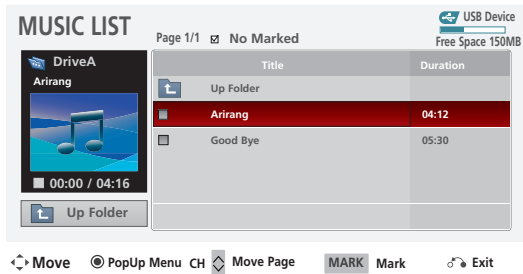DSC0003   Mark All
DSC0004   Delete
        Close

1366×768 125KB

Up Folder

Move · PopUp Menu CH Move Page MARK Mark Exit

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.
▶ Close: Close the pop-up menu.

1 Select the target folder or drive.

2 ENTER Select the desired photos.

3 ENTER Show the Popup menu.

4 ENTER Select the desired Popup menu.

■ Use the CH ∧ ∨ button to navigation in the photo page.
■ Use the MARK button to mark or unmark a photo. When one or more photos are marked, you can view individual photos or a slide show of the marked photos. If no photos are marked, you can view all photos individually or all photos in the folder in a slide show.

Full Screen Menu

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

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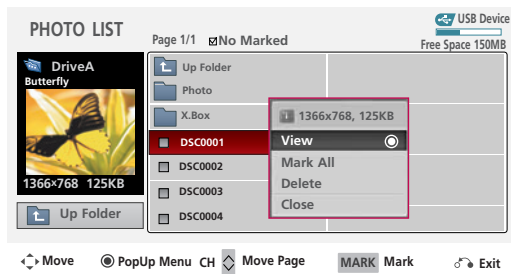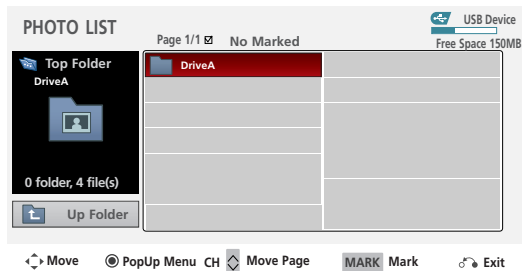
The aspect ratio of a photo may change the size of the photo displayed on the screen in full size.

Slideshow ▣ BGM ▣ ↻ Delete Option Hide

6 ⌄ ‹) (› ENTER Select the **Slideshow**, **BGM**,
↻ (Rotate), **Delete**, **Option**, or **Hide.**

■ Use ‹ › button to select the previous or
next photo.
■ Use ⌃ ⌄ ‹ › button to select and control
the menu on the full-sized screen.

▶ **Slideshow**: Selected photos are displayed during the
slide show. If no photo is selected, all photos in the cur-
rent folder are displayed during slide show.
■ Set the time interval of the slide show in **Option**.
▶ **BGM**: Listen to music while viewing photos in full size.
■ Set the BGM device and album in **Option**.
▶ **↻ (Rotate)**: Rotate photos.
■ Rotates the photo 90°, 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 set-
tings.
■ 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.

Press ◄ ► to set the time interval
between slides.

| Slide Speed | ◄ **Fast** ► |
| Music Folder | ... |

| Enter | Cancel |
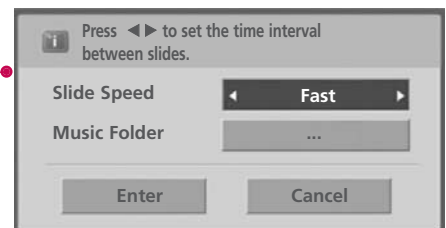
ⓘ NOTE

▶ 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 form a USB storage device.

This TV cannot play back copy-protected files.

The On Screen Display on your model may be slightly different.
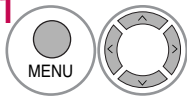
Supported music file: *.MP3

Bit rate range 8Kbps ~ 320Kbps

• Sampling rate (Sampling Frequency)

  MPEG1 Layer 3 : 8KHz ~ 48KHz

• Music Max Length : 999.59 Sec.

Screen Components

1 ⬤ MENU ⬤ Select **USB**.

2 ⬤ ENTER ⬤ ⬤ ENTER Select **Music List**.

❶ Moves to upper level file

❷ Preview: Display the title/folder name of the music in the selected folder

❸ Current page/Total pages

❹ Total number of marked musics

❺ Usable USB memory

❻ Corresponding buttons on the remote control

MUSIC LIST

Page 1/1   ☑ No Marked

DriveA
Arirang

00:00 / 04:16

❶ Up Folder

USB Device
Free Space 150MB

Title	Duration
Up Folder	
Arirang	04:12
Good Bye	05:30

◄♦► Move   ⬤ PopUp Menu   CH ◊ Move Page   MARK Mark   ⟲ Exit

55

Music Selection and Popup Menu

Up to 6 music titles are listed per page.

MUSIC LIST — Page 1/1 ☑ No Marked — USB Device Free Space 150MB

	Title	Duration
	Up Folder	
	Arirang	04:12
	Good Bye	05:30

DriveA / Arirang / 00:00 / 04:16 / Up Folder

◄► **Move** ● **PopUp Menu** CH ◇ **Move Page** MARK **Mark** ↩ **Exit**

MUSIC LIST — Page 1/1 ☑ No Marked — USB Device Free Space 150MB

	Title	Duration
	Up Folder	
	Arirang	3945 KB,128 Kbps
	Good Bye	Play
		Play with Photo
		Mark All
		Delete
		Close

DriveA / Arirang / 00:00 / 04:16 / Up Folder

◄► **Move** ● **PopUp Menu** CH ◇ **Move Page** MARK **Mark** ↩ **Exit**

▶ **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.

▶ **Close**: Close the pop-up menu.

1 Select the target folder or drive.

2 ENTER / Select the desired musics.

3 ENTER Show the Popup menu.

4 ENTER Select the desired Popup menu.

5 RETURN Return to TV viewing

■ Use the **CH** ⌃ ⌄ button to navigation in the music page.

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

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

❗ NOTE

▶ When music is playing, ♪ is displayed in front of the music play time.

▶ A damaged or corrupted music file that does not play displays 00:00 as the play time.

▶ Music files with copy-protection will not play.

▶ Press **ENTER**, ■ , or **RETURN** button to stop the screen saver.

▶ This TV can not play music files 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.

Q.Menu

▭ Aspect Ratio	◄ **16:9** ►
👁 Picture Mode	**Vivid**
🎵 Sound Mode	**Standard**
▭ Caption	**Off**
⦿ Multi Audio	**English**
🕐 Sleep Timer	**Off**
CH Del/Add/Fav	**Add**
⎔ Eject USB	**Eject**
Close	

* Only DTV/CADTV/Component/HDMI-
DTV/DVI-DTV (720p/1080i/1080p)

16:9 → **Just Scan** → **Set By Program**

↓

Cinema Zoom ← **Zoom** ← **4:3**

↑ (to 16:9)
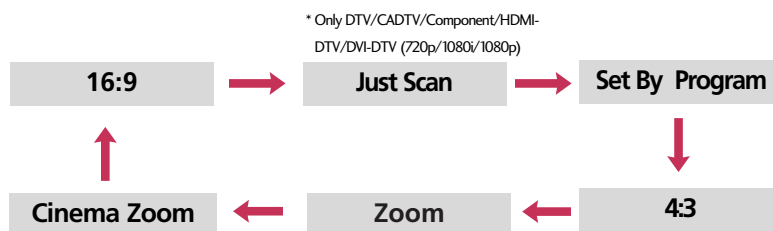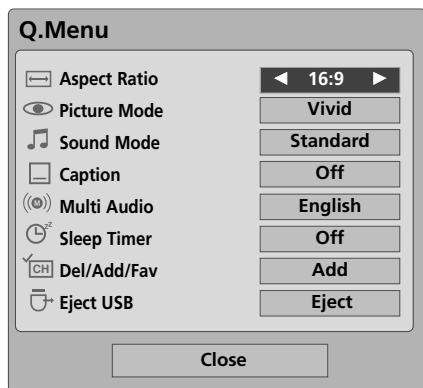
1 Q. MENU Select the **Aspect Ratio**.

2 Select the desired picture format.

3 Q. MENU Return to TV viewing.

■ You can also press the **RATIO** botton repeatedly on the remote control.

PICTURE CONTROL

58

16:9

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

Just Scan

Normally the edges of video signals are cropped 1-2%. Just Scan turns off this cropping and shows the complete video.

Notes: If there is noise on the edges of the original signal, it will be visible when Just Scan is activated.

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

Set by program

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

(4:3 ➡ 4:3)   (16:9 ➡ 16:9)

PICTURE CONTROL

4:3

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

Zoom

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

Cinema Zoom

Choose Cinema Zoom when you want to enlarge the picture in correct proportion. Note: When enlarging or reducing the picture, the image may become distorted.

■ The adjustment range is 1-16.

e⌀ ENERGY SAVING

It reduces the TV's power consumption.

The default factory setting complies with the **Energy Star** requirements and is adjusted to the comfort-able level to be viewed at home.

You can increase the brightness of your screen by adjusting the Energy Saving level or by setting the **Picture Mode**.

This feature is disabled in "**Picture Mode-Cinema**".

	PICTURE	◇ Move ◉ Enter
	Aspect Ratio	: 16:9
	e⌀Energy Saving : Intelligent Sensor	◉
	Picture Mode	: Standard
		• Contrast 90
		• Brightness 50
		• Sharpness 60
		• Color 60
		• Tint 0 R⏐⏐⏐⏐⏐⏐⏐⏐⏐⏐⏐⏐G
		• Advanced Control

	PICTURE	◇ Move ◉ Enter		
	Aspect Ratio	: 16:9	Intelligent Sensor	◀ High ▶
	e⌀Energy Saving : Intelligent Sens		Off	
	Picture Mode	: Standard	Minimum	
		• Contrast 90	Medium	
		• Brightness 50	Maximum	
		• Sharpness 60		
		• Color 60		
		• Tint 0 R⏐⏐⏐⏐⏐⏐⏐⏐⏐⏐⏐⏐G		
		• Advanced Control		

1
MENU
Select **PICTURE**.

2
ENTER
Select **e⌀Energy Saving**.

3
ENTER
Select **Intelligent Sensor** (Select **Low**, **Middle**, or **High**.),
Off, **Minimum**, **Medium** or **Maximum**.

4
RETURN
Return to the previous menu.

MENU
Return to TV viewing.

■ You can also adjust the **ENERGY SAVING** bot-ton on the remote control.

■ **Intelligent Sensor?**
This function automatically adjusts the brightness of screen to the most suitable picture according to the surrounding conditions.

PRESET PICTURE SETTINGS (PICTURE MODE)

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

Q.Menu

Aspect Ratio	16:9
Picture Mode	◀ Vivid ▶
Sound Mode	Standard
Caption	Off
Multi Audio	English
Sleep Timer	Off
Del/Add/Fav	Add
Eject USB	Eject

Close

⌧ **Cinema**

or

Vivid → **Standard** → **Cinema**

↑   ↓

Expert2

↑

Expert1 ← **Game** ← **Sport**
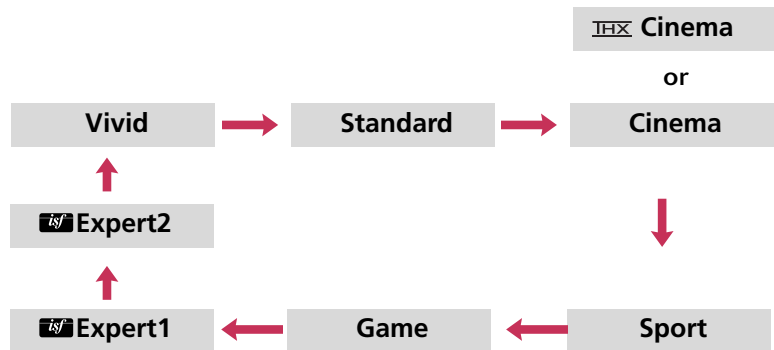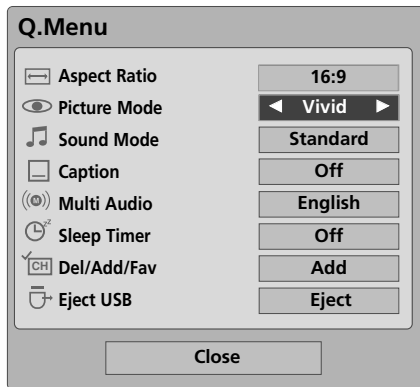
1 Q. MENU   Select **Picture Mode**.

2 Select **Vivid**, **Standard**, **Cinema** (or ⌧ **Cinema**), **Sport**, **Game**, **Expert1** or **Expert2**.

3 Q. MENU   Return to TV viewing.

■ **Vivid**, **Standard**, **Cinema**(or ⌧ **Cinema**), **Sport**, and **Game** Settings are preset for the optimum picture quality at the factory.

■ You can also adjust **Picture Mode** in the **PICTURE** menu.

■ **Vivid**: This is the mode to maximize the effect of the video in the retail store. Strengthen the contrast, brightness, color and sharpness for vivid picture.

■ **Standard**: This is the mode to realize optimum viewing condition for the general user.

■ **Cinema**: This mode optimizes video for watching movies.

■ **Sport**: This is the video mode to emphasize dynamic video and primary color (Ex, white, uniform, grass, sky blue etc.) by realizing the optimal screen for sports.

■ **Game**: This is the mode to realize fast response speed in a fast gaming screen.

■ **Expert**: This is the mode to adjust the video in detail for video quality expert and general user.

■ ⌧ Cinema (Only for 50/60PS60): This is cinema quality mode to provide you the experience of watching a movie at home. The user will be able enjoy the best level of satisfactory screen quality in any movie without any separate adjustments. ⌧ Cinema expresses the optimal screen quality when it is darkest.

■ When selecting ⌧ **Cinema**, Aspect ratio changes to Just scan.

■ ⌧ (Thomlinson Holman's Experiment) is the audio and video certification standard of THX established by George Lucas and Thomlinson.
This is the product to be certified in THX display area and guarantees screen quality that exceeds the display standard specification in both hardware and software.

MANUAL PICTURE ADJUSTMENT-USER MODE

Adjust the picture appearance to suit your preference and viewing situations.
50/60PS60 only: This feature is disabled in "**Picture Mode- ⱵⱧⱫ Cinema**".
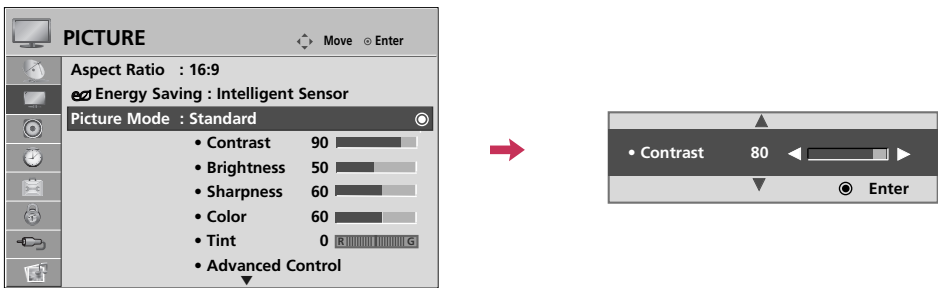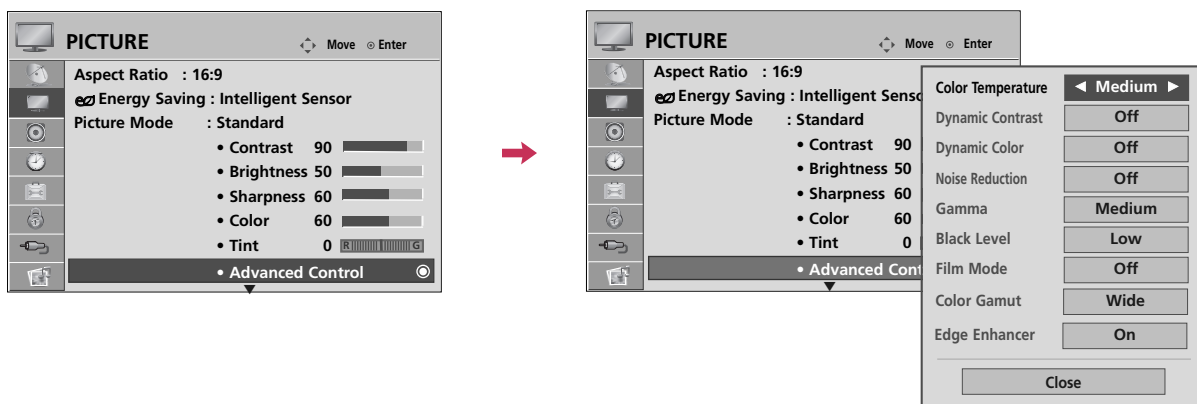
PICTURE	◇ Move ⊙ Enter
Aspect Ratio : 16:9	
Energy Saving : Intelligent Sensor	
Picture Mode : Standard	◎
• Contrast	90
• Brightness	50
• Sharpness	60
• Color	60
• Tint	0
• Advanced Control	

▲
• Contrast   80   ◀ [   ] ▶
▼   ⊙   Enter

1 MENU

Select **PICTURE**.

2 ENTER

Select **Picture Mode**.

3 ENTER

Select **Vivid**, **Standard**, **Cinema(or ⱵⱧⱫ Cinema)**,
Sport, or **Game**.

4 ENTER

Select **Contrast**, **Brightness**, **Sharpness**, **Color**, or **Tint**.

5 ENTER

Make appropriate adjustments.

6 RETURN

Return to the previous menu.

MENU

Return to TV viewing.

> ■ **Contrast**: Increase or decrease the gradient of the video signal. You may use Contrast when the bright part of picture is saturated.
> ■ **Brightness**: Adjusts the base level of the signal in the picture. You may use brightness when the dark part of the picture is saturated.
> ■ **Sharpness**: Adjusts the level of crispness in the edges between the light and dark areas of the picture. The lower the level, the softer the image.
> ■ **Color**: Adjusts intensity of all colors.
> ■ **Tint**: Adjusts the balance between red and green levels.

PICTURE IMPROVEMENT TECHNOLOGY

You can calibrate the screen for each Picture Mode or set the video value according to the special video screen. You can set the video seeing differently for each input.

To reset to the factory default screen after making adjustments to each video mode, execute the "Reset" function for each Picture Mode.
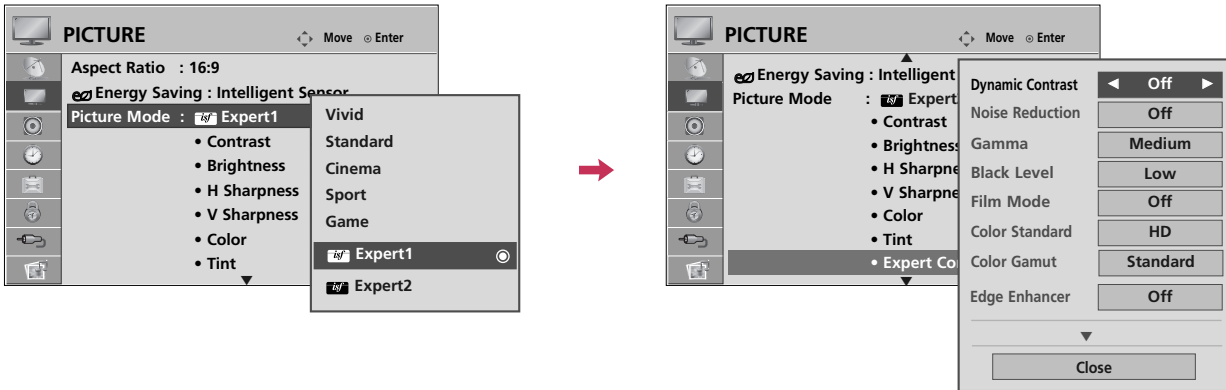
PICTURE　　　　　　　◇ Move　⊙ Enter

Aspect Ratio : 16:9
🌿 Energy Saving : Intelligent Sensor
Picture Mode : Standard
　　　• Contrast　90
　　　• Brightness 50
　　　• Sharpness 60
　　　• Color　　60
　　　• Tint　　　0　R▮▮▮▮▮▮▮G
　　　• Advanced Control　　⊙

PICTURE　　　　　　　◇ Move　⊙ Enter

Aspect Ratio : 16:9
🌿 Energy Saving : Intelligent Senso
Picture Mode : Standard
　　　• Contrast　90
　　　• Brightness 50
　　　• Sharpness 60
　　　• Color　　60
　　　• Tint　　　0
　　　• Advanced Con

Color Temperature	◄ Medium ►
Dynamic Contrast	Off
Dynamic Color	Off
Noise Reduction	Off
Gamma	Medium
Black Level	Low
Film Mode	Off
Color Gamut	Wide
Edge Enhancer	On
	Close

1 MENU — Select **PICTURE**.

2 ENTER — Select **Advanced Control**.

3 ENTER — Select your desired options.

4 — Make appropriate adjustments.

5 RETURN — Return to the previous menu.

MENU — Return to TV viewing.

EXPERT PICTURE CONTROL

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

This may also be used be a professional to help optimize the TV performance in the environment the TV is in.

PICTURE		◇ Move	⊙ Enter
Aspect Ratio : 16:9			
Energy Saving : Intelligent Sensor			
Picture Mode : ɪ𝒔𝒇 Expert1		Vivid	
• Contrast		Standard	
• Brightness		Cinema	
• H Sharpness		Sport	
• V Sharpness		Game	
• Color		ɪ𝒔𝒇 Expert1 ◎	
• Tint		ɪ𝒔𝒇 Expert2	

➡

PICTURE		◇ Move	⊙ Enter
Energy Saving : Intelligent		Dynamic Contrast	◄ Off ►
Picture Mode : ɪ𝒔𝒇 Expert		Noise Reduction	Off
• Contrast		Gamma	Medium
• Brightness		Black Level	Low
• H Sharpne		Film Mode	Off
• V Sharpne		Color Standard	HD
• Color		Color Gamut	Standard
• Tint		Edge Enhancer	Off
• Expert Co			
		Close	

1
MENU — Select **PICTURE**.

2
ENTER — Select **Picture Mode**.

3
ENTER — Select **ɪ𝒔𝒇Expert1**, or **ɪ𝒔𝒇Expert2**.

4
ENTER — Select **Expert Control**.

5
ENTER — Select your desired menu option.

6
Make appropriate adjustments.

7
RETURN — Return to the previous menu.

MENU — Return to TV viewing.

PICTURE CONTROL

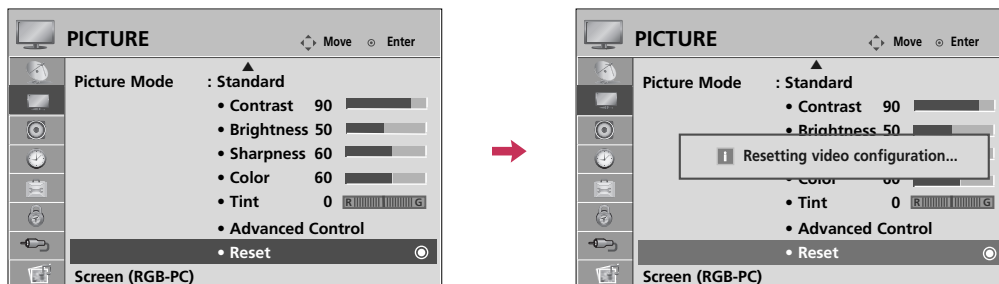|	
Color Temperature	■ Set to warm to enhance hotter colors such as red, or set to cool to make picture bluish.
Dynamic Contrast	■ Adjusts the contrast to keep it at the best level according to the brightness of the screen. The picture is improved by making bright parts brighter and dark parts darker.
Dynamic Color	■ Adjusts screen colors so that they look livelier, richer and clearer. This feature enhances hue, saturation and luminance so that red, blue, green and white look more vivid.
Noise Reduction	■ Reduces screen noise without compromising video quality.
Gamma	*Low : Make dark and middle gray level area of the picture brighter.* *Medium: Express original picture levels.* *High: Make dark and middle gray level area of the picture darker.* ■ You can adjust brightness of dark area and middle gray level area of the picture.
Black Level	*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.* ■ Set black level of the screen to proper level. ■ This function enables to select 'Low' or 'High' in the following mode: AV (NTSC-M), HDMI or Component. Otherwise, 'Black level' is set to 'Auto'.
Film Mode	■ Makes video clips recorded in film look more natural by eliminating judder effect. ■ DVD and Blu-ray movies are filmed at 24 frames per second.

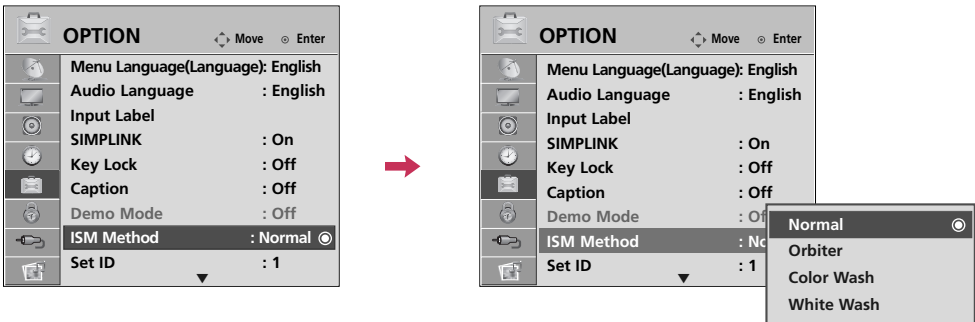|	
Color Gamut	*Standard: Displays standard color area.* *Wide: Mode to use and set the rich color area of the display.* ■ Maximize the utilization of color to increase color quality. ■ This feature is enabled in "**Color Temperature - Warm**".
Edge Enhancer	■ Show clearer and distinctive yet natural corners of the video.
Color Standard	■ Convert the color of a different video to HD color.
White Balance	■ This is the function to adjust the overall color of the screen to the feeling you want. a. Method : 2 Points - Pattern: Inner, Outer - Red/Green/Blue Contrast, Red/Green/Blue Brightness: The adjustment range is -50 - +50. b. Method : 20 Point IRE - Pattern: Inner, Outer - IRE (Institute of Radio Engineers) is the unit to display the size of the video signal and can be set among 5, 10, 15 - 95, 100. You can adjust Red, Green or Blue according to each setting. - Red/Green/Blue: The adjustment range is -50 - +50.

Color Management System	■ As the tool used by the experts to make adjustments by using the test patterns, this does not affect other colors but can be used to selectively adjust the 6 color areas (Red/Green/Blue/Cyan/Mgt/Yellow).
	  Color difference may not be distinctive even when you make the adjustments for the general video.
	  Adjusts Red/Green/Blue/Yellow/Cyan, Magenta.
	- Red/Green/Blue/Yellow/Cyan, Magenta Color: The adjustment range is -30 - +30.
	- Red/Green/Blue/Yellow/Cyan, Magenta Tint: The adjustment range is -30 - +30.
	- This feature is disable in RGB-PC and HDMI (PC) mode.

PICTURE RESET

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

|	PICTURE		Move ◈ Enter
	Picture Mode	**: Standard**	
		• Contrast 90	
		• Brightness 50	
		• Sharpness 60	
		• Color 60	
		• Tint 0	R ‖‖‖‖‖‖‖ G
		• Advanced Control	
		• Reset	◎
	Screen (RGB-PC)		

➡

	PICTURE		Move ◈ Enter
	Picture Mode	**: Standard**	
		• Contrast 90	
		• Brightness 50	
	ℹ Resetting video configuration...		
		• Color 60	
		• Tint 0	R ‖‖‖‖‖‖‖ G
		• Advanced Control	
		• Reset	◎
	Screen (RGB-PC)		

1 MENU Select **PICTURE**.

2 ENTER Select **Reset**.

3 ENTER Initialize the adjusted value.

4 MENU Return to TV viewing.

IMAGE STICKING MINIMIZATION (ISM) METHOD

A frozen still picture 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.

OPTION ◇ Move ⊙ Enter	**OPTION** ◇ Move ⊙ Enter
Menu Language(Language): English	Menu Language(Language): English
Audio Language : English	Audio Language : English
Input Label	Input Label
SIMPLINK : On	SIMPLINK : On
Key Lock : Off	Key Lock : Off
Caption : Off	Caption : Off
Demo Mode : Off	Demo Mode : Of
ISM Method : Normal ◉	ISM Method : Nc
Set ID ▼ : 1	Set ID ▼ : 1

Normal ◉
Orbiter
Color Wash
White Wash

1 MENU / ◇ — Select **OPTION**.

2 ENTER / ⌄^ — Select **ISM Method**.

3 ENTER / ⌄^ — Select **Normal, Orbiter, Color Wash** or **White Wash**.

4 RETURN — Return to the previous menu.

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.

■ **Color Wash**: The color block with the screen moved a little and the white pattern are alternately displayed. It is difficult to see the after image on all colors. Once it has been corrected it will not be visible in any color.

■ **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.
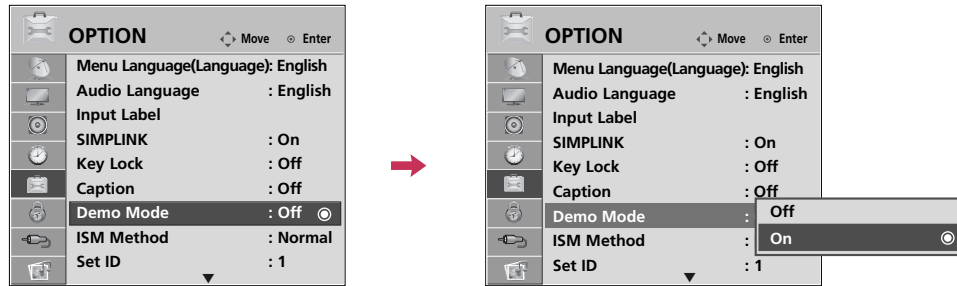
! NOTE

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

DEMO MODE

Displays a slide show to explain the various features of this TV.
This feature is disabled in "**Initial Setting-Home Use**".

OPTION	◇ Move ⊙ Enter
Menu Language(Language): English	
Audio Language	: English
Input Label	
SIMPLINK	: On
Key Lock	: Off
Caption	: Off
Demo Mode	: Off ◉
ISM Method	: Normal
Set ID	: 1

OPTION	◇ Move ⊙ Enter
Menu Language(Language): English	
Audio Language	: English
Input Label	
SIMPLINK	: On
Key Lock	: Off
Caption	: Off
Demo Mode	: Off
ISM Method	: On ◉
Set ID	: 1

1 MENU Select **OPTION**.

2 ENTER Select **Demo Mode**.

3 ENTER Select **On**.

4 MENU Return to TV viewing.

After a while, **Demo Mode** starts.
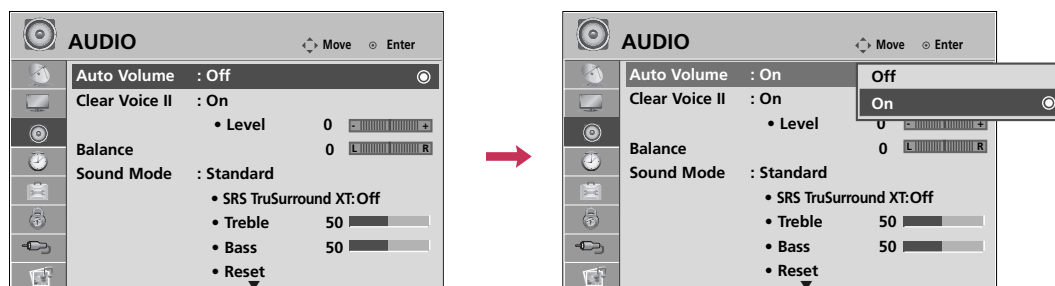If you want to stop the demo, press any button.
(except VOL or MUTE)

5 Show the various features of the TV.

6 Show the difference XD Engine features.

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.

Because each broadcasting station has its own signal conditions, volume adjustment may be needed every time the channel is changed. This feature allows users to enjoy stable volume levels by making automatic adjustments for each program.
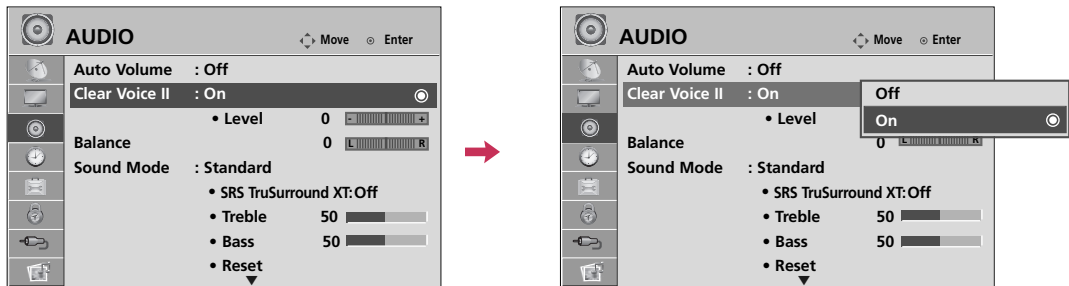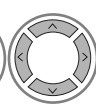
AUDIO	◇ Move ◎ Enter
Auto Volume	**: Off** ◎
Clear Voice II	**: On**
	• Level 0 ▬▬▬▬▬
Balance	0 ⃝L▬▬▬▬R
Sound Mode	**: Standard**
	• SRS TruSurround XT: Off
	• Treble 50 ▬▬▬▬
	• Bass 50 ▬▬▬▬
	• Reset ▽

AUDIO	◇ Move ◎ Enter	
Auto Volume	**: On**	Off
Clear Voice II	**: On**	On ◎
	• Level	0 ▬▬▬▬▬
Balance		0 ⃝L▬▬▬▬R
Sound Mode	**: Standard**	
	• SRS TruSurround XT: Off	
	• Treble	50 ▬▬▬▬
	• Bass	50 ▬▬▬▬
	• Reset ▽	
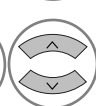
1 MENU — Select **AUDIO**.

2 ENTER — Select **Auto Volume**.

3 ENTER — Select **On** or **Off**.

4 RETURN — Return to the previous menu.

MENU — Return to TV viewing.

CLEAR VOICE II

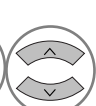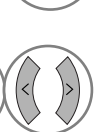**By differentiating the human sound range from others, it improves the sound quality of voices.**

| AUDIO	◁▷ Move ⊙ Enter
Auto Volume : Off	
Clear Voice II : On	⊚
• Level 0	- ⫿⫿⫿⫿⫿⫿⫿ +
Balance 0	L ⫿⫿⫿⫿⫿ R
Sound Mode : Standard	
• SRS TruSurround XT: Off	
• Treble 50	⫿
• Bass 50	⫿
• Reset	▼

➡

AUDIO	◁▷ Move ⊙ Enter
Auto Volume : Off	
Clear Voice II : On	**Off**
• Level	**On** ⊚
Balance	0 L ⫿⫿⫿⫿⫿ R
Sound Mode : Standard	
• SRS TruSurround XT: Off	
• Treble 50	⫿
• Bass 50	⫿
• Reset	▼

1
MENU

Select **AUDIO**.

2
ENTER
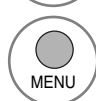
Select **Clear Voice II**.

3
ENTER

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

■ If you select "**Clear Voice II-On**", **SRS TruSurround XT** feature will not work.

Adjustment for Clear Voice II Level With selecting On

4
ENTER

Select **Level**.

5
ENTER

Make appropriate adjustments.

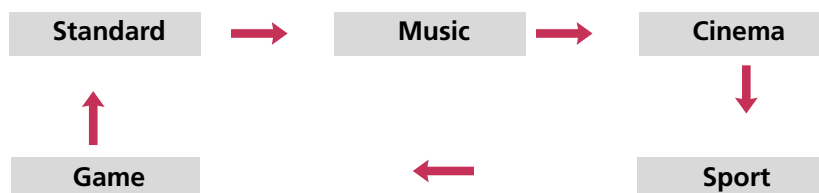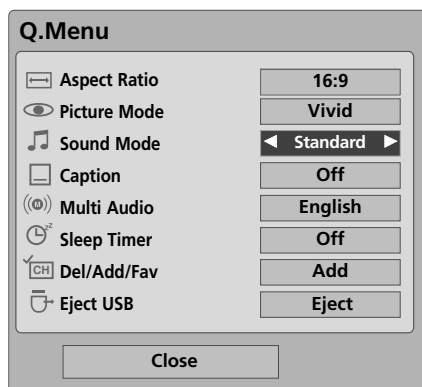| Level	0	◁ ⫿⫿⫿⫿⫿⫿⫿⫿ ▷
	Close	

6
RETURN
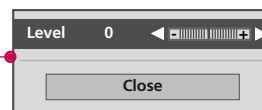
Return to the previous menu.

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.

Q.Menu	
⬓ Aspect Ratio	**16:9**
👁 Picture Mode	**Vivid**
🎵 Sound Mode	◄ **Standard** ►
▢ Caption	**Off**
((◉)) Multi Audio	**English**
🕙 Sleep Timer	**Off**
CH Del/Add/Fav	**Add**
🗗 Eject USB	**Eject**
Close	

Standard ➡ **Music** ➡ **Cinema**

Game ⬅ ⬆ **Sport** ⬇

1
Q. MENU

Select **Sound Mode**.

2

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

3
Q. MENU
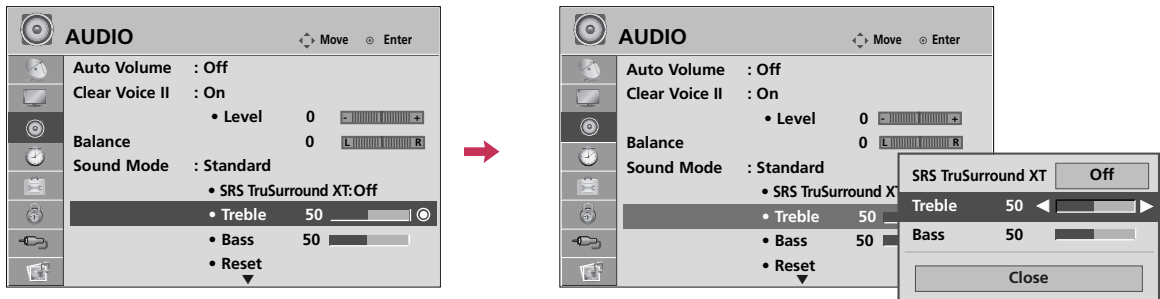
Return to TV viewing.

- You can also adjust **Sound Mode** in the **AUDIO** menu.
- **Standard**: Offers standard-quality sound.
- **Music**: Optimizes sound for listening to music.
- **Cinema**: Optimizes sound for watching movies.
- **Sport**: Optimizes sound for watching sports events.
- **Game**: Optimizes sound for playing games.

SOUND SETTING ADJUSTMENT - USER MODE

Adjust the sound to suit your taste and room situations.

AUDIO	⬩ Move ⊙ Enter
Auto Volume	: Off
Clear Voice II	: On
• Level	0 — ⊞
Balance	0 L R
Sound Mode	: Standard
• SRS TruSurround XT:	Off
• Treble	50 ⊙
• Bass	50
• Reset	

➡

AUDIO	⬩ Move ⊙ Enter
Auto Volume	: Off
Clear Voice II	: On
• Level	0 — ⊞
Balance	0 L R
Sound Mode	: Standard
• SRS TruSurround XT	
• Treble	50
• Bass	50
• Reset	

SRS TruSurround XT	Off
Treble	50 ◄ ►
Bass	50
Close	

1 MENU — Select **AUDIO**.

2 ENTER — Select **Sound Mode**.

3 ENTER — Select **Standard**, **Music**, **Cinema**, **Sport**, or **Game**.

4 ENTER — Select **Treble** or **Bass**.

5 ENTER — Make appropriate adjustments.

6 RETURN — Return to the previous menu.

MENU — Return to TV viewing.

SRS TRUSURROUND XT
Select this option to sound realistic.

1 MENU — Select **AUDIO**.

2 ENTER — Select **SRS TruSurround XT**.

3 ENTER — Select **On** or **Off**.

4 RETURN — Return to the previous menu.

MENU — Return to TV viewing.

■ If you select "**Clear Voice II-On**", **SRS TruSurround XT** feature will not work.

■ **SRS TruSurround XT**: TruSurround XT is a patented SRS technology that solves the problem of playing 5.1 multichannel content over two speakers.

BALANCE

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

AUDIO ⟨⟩ Move ⊙ Enter	**AUDIO** ⟨⟩ Move ⊙ Enter

AUDIO ⟨⟩ Move ⊙ Enter

Auto Volume : Off
Clear Voice II : On
    • **Level**   0 ⊟▓▓▓▓▓⊞
Balance   0 ▐L▓▓▓▓▓R▐ ⊙
Sound Mode : Standard
    • SRS TruSurround XT:Off
    • **Treble**   50 ▓▓▓
    • **Bass**   50 ▓▓▓
    • **Reset**
    ▼

➡

AUDIO ⟨⟩ Move ⊙ Enter

Auto Volume : Off
Clear Voice II : On
    • Level
Balance
Sound Mode : Standard
    • SRS Tru
    • **Treble**   50 ▓
    • **Bass**   50 ▓
    • **Reset**
    ▼

Balance   0 ◄▐L▓▓▓▓R▐►
Close

1

MENU

Select **AUDIO**.

2

ENTER

Select **Balance**.

3

ENTER
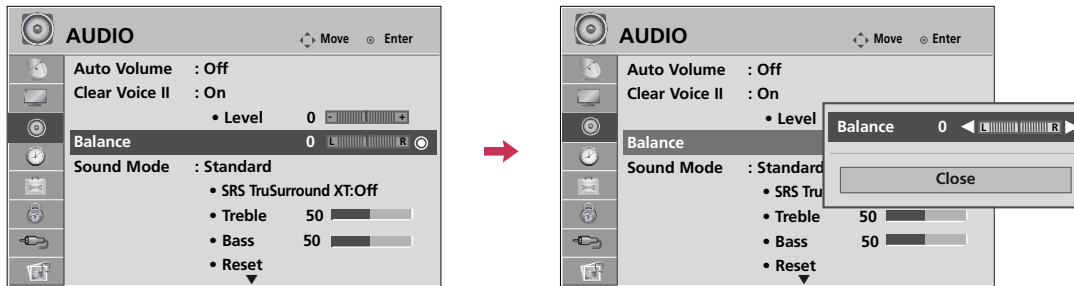
Make appropriate adjustments.

4

RETURN

Return to the previous menu.

MENU

Return to TV viewing.

TV SPEAKERS ON/OFF SETUP

Turn the TV speakers off if using external audio equipment.
If you wish to use an external Hi-Fi system or a SRS system, turn off the TV's internal speakers.
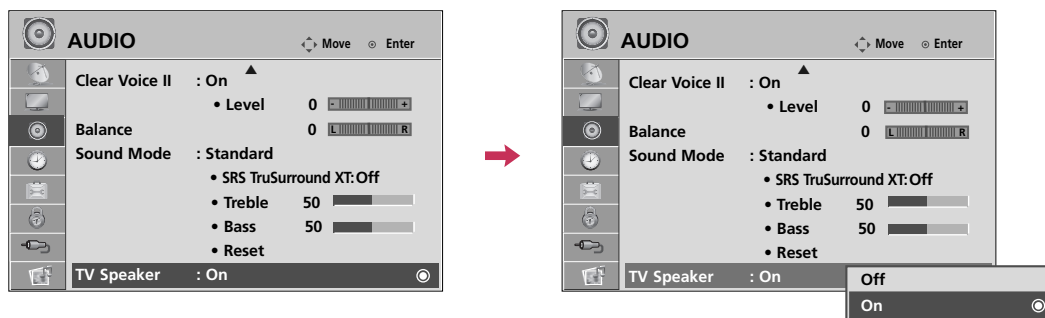
AUDIO	◇ Move ⊙ Enter
Clear Voice II : On ▲	
• Level 0	- ┃┃┃┃┃┃┃┃┃┃ +
Balance 0	L ┃┃┃┃┃┃┃┃┃ R
Sound Mode : Standard	
• SRS TruSurround XT: Off	
• Treble 50 ▓	
• Bass 50 ▓	
• Reset	
TV Speaker : On ◎	

➡

AUDIO	◇ Move ⊙ Enter
Clear Voice II : On ▲	
• Level 0	- ┃┃┃┃┃┃┃┃ +
Balance 0	L ┃┃┃┃┃┃┃┃ R
Sound Mode : Standard	
• SRS TruSurround XT: Off	
• Treble 50 ▓	
• Bass 50 ▓	
• Reset	
TV Speaker : On	Off
	On ◎

1 MENU / Select **AUDIO**.

2 ENTER / Select **TV Speaker**.

3 ENTER / Select **On** or **Off**.

4 RETURN / Return to the previous menu.

MENU / Return to TV viewing.

AUDIO RESET

Settings of the selected Sound Mode return to the default factory settings.
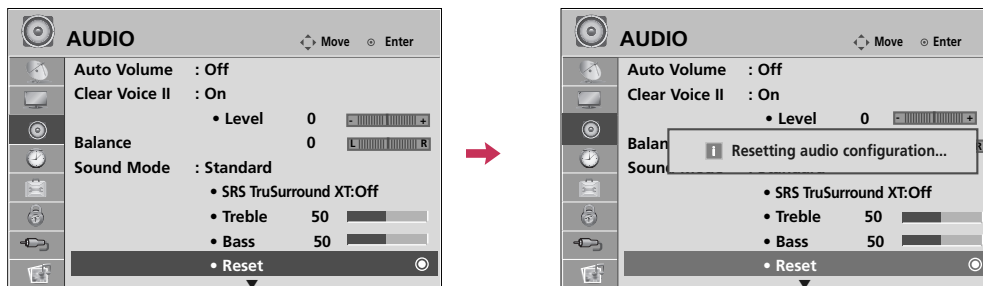
	AUDIO	◁▷ Move	⊙ Enter
Auto Volume	: Off	
Clear Voice II	: On	
	• Level	0
Balance		0
Sound Mode	: Standard	
	• SRS TruSurround XT:Off	
	• Treble	50
	• Bass	50
	• Reset	

Resetting audio configuration...

1 [MENU] [navigation pad]   Select **AUDIO**.

2 [ENTER] [up/down]   Select **Reset**.

3 [ENTER]   Initialize the adjusted value.

4 [MENU]   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.

Q.Menu	
⊟ Aspect Ratio	**16:9**
👁 Picture Mode	**Vivid**
🎵 Sound Mode	**Standard**
⬜ Caption	**Off**
((◎)) Multi Audio	◄ **English** ►
⏰ᶻ Sleep Timer	**Off**
CH Del/Add/Fav	**Add**
⎚ Eject USB	**Eject**
	Close
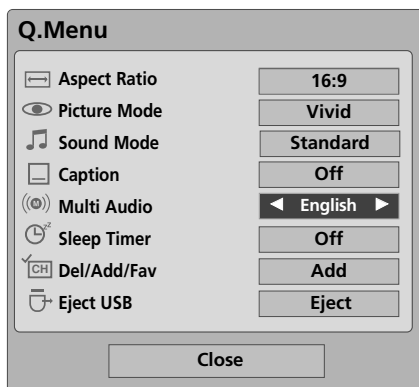
Analog TV

1 Q. MENU   Select **SAP**.

2   Select **Mono**, **Stereo**, or **SAP**.

3 Q. MENU   Return to TV viewing.

Digital TV

1 Q. MENU   Select **Multi Audio**.

2   Select other languages.

3 Q. MENU   Return to TV viewing.

AUDIO LANGUAGE

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

OPTION	◇ Move ◎ Enter
Menu Language(Language): English	
Audio Language	: English◎
Input Label	
SIMPLINK	: On
Key Lock	: Off
Caption	: Off
Demo Mode	: Off
ISM Method	: Normal
Set ID ▼	: 1

→

OPTION	◇ Move ◎ Enter
Menu Language(Language): English	
Audio Language	: Englis	English ◎
Input Label		Spanish
SIMPLINK	: On	French
Key Lock	: Off
Caption	: Off
Demo Mode	: Off
ISM Method	: Normal
Set ID ▼	: 1
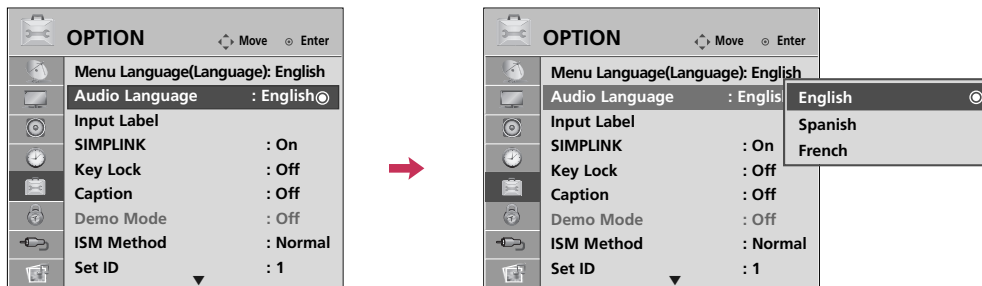
1 MENU Select **OPTION**.

2 ENTER Select **Audio Language**.

3 ENTER Select your desired language.

4 RETURN Return to the previous menu.

MENU Return to TV viewing.

ON-SCREEN MENUS LANGUAGE SELECTION

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

OPTION	⟨⟩ Move ⊙ Enter
Menu Language(Language): English ◉	
Audio Language	**: English**
Input Label	
SIMPLINK	**: On**
Key Lock	**: Off**
Caption	**: Off**
Demo Mode	: Off
ISM Method	**: Normal**
Set ID ▼	**: 1**

➡

OPTION	⟨⟩ Move ⊙ Enter
Menu Language(Language): English ◉	
Audio Language	**: Englis**
Input Label	
SIMPLINK	**: On**
Key Lock	**: Off**
Caption	**: Off**
Demo Mode	: Off
ISM Method	**: Normal**
Set ID ▼	**: 1**

English	◎
Español	
Français	

1

MENU

Select **OPTION**.

2

ENTER
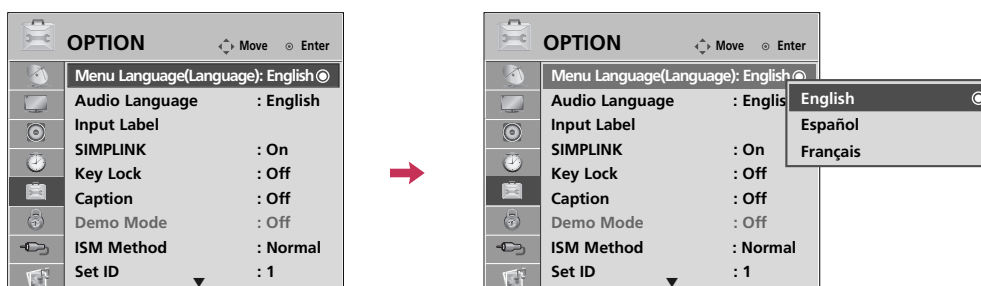
Select **Menu Language(Language)**.

3

ENTER

Select your desired language.
From this point on, the on-screen menus will
be shown in the selected language.

4

RETURN

Return to the previous menu.

MENU

Return to TV viewing.

CAPTION MODE

Analog Broadcasting System Captions

Captions are 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**.

OPTION	⟨⟩ Move ⊙ Enter
Menu Language(Language): English	
Audio Language	: English
Input Label	
SIMPLINK	: On
Key Lock	: Off
Caption	**: Off** ◉
Demo Mode	: Off
ISM Method	: Normal
Set ID	: 1

OPTION	⟨⟩ Move ⊙ Enter
Menu Language(Language): English	
Audio Language	: English
Input Label	
SIMPLINK	: On
Key Lock	: (
Caption	: (
Demo Mode	: (
ISM Method	: N
Set ID	: 1

◄ **On** ►
Mode **CC1**
Digital Option
Close

1 MENU

Select **OPTION**.

2 ENTER

Select **Caption**.

3 ENTER

Select **On**.

4

Select **CC1-4** or **Text1-4**.

5 RETURN

Return to the previous menu.

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 in only available when **Caption** Mode is set **On.**

	OPTION	⟨⟩ Move ◉ Enter
	Menu Language(Language): English	
	Audio Language	: English
	Input Label	
	SIMPLINK	: On
	Key Lock	: Off
	Caption	: Off ◉
	Demo Mode	: Off
	ISM Method	: Normal
	Set ID	: 1

➡

	OPTION	⟨⟩ Move ◉ Enter
	Menu Language(Language): English	
	Audio Language	: English
	Input Label	
	SIMPLINK	: On
	Key Lock	: O
	Caption	:
	Demo Mode	:
	ISM Method	:
	Set ID	:

◄ On ►
Mode   Service 1
Digital Option
Close

1
MENU
Select **OPTION**.

2
ENTER
Select **Caption**.

3
ENTER
Select **On**.

4
Select **CC1-4**, **Text1-4**, or **Service1 - 6**.

5
RETURN
Return to the previous menu.

MENU
Return to TV viewing.

Caption Option

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

OPTION	⬥ Move ⊙ Enter
Menu Language(Language): English	
Audio Language	: English
Input Label	
SIMPLINK	: On
Key Lock	: Off
Caption	: Off ⊙
Demo Mode	: Off
ISM Method	: Normal
Set ID ▼	: 1

OPTION	⬥ Move ⊙ Enter
Menu Language(Language): English	
Audio Language	: English
Input Label	
SIMPLINK	: On
Key Lock	: Off
Caption	
Demo Mode	
ISM Method	
Set ID	

◀ On ▶
Mode   Service1
Digital Option
Close

◀ Custom ▶
Size   Ａ Standard
Font   Font 1
Text Color   ☐ White
Text Opacity   Solid
Bg Color   ■ Black
Bg Opacity   Solid
Close

1 MENU / Select **OPTION**.

2 ENTER / Select **Caption**

3 ENTER / Select **On**.

4 Select **Digital Option**.

5 ENTER / 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 / Return to the previous menu.

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.

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.

TIME	◆ Move ◉ Enter
Clock	◉
Off Time	**: Off**
On Time	**: Off**
Sleep Timer	**: Off**

➡️

TIME	◆ Move ◉ Enter
Clock	
Off Time	**: Off**
On Time	**: Off**
Sleep Timer	**: Off**

◄ Auto ►	
Year	2008
Month	2
Date	21
Hour	2 AM
Minute	10
Time Zone	**Eastern**
Daylight Saving	**Auto**
Close	

1
MENU / ∧∨<> — Select **TIME**.

2
ENTER / ∧∨ — Select **Clock**.
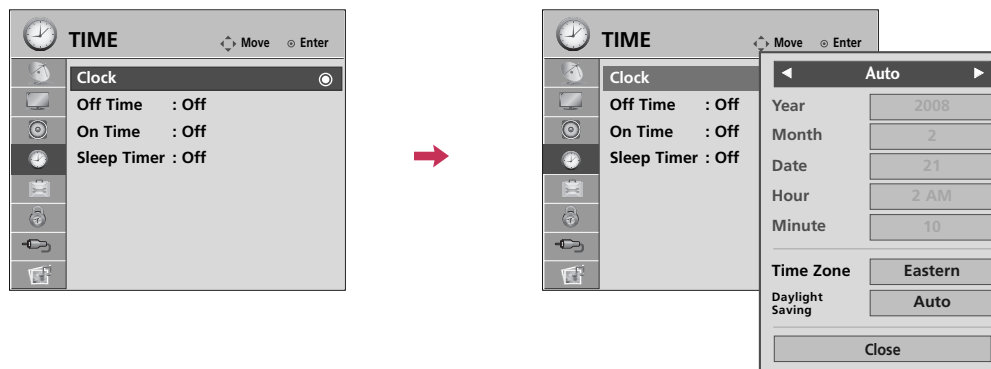
3
ENTER / <> — Select **Auto**.

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**, **On**, or **Off** (depending on whether or not your viewing area observes Daylight Saving time).

6
RETURN — Return to the previous menu.

MENU — Return to TV viewing.

Manual Clock Setup

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

TIME	‹› Move ⊙ Enter
Clock	◉
Off Time	: Off
On Time	: Off
Sleep Timer	: Off

➡

TIME	‹› Move ⊙ Enter
Clock	
Off Time	: Off
On Time	: Off
Sleep Timer	: Off

◄	**Manual**	►
Year		2008
Month		2
Date		21
Hour		2 AM
Minute		10
Time Zone		Eastern
Daylight Saving		Auto
	Close	

1 MENU Select **TIME**.

2 ENTER Select **Clock**.
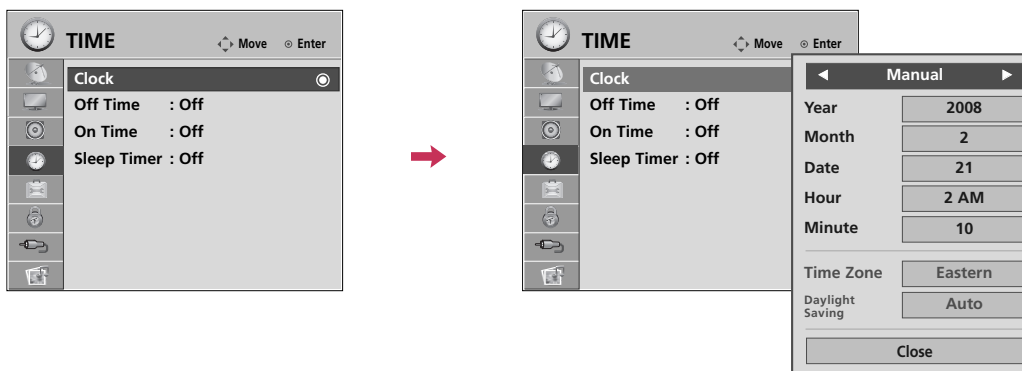
3 ENTER Select **Manual**.

4 Select the Year, Month, Date, Hour, or Minutes option.

5 Set the Year, Month, Date, Hour, or Minutes option.

6 RETURN Return to the previous menu.

MENU Return to TV viewing.

► If you unplug the TV once or turn the main power off, the clock function reset.

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.

TIME	◇ Move ⊙ Enter
Clock	
Off Time	: Off
On Time	: Off ⊚
Sleep Timer	: Off

➡

TIME	◇ Move ⊙ Enter
Clock	
Off Time	: Off
On Time	: Off
Sleep Timer	: Off

🕐 May /27 / 2009 /10:10 AM

Repeat	◄ Once ►
Hour	6 AM
Minute	30
Input	TV
Channel	TV 2-0
Volume	30
Close	
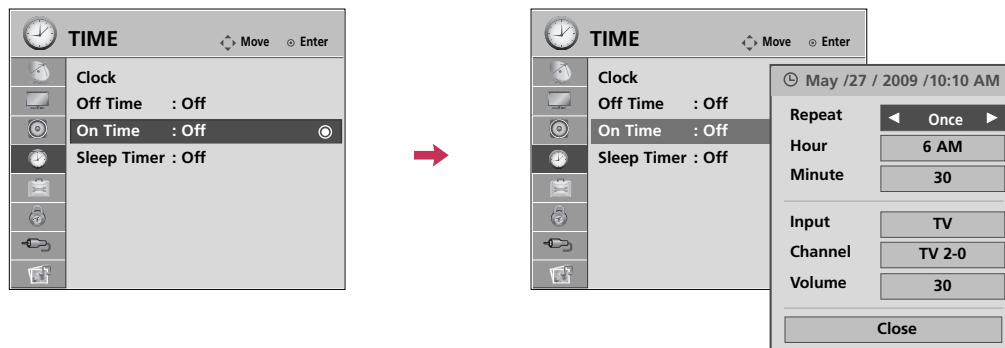
1 MENU — Select **TIME**.

2 ENTER — Select **Off time** or **On time**.

3 ENTER — Select **Repeat**.

4 Select **Off**, **Once**, **Daily**, **Mon.~Fri.**, **Mon.~Sat.**, **Weekend**, or **Sunday**.

5 Select and set **Hour** or **Minute**.

6 RETURN — Return to the previous menu.

MENU — Return to TV viewing.

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

1 ENTER — Select **Input**.

2 Select the desired input source.

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.

Q.Menu

Aspect Ratio	16:9
Picture Mode	Vivid
Sound Mode	Standard
Caption	Off
Multi Audio	English
Sleep Timer	◄ Off ►
Del/Add/Fav	Add
Eject USB	Eject

Close

1
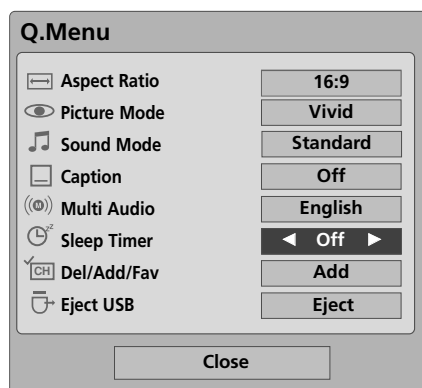
Q. MENU   Select **Sleep Timer**.

2

Select **Off**, **10**, **20**, **30**, **60**, **90**, **120**, **180**, or **240** minutes.

3

Q. MENU   Return to TV viewing.

■ You can also adjust **Sleep Timer** in the **TIME** menu.

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.

For USA

LOCK	◇ Move ◉ Enter
Lock System	: Off
Set Password	
Block Channel	
Movie Rating	
TV Rating-Children	
TV Rating-General	
Downloadable Rating	
Input Block	

For Canada

LOCK	◇ Move ◉ Enter
Lock System	: Off
Set Password	
Block Channel	
TV Rating-English	
TV Rating-French	
Downloadable Rating	
Input Block	

Enter Password

*	*	*	*

Close

1 MENU ENTER   Select **LOCK**.

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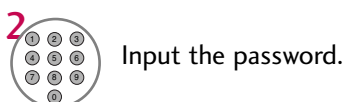
- Enter the password as requested.
- The TV is set up with the initial password "0-0-0-0".

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Lock System

Enables or disables the blocking scheme you set up previously.

LOCK	◀‣▶ Move ⊙ Enter
Lock System	: Off ◉
Set Password	
Block Channel	
Movie Rating	
TV Rating-Children	
TV Rating-General	
Downloadable Rating	
Input Block	

➡

LOCK	◀‣▶ Move ⊙ Enter	
Lock System	: On	**Off**
Set Password		**On** ◉
Block Channel		
Movie Rating		
TV Rating-Children		
TV Rating-General		
Downloadable Rating		
Input Block		

1 MENU ∧<>∨ ENTER ⊙ Select **LOCK**.
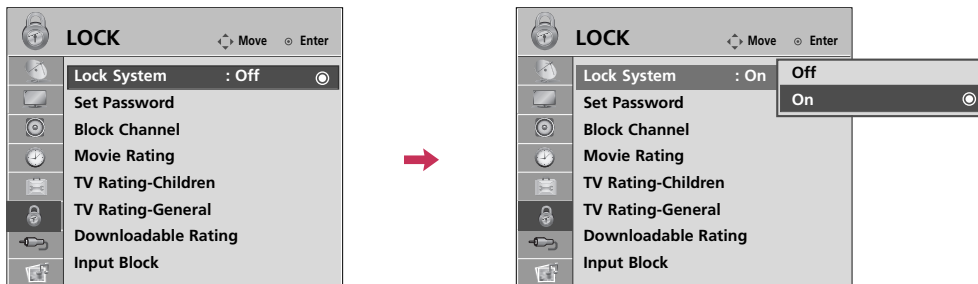
2 ①②③ ④⑤⑥ ⑦⑧⑨ ⓪ Input the password.

3 ∧∨ Select **Lock System**.

4 ENTER ⊙ ∧∨ Select **On** or **Off**.

5 RETURN Return to the previous menu.

MENU Return to TV viewing.

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

PARENTAL CONTROL / RATINGS

Set Password
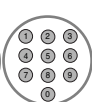
Change the password by inputting a new password twice.

	LOCK	◀▷ Move	⊙ Enter
	Lock System	: Off	
	Set Password	⊙	
	Block Channel		
	Movie Rating		
	TV Rating-Children		
	TV Rating-General		
	Downloadable Rating		
	Input Block		

➡

	LOCK	◀▷ Move	⊙ Enter
	Lock System	: Off	
	Set Password		
	Block Channel		
	Movie Rating		
	TV Rating-Children		
	TV Rating-General		
	Downloadable Rating		
	Input Block		

New   * * * *
Confirm * * * *

Close

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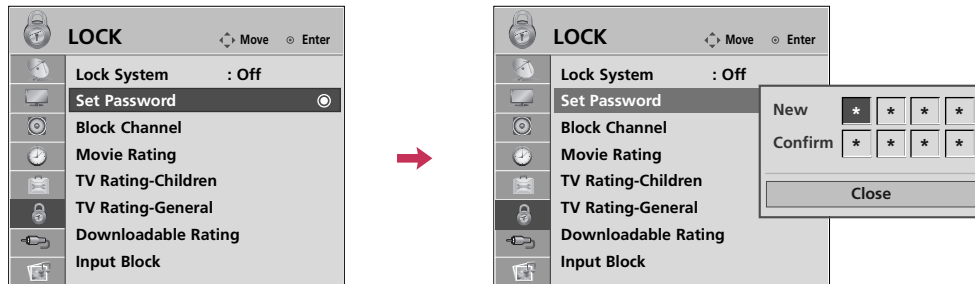
2
Input the password.

3
Select **Set password**.

4
ENTER   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   Return to the previous menu.

MENU   Return to TV viewing.

PARENTAL CONTROL / RATING

CHANNEL BLOCKING

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

LOCK	◄►Move ◉ Enter
Lock System	: Off
Set Password	
Block Channel	◉
Movie Rating	
TV Rating-Children	
TV Rating-General	
Downloadable Rating	
Input Block	

7-1

	DTV	TV	CADTV	CATV
	7-1	9-1	9-5	11-1
	13-1	13-2	13-3	13-4
	13-5	15-1	15-2	15-3
	15-4			

◉ Ch.Change   ◄►Move   CH ◇ Move Page   ↶ Previous   ▢ Block/Unblock

1   Select **LOCK**.
MENU   ENTER

2   Input the password.

3   Select **Block Channel**.

4   Select a channel to block or unblock.
ENTER

5   Block or unblock a channel.

6   Return to the previous menu.
RETURN

MENU   Return to TV viewing.

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.

	LOCK	◇ Move ⊙ Enter
	Lock System	: Off
	Set Password	
	Block Channel	
	Movie Rating	◉
	TV Rating-Children	
	TV Rating-General	
	Downloadable Rating	
	Input Block	

	LOCK	◇ Move ⊙ Enter	Blocking off : Permits all programs
	Lock System	: Off	**G**
	Set Password		**PG**
	Block Channel		**PG-13**
	Movie Rating		**R**
	TV Rating-Children		**NC-17**
	TV Rating-General		**X**
	Downloadable Rating		**Blocking Off**
	Input Block		

1 MENU / ENTER — Select **LOCK**.
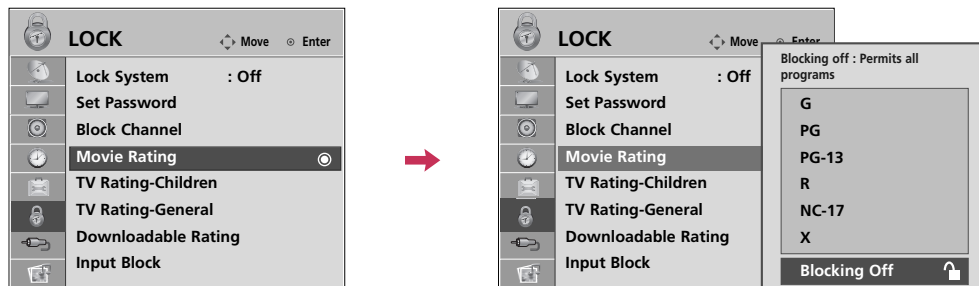
2 Input the password.

3 Select **Movie Rating**.

4 ENTER — Select **G**, **PG**, **PG-13**, **R**, **NC-17**, **X**, or **Blocking Off**.

5 RETURN — Return to the previous menu.

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.

LOCK	◁⟩ Move ⊙ Enter
Lock System	: Off
Set Password	
Block Channel	
Movie Rating	
TV Rating-Children	◉
TV Rating-General	
Downloadable Rating	
Input Block	

➡

LOCK	◁⟩ Move ⊙ Enter
Lock System	: Off
Set Password	
Block Channel	
Movie Rating	
TV Rating-Children	
TV Rating-General	
Downloadable Rating	
Input Block	

Age	◉
Fantasy Violence	
Close	

1 MENU / ENTER   Select **LOCK**.
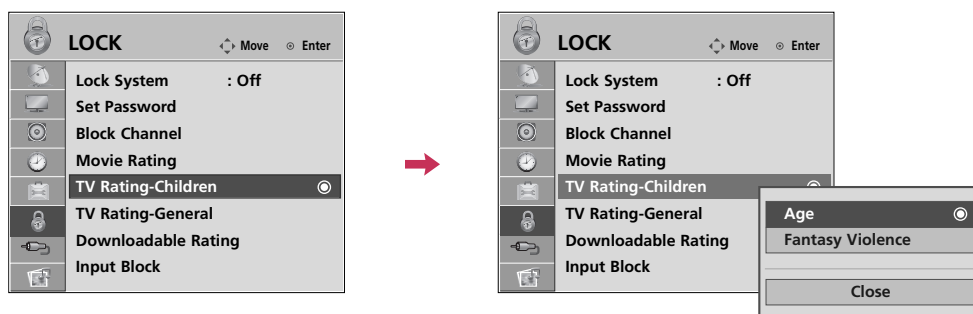
2 Input the password.

3 Select **TV Rating-Children**.

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

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

5 ENTER   Select block options.

6 RETURN   Return to the previous menu.

MENU   Return to TV viewing.

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.

LOCK	⬍ Move ⊙ Enter
Lock System	: Off
Set Password	
Block Channel	
Movie Rating	
TV Rating-Children	
TV Rating-General	◉
Downloadable Rating	
Input Block	

➡

LOCK	⬍ Move ⊙ Enter
Lock System	: Off
Set Password	
Block Channel	
Movie Rating	
TV Rating-Children	
TV Rating-General	
Downloadable Rating	
Input Block	

Age	◉
Dialogue	
Language	
Sex	
Violence	
Close	

1 MENU / ENTER   Select **LOCK**.
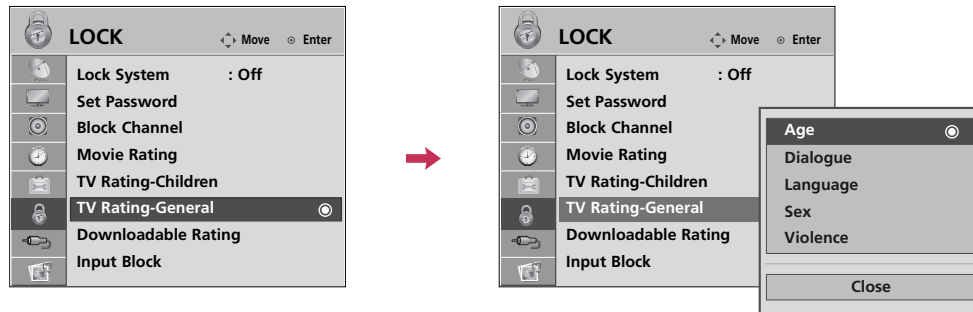
2 Input the password.

3 Select **TV Rating-General**.

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

5 ENTER   Select block options.

6 RETURN   Return to the previous menu.

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).

PARENTAL CONTROL / RATING

TV Rating English - *For CANADA only*

Selecting English rating system.

LOCK	‹·› Move ⊙ Enter
🔒 Lock System	: Off
🖥 Set Password	
◎ Block Channel	
🕐 **TV Rating-English**	◉
🎬 TV Rating-French	
🔒 Downloadable Rating	
⎓ Input Block	

➡

LOCK	‹·› Move ⊙ Enter	Blocking off : Permits all programs
🔒 Lock System	: O	**E**
🖥 Set Password		**C**
◎ Block Channel		**C8+**
🕐 **TV Rating-English**		**G**
🎬 TV Rating-French		**PG**
🔒 Downloadable Rating		**14+**
⎓ Input Block		**18+**
		Blocking Off 🔓

1 [MENU] [◄ ▲ ► ▼] [ENTER ⊙] Select **LOCK**.

2 [123 456 789 0] Input the password.
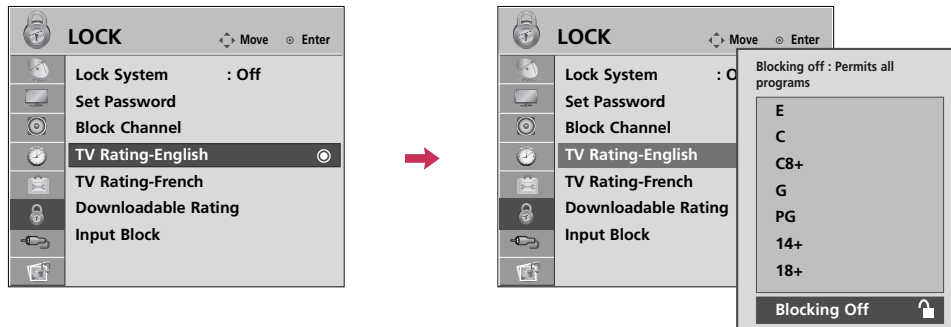
3 [▲▼] Select **TV Rating-English**.

4 [ENTER ⊙] [▲▼] Select **E**, **C**, **C8+**, **G**, **PG**, **14+**, **18+**, or **Blocking Off**.

5 [RETURN] Return to the previous menu.

[MENU] Return to TV viewing.
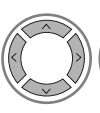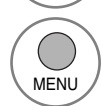
- ■ E (Exempt)
- ■ C (Children)
- ■ C8+ (Children eight years and older)
- ■ G (General programming, suitable for all audiences)
- ■ PG (Parental Guidance)
- ■ 14+ (Viewers 14 years and older)
- ■ 18+ (Adult programming)
- ■ Blocking Off (Permits all programs)

PARENTAL CONTROL / RATING

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PARENTAL CONTROL / RATINGS

TV Rating French - *For CANADA only*

Selecting Canadian French rating system.

	LOCK	◁▷ Move ⊙ Enter
🔒		
🕐	**Lock System**	: Off
🖥	**Set Password**	
◉	**Block Channel**	
🕐	**TV Rating-English**	
📧	**TV Rating-French**	◉
🔒	**Downloadable Rating**	
🔌	**Input Block**	
📑		

➡

	LOCK	◁▷ Move ⊙ Enter
🔒		
🕐	**Lock System**	: Off
🖥	**Set Password**	
◉	**Block Channel**	
🕐	**TV Rating-English**	
📧	**TV Rating-French**	
🔒	**Downloadable Rating**	
🔌	**Input Block**	
📑		

Blocking off : Permits all programs

- E
- G
- **8ans+**
- **13ans+**
- **16ans+**
- **18ans+**

Blocking Off 🔓

---

1 (MENU) (◁▷) (ENTER) Select **LOCK**.
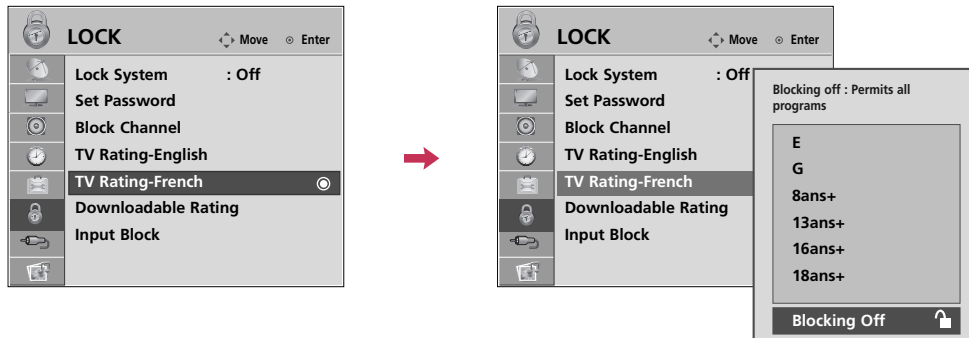
2 (keypad) Input the password.

3 (▲▼) Select **TV Rating-French**.

4 (ENTER) (▲▼) Select **E**, **G**, **8ans+**, **13ans+**, **16ans+**, **18ans+**, or **Blocking off**.
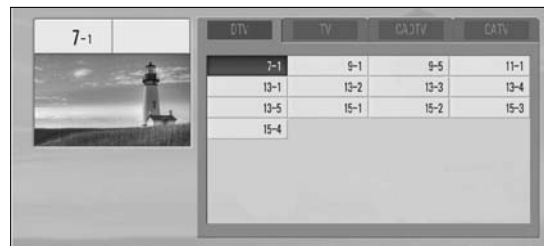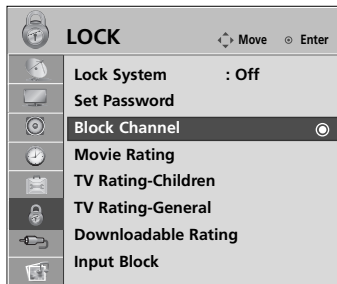
5 (RETURN) Return to the previous menu.

(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)

PARENTAL CONTROL / RATING

DOWNLOADABLE RATING

This function is available only for digital channels.
This function operates only when TV has received Region5 Rating data.

	LOCK	⟷ Move ⊙ Enter
	Lock System	: Off
	Set Password	
	Block Channel	
	Movie Rating	
	TV Rating-Children	
	TV Rating-General	
	Downloadable Rating	◎
	Input Block	

➡

	LOCK	⟷ Move ⊙ Enter
	Lock System	: Off
	Set Password	
	Block Channel	
	Movie Rating	
	TV Rating-Children	
	TV Rating-General	
	Downloadable Rating	
	Input Block	

▲
Humor
Sport
Cruelty
Language
Sadness
Genre
Age
▼

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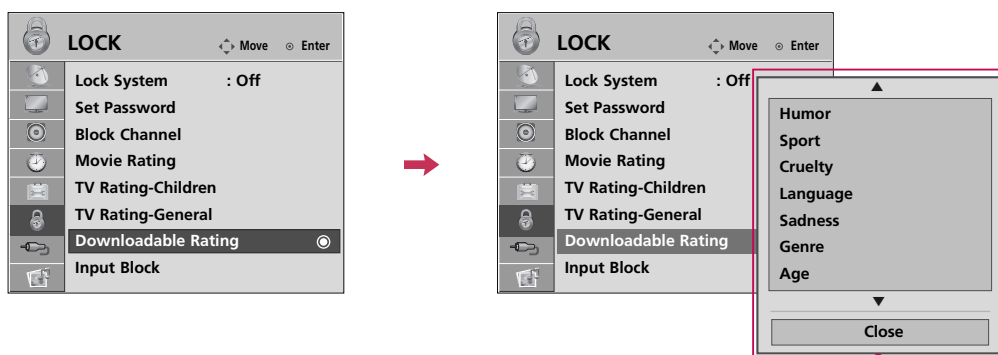
■ Based on rating table, your TV's OSD
(On Screen Display) may differ slightly
from what is shown in this manual.

1 MENU   ⟷   ENTER   Select **LOCK**.

2 Input the password.

3 Select **Downloadable Rating**.

4 ENTER   Select desired **Downloadable Rating** option.

5 ENTER   Select desired option and block it.

6 RETURN   Return to the previous menu.

MENU   Return to TV viewing.

EXTERNAL INPUT BLOCKING

Enables you to block an input.

	LOCK	⬦ Move ⊙ Enter
🔒		
	Lock System	: Off
	Set Password	
	Block Channel	
	Movie Rating	
	TV Rating-Children	
	TV Rating-General	
	Downloadable Rating	
	Input Block	◎

➡

	LOCK	⬦ Move ⊙ Enter
🔒		
	Lock System	: Of
	Set Password	
	Block Channel	
	Movie Rating	
	TV Rating-Children	
	TV Rating-General	
	Downloadable Rating	
	Input Block	

AV1	◄ Off ►
AV2	Off
Component1	Off
Component2	Off
RGB-PC	Off
HDMI1	Off
HDMI2	Off
HDMI3	Off
HDMI4	Off
Close	

Only 42/50PQ60, 50/60PS60

1 MENU / ENTER   Select **LOCK**.

2 Input the password.

3 Select **Input Block**.

4 ENTER   Select input source.

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

6 RETURN   Return to the previous menu.

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.
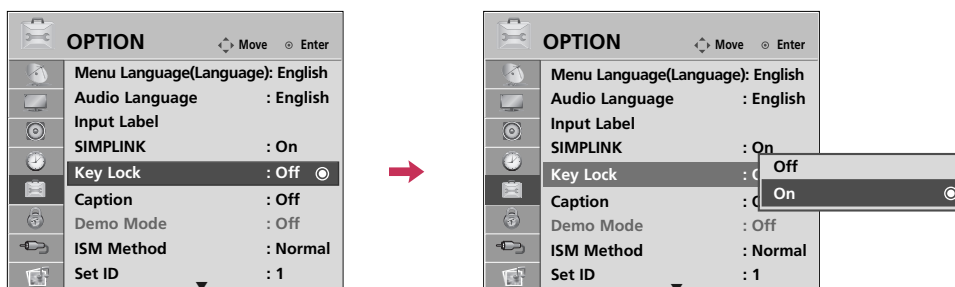
OPTION	⟨⟩ Move ⊙ Enter
Menu Language(Language): English	
Audio Language	: English
Input Label	
SIMPLINK	: On
Key Lock	**: Off ◉**
Caption	: Off
Demo Mode	: Off
ISM Method	: Normal
Set ID	: 1

➡

OPTION	⟨⟩ Move ⊙ Enter
Menu Language(Language): English	
Audio Language	: English
Input Label	
SIMPLINK	: On
Key Lock	**: (**
Caption	: (
Demo Mode	: Off
ISM Method	: Normal
Set ID	: 1

Off
On ◉

1
MENU
Select **OPTION**.

2
ENTER
Select **Key Lock**.

3
ENTER
Select **On** or **Off**.

4
RETURN
Return to the previous menu.

MENU
Return to TV viewing.

- In **Key Lock** '**On**', if the TV is turned off, press the **INPUT**, **CH ▲** , **▼** button on the TV or **POWER**, **INPUT**, **CH** ⌄ , ⌄ or **NUMBER** buttons on the remote control.
- With the **Key Lock On**, the display '⚠ **Key Lock**' appears on the screen if any button(Except main power(⏻/|)) on the front panel is pressed while viewing the TV.

APPENDIX

TROUBLESHOOTING

The operation does not work normally.	
The remote control doesn't work	■ Check to see if there is any object between the product and the remote control causing obstruction. Ensure you are pointing the remote control directly at the TV. ■ Ensure that the batteries are installed with correct polarity (+ to +, - to -). ■ Ensure that the correct remote operating mode is set: TV, VCR etc. ■ Install new batteries. *This feature is not available for all models.*
Power is suddenly turned off	■ Is the sleep timer set? ■ Check the power control settings. Power interrupted. ■ TV will be automatically turned off, in case of no signal for 15 minutes.

The video function does not work.	
No picture &No sound	■ Check whether the product is turned on. ■ Try another channel. The problem may be with the broadcast. ■ Is the power cord inserted into wall power outlet? ■ Check your antenna direction and/or location. ■ Test the wall power outlet, plug another product's power cord into the outlet where the product's power cord was plugged in.
Picture appears slowly after switching on	■ This is normal, the image is muted during the product startup process. Please contact your service center, if the picture has not appeared after five minutes.
No or poor color or poor picture	■ Adjust Color in menu option. ■ Keep a sufficient distance between the product and the VCR. ■ Try another channel. The problem may be with the broadcast. ■ Are the video cables installed properly? ■ Activate any function to restore the brightness of the picture.
Horizontal/vertical bars or picture shaking	■ Check for local interference such as an electrical appliance or power tool.
Poor reception on some channels	■ Station or cable product experiencing problems, tune to another station. ■ Station signal is weak, reorient antenna to receive weaker station. ■ Check for sources of possible interference.
Lines or streaks in pictures	■ Check antenna (Change the direction of the antenna).
No picture when connecting HDMI	■ Check HDMI cable over version 1.3. The HDMI cables don't support HDMI version 1.3, it cause flickers or no screen display. In this case use the latest cables that support HDMI version 1.3.

The audio function does not work.	
Picture OK & No sound	▪ Press the VOL or VOLUME button. ▪ Sound muted? Press MUTE button. ▪ Try another channel. The problem may be with the broadcast. ▪ Are the audio cables installed properly?
No output from one of the speakers	▪ Adjust Balance in menu option.
Unusual sound from inside the product	▪ A change in ambient humidity or temperature may result in an unusual noise when the product is turned on or off and does not indicate a fault with the product.
No sound when connecting HDMI/USB	▪ Check HDMI cable over version 1.3. ▪ Check USB cable over version 2.0. ▪ Use normal MP3 file.　　*This feature is not available for all models.

There is a problem in PC mode. (Only PC mode applied)	
The signal is out of range	▪ Adjust resolution, horizontal frequency, or vertical frequency. ▪ Check the input source.
Vertical bar or stripe on background & Horizontal Noise & Incorrect position	▪ Work the Auto configure or adjust clock, phase, or H/V position. (Option)
Screen color is unstable or single color	▪ 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

MODEL		42PQ20 (42PQ20-UA)	50PQ20 (50PQ20-UA)	
Dimensions (Width x Height x Depth)	With stand	40.5 x 28.3 x 12.1 inches 1031.2 x 720.9 x 308.0 mm	47.9 x 32.2 x 13.8 inches 1216.7 x 818.1 x 353.0 mm	
	Without stand	40.5 x 25.8 x 3.1 inches 1031.2 x 656.7 x 80.8 mm	47.9 x 29.8 x 3.2 inches 1216.7 x 759.0 x 83.0 mm	
Weight	With stand Without stand	54.6 lbs / 24.8 kg 50.0 lbs / 22.7 kg	74.2 lbs / 33.7 kg 68.7 lbs / 31.2 kg	
MODELS		42PQ30 (42PQ30-UA, 42PQ30-UD)	50PQ30 (50PQ30-UA, 50PQ30-UD)	
Dimensions (Width x Height x Depth)	With stand	40.5 x 28.3 x 12.1 inches 1031.2 x 720.9 x 308.0 mm	47.9 x 32.2 x 13.8 inches 1216.7 x 818.1 x 353.0 mm	
	Without stand	40.5 x 25.8 x 3.1 inches 1031.2 x 656.7 x 80.8 mm	47.9 x 29.8 x 3.2 inches 1216.7 x 759.0 x 83.0 mm	
Weight	With stand Without stand	54.6 lbs / 24.8 kg 50.0 lbs / 22.7 kg	74.2 lbs / 33.7 kg 68.7 lbs / 31.2 kg	
MODELS		42PQ60 (42PQ60-UA)	50PQ60 (50PQ60-UA)	
Dimensions (Width x Height x Depth)	With stand	40.9 x 28.5 x 12.1 inches 1040.8 x 725.8 x 308.0 mm	48.3 x 32.4 x 13.8 inches 1228.8 x 824.6 x 353.0 mm	
	Without stand	40.9 x 26.3 x 3.0 inches 1040.8 x 669.2 x 76.8 mm	48.3 x 30.3 x 3.1 inches 1228.8 x 772.0 x 78.9 mm	
Weight	With stand Without stand	55.7 lbs / 25.3 kg 51.3 lbs / 23.3 kg	77.1 lbs / 35.0 kg 71.6 lbs / 32.5 kg	
MODELS		50PS30 (50PS30-UB)	50PS60 (50PS60-UA)	60PS60 (60PS60-UA)
Dimensions (Width x Height x Depth)	With stand	47.9 x 32.2 x 13.8 inches 1216.7 x 818.1 x 353.0 mm	48.3 x 32.4 x 13.8 inches 1228.8 x 824.6 x 353.0 mm	57.6 x 38.6 x 15.5 inches 1465.4 x 982.4 x 395.0mm
	Without stand	47.9 x 29.8 x 3.2 inches 1216.7 x 759.0 x 83.0 mm	48.3 x 30.3 x 3.1 inches 1228.8 x 772.0 x 78.9 mm	57.6 x 36.3 x 3.1 inches 1465.4 x 922.3 x 78.9 mm
Weight	With stand Without stand	81.5 lbs / 37.0 kg 76.0 lbs / 34.5 kg	77.1 lbs / 35.0 kg 71.6 lbs / 32.5 kg	120.5 lbs / 54.7 kg 107.5 lbs / 48.8 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
(This feature is not available for all models.)

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 a **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.

Remote Control Code

VCR

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

HDSTB

Brand	Codes	Brand	Codes	Brand	Codes
ALPHASTAR DSR	123	HOUSTON TRACKER	033 037 039 051 057 104	PROSAT	072
AMPLICA	050	HUGHES	068	RCA	066 106
BIRDVIEW	051 126 129	JANIEL	060 147	REALISTIC	043 074
CHANNEL MASTER	013 014 015 018 036 055	JERROLD	061	SAMSUNG	123
CHAPARRAL	008 009 012 077	KATHREIN	108	SATELLITE SERVICE CO	028 035 047 057 085
CITOH	054	LEGEND	057	SCIENTIFIC ATLANTA	032 138
CURTIS MATHES	050 145	LG	001	SONY	103
DRAKE	005 006 007 010 011 052 112 116 141	LUTRON	132	STARCAST	041
		LUXOR	062 144	SUPER GUIDE	020 124 125
		MACOM	010 059 063 064 065	TEECOM	023 026 075 087 088 090 107 130 137
DX ANTENNA	024 046 056 076	MEMOREX	057		
ECHOSTAR	038 040 057 058 093 094 095 096 097 098 099 100 122	NEXTWAVE	028 124 125	TOSHIBA	002 127
		NORSAT	069 070	UNIDEN	016 025 042 043 044 045 048 049 078 079 080 086 101 135 136
		PACE SKY SATELLITE	143		
ELECTRO HOME	089	PANASONIC	060 142		
EUROPLUS	114	PANSAT	121	VIEWSTAR	115
FUJITSU	017 021 022 027 133 134	PERSONAL CABLE	117	WINEGARD	128 146
		PHILIPS	071	ZENITH	081 082 083 084 091 120
GENERAL INSTRUMENT	003 004 016 029 031 059 101	PICO	105		
		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
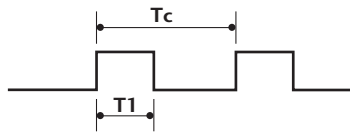
Carrier frequency

$FCAR = 1/TC = fOSC/12$

Duty ratio = $T1/TC = 1/3$

■ **Configuration of frame**

1st frame

Lead code	Low custom code	High custom code	Data code	Data code
	C0 C1 C2 C3 C4 C5 C6 C7	C0 C1 C2 C3 C4 C5 C6 C7	D0 D1 D2 D3 D4 D5 D6 D7	D0 D1 D2 D3 D4 D5 D6 D7

Repeat frame

Repeat code

Tf

■ **Lead code**

9 ms

4.5 ms

■ **Repeat code**

0.55 ms

9 ms

2.25 ms
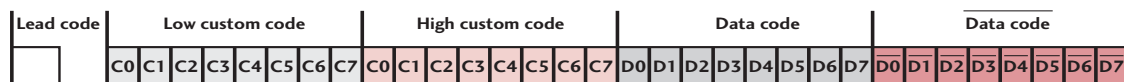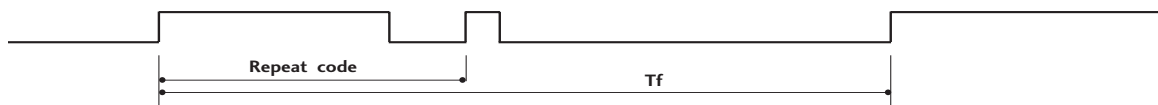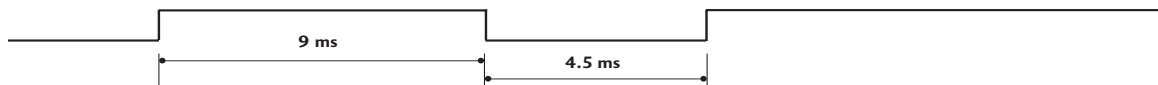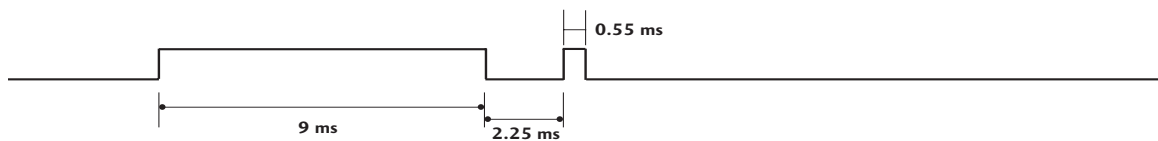
■ **Bit description**

Bit "0"

0.56 ms

1.12 ms

Bit "1"

0.56 ms

2.24 ms
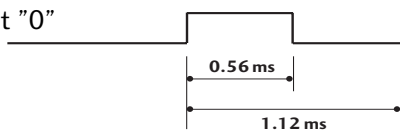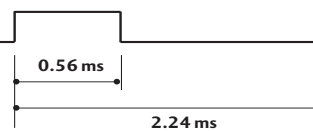
■ **Frame interval: Tf**

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

Tf

Tf

Tf=108ms @455KHz

Code (Hexa)	Function	Note	Code (Hexa)	Function	Note
08	POWER	Remote control Button (Power On/Off)	D6	TV	Discrete IR Code (TV Input Selection)
45	Q.MENU	Remote control Button			
43	MENU	Remote control Button	C4	POWER ON	Discrete IR Code (Only Power On)
0B	INPUT	Remote control Button			
10-19	Number Key 0-9	Remote control Button	C5	POWER OFF	Discrete IR Code (Only Power Off)
4C	- Dash(List)	Remote control Button			
1A	FLASHBK	Remote control Button	5A	AV1	Discrete IR Code (AV1 Input Selection)
09	MUTE	Remote control Button			
02	VOL +	Remote control Button	D0	AV2	Discrete IR Code (AV2 Input Selection)
03	VOL -	Remote control Button			
00	CH ∧	Remote control Button	BF	COMPONENT1	Discrete IR Code (Component1 Input Selection)
01	CH ∨	Remote control Button			
1E	FAV	Remote control Button	D4	COMPONENT2	Discrete IR Code (Component2 Input Selection)
40	∧	Remote control Button			
41	∨	Remote control Button	D5	RGB-PC	Discrete IR Code (RGB-PC Input Selection)
07	<	Remote control Button			
06	>	Remote control Button	CE	HDMI1	Discrete IR Code (HDMI1 Input Selection)
44	ENTER	Remote control Button			
28	RETURN	Remote control Button	CC	HDMI2	Discrete IR Code (HDMI2 Input Selection)
7E	SIMPLINK	Remote control Button			
30	AV MODE	Remote control Button	E9	HDMI3	Discrete IR Code (HDMI3 Input Selection)
79	RATIO	Remote control Button			
65	FREEZE	Remote control Button	DA	HDMI4	Discrete IR Code (HDMI4 Input Selection)
95	ENERGY	Remote control Button			
AA	Info	Remote control Button	76	Ratio 4:3	Discrete IR Code (Only 4:3 Mode)
72	Red	Remote control Button			
71	Green(Stop ■)	Remote control Button	77	Ratio 16:9	Discrete IR Code (Only 16:9 Mode)
63	Yellow(Play ▶)	Remote control Button			
61	Blue(Pause ❙❙)	Remote control Button	AF	Ratio Zoom	Discrete IR Code (Only Zoom1 Mode)
8E	FF ▶▶	Remote control Button			
8F	Rew ◀◀	Remote control Button			

Only 42/50PQ60,
50/60PS60

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

PC
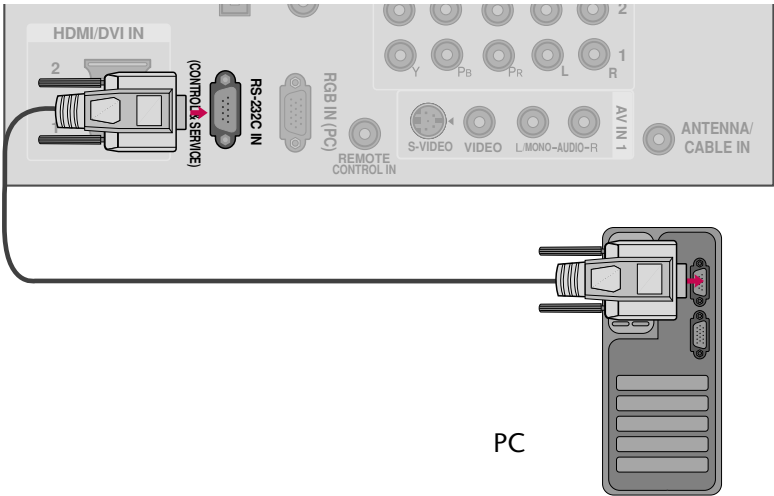
Type of Connector; D-Sub 9-Pin Male

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
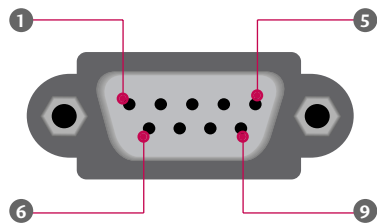
Communication Parameters

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

APPENDIX

RS-232C Configurations

Either cable below can be used.

7-Wire Configuration (Serial female-female NULL modem cable)			
	PC	TV	
RXD	2 —— 3		TXD
TXD	3 —— 2		RXD
GND	5 —— 5		GND
DTR	4 —— 6		DSR
DSR	6 —— 4		DTR
RTS	7 —— 8		CTS
CTS	8 —— 7		RTS
	D-Sub 9	D-Sub 9	

3-Wire Configurations (Not standard)			
	PC	TV	
RXD	2 —— 3		TXD
TXD	3 —— 2		RXD
GND	5 —— 5		GND
DTR	4	6	DTR
DSR	6	4	DSR
RTS	7	7	RTS
CTS	8	8	CTS
	D-Sub 9	D-Sub 9	
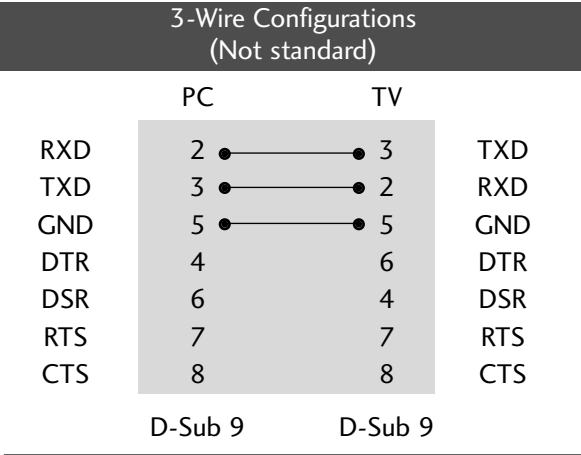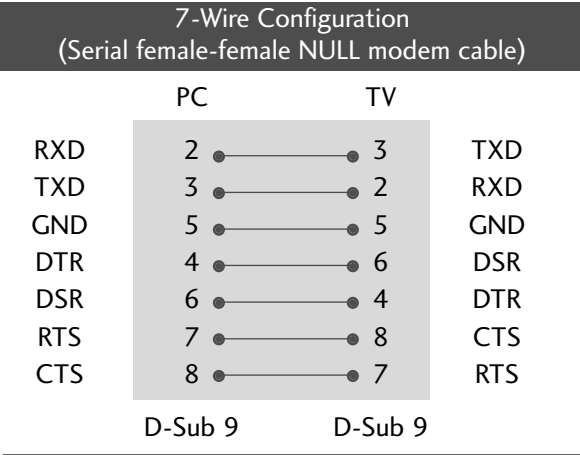
Set ID

Use this function to specify a TV ID number.
Refer to 'Real Data Mapping'.

OPTION	⟨⟩ Move ⊙ Enter
Menu Language(Language): English	
Audio Language	: English
Input Label	
SIMPLINK	: On
Key Lock	: Off
Caption	: Off
Demo Mode	: Off
ISM Method	: Normal
Set ID	: 1 ◉

➡

OPTION	⟨⟩ Move ⊙ Enter
Menu Language(Language): English	
Audio Language	: English
Input Label	
SIMPLINK	: On
Key Lock	: Off
Caption	: Off
Demo Mode	◄ 1 ►
ISM Method	
Set ID	Close

1 MENU   Select **OPTION**.

2 ENTER   Select **Set ID**.
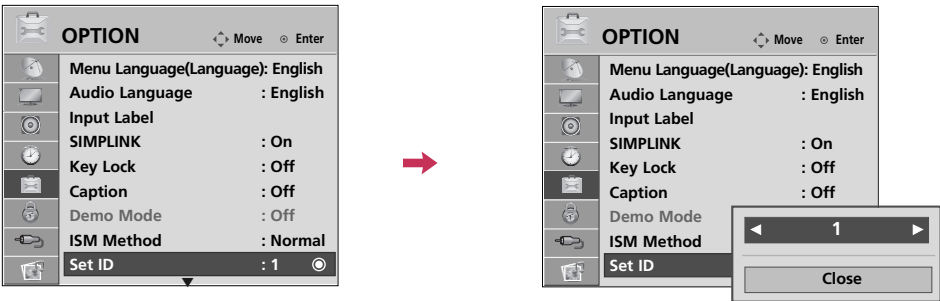
3 ENTER   Choose the desired TV ID number. The adjustment range of Set ID is 1~99.

4 RETURN   Return to the previous menu.

MENU   Return to TV viewing.

*Real data mapping
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

APPENDIX

APPENDIX

Command Reference List

	COMMAND1	COMMAND2	DATA (Hexadecimal)		COMMAND1	COMMAND2	DATA (Hexadecimal)
01. Power	k	a	00 ~ 01	13. Remote Control Lock Mode	k	m	00 ~ 01
02. Input Select	x	b	(▶ p.112)				
03. Aspect Ratio	k	c	(▶ p.112)	14. Treble	k	r	00 ~ 64
04. Screen Mute	k	d	00 ~ 01	15. Bass	k	s	00 ~ 64
05. Volume Mute	k	e	00 ~ 01	16. Balance	k	t	00 ~ 64
06. Volume Control	k	f	00 ~ 64	17. Color Temperature	k	u	00 ~ 02
07. Contrast	k	g	00 ~ 64	18. ISM Method	j	p	(▶ p.113)
08. Brightness	k	h	00 ~ 64	19. Power Saving	j	q	00 ~ 01
09. Color	k	i	00 ~ 64	20. Auto Configuration	j	u	(▶ p.113)
10. Tint	k	j	00 ~ 64	22. Channel Add/Del	m	b	00 ~ 01
11. Sharpness	k	k	00 ~ 64	23. Key	m	c	(▶ p.114)
12. OSD Select	k	l	00 ~ 01				

	COMMAND1	COMMAND2	DATA00 (Hexadecimal)	DATA01 (Hexadecimal)	DATA02 (Hexadecimal)	DATA03 (Hexadecimal)	DATA04 (Hexadecimal)	DATA05 (Hexadecimal)
21. 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: 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

Data 93: HDMI4(Only 42/50PQ60, 50/60PS60)

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

03. Aspect Ratio (Command: k c)

To adjust the screen format.

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

Data 01: 4:3　　　　　　　09: Just scan
　　02: 16:9　　　　　　　10: Cinema Zoom (1)
　　04: Zoom　　　　　　　⋮
　　06: Set by program　　1f: Cinema Zoom (16)

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

04. Screen Mute (Command: k d)

To select screen mute on/off.

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

Data 00: Screen mute off (Picture on), Video-Out Mute Off

Data 01: Screen mute on (Picture off)

Data 10: Video-Out Mute On

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

* In case of Video-Out mute on only, TV will display On Screen Display(OSD). But, In case of Screen Mute On, TV will not display OSD.

05. Volume Mute (Command: k e)

To control volume mute on/off.

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

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

Data 00: Volume mute on (Volume off)
Data 01: Volume mute off (Volume on)

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

06. Volume Control (Command: k f)

To adjust volume.

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

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

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

*Refer to 'Real data mapping'. ▶ p.110.

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

07. Contrast (Command: k g)

To adjust screen contrast.

You can also adjust contrast in the PICTURE menu.

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

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

*Refer to 'Real data mapping'. ▶ p.110.

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

08. Brightness (Command: k h)

To adjust screen brightness.

You can also adjust brightness in the PICTURE menu.

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

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

*Refer to 'Real data mapping'. ▶ p.110.

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

09. Color (Command: k i)

To adjust screen color.

You can also adjust color in the PICTURE menu.

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

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

*Refer to 'Real data mapping'. ▶ p.110.

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

10. Tint (Command: k j)

To adjust screen tint.

You can also adjust tint in the PICTURE menu.

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

Data Red: 00 ~ Green: 64 (*transmit by Hexadecimal code)

*Refer to 'Real data mapping'. ▶ p.110.

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

11. Sharpness (Command: k k)

To adjust screen sharpness.

You can also adjust sharpness in the PICTURE menu.

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

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

*Refer to 'Real data mapping'. ▶ p.110.

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

12. OSD Select (Command: k l)

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

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

Data 00: OSD off   Data 01: OSD on

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

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

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

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.

14. Treble (Command: k r)

To adjust treble.

You can also adjust treble in the AUDIO menu.

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

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

*Refer to 'Real data mapping'. ▶ p.110.

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

15. Bass (Command: k s)

To adjust bass.

You can also adjust bass in the AUDIO menu.

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

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

*Refer to 'Real data mapping'. ▶ p.110.

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

16. Balance (Command: k t)

To adjust balance.

You can also adjust balance in the AUDIO menu.

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

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

*Refer to 'Real data mapping'. ▶ p.110.

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

17. Color Temperature (Command: k u)

To adjust color temperature.

You can also adjust color temperature in the PICTURE menu.

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

Data 00: Medium   01: Cool   02: Warm

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

18. ISM Method (Command: j p)

To avoid having a fixed image remain on screen.

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

Data 02: Orbiter   04: White Wash
      08: Normal   20: Color Wash

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

19. Power saving (Command: j q)

To control the low power function on/off.

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

Data 00: Energy Saving off
      01: Energy Saving: Minimum
      02: Energy Saving: Medium
      03: Energy Saving: Maximum
      10: Intelligent Sensor: Low
      11: Intelligent Sensor: Middle
      12: Intelligent Sensor: High

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

20. 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]

21. 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.

Data 05:

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	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]

22. 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]

23. Key (Command: m c)

To send IR remote key code.

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

▶ p.108.

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

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