



LCD TV OWNER'S MANUAL

LCD TV MODELS

26LC7D
26LC7DC
32LC4D
42LC4D

Please read this manual carefully before operating your set.

Retain it for future reference.

Record model number and serial number of the set. See the label attached on the back cover and quote this information to your dealer when you require service.

ENERGY STAR is a set of power-saving guidelines issued by the U.S. Environmental Protection Agency(EPA).



As an ENERGY STAR Partner LGE U. S. A.,Inc. has determined that this product meets the ENERGY STAR guidelines for energy efficiency.

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 literature 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

SAFETY INSTRUCTIONS

IMPORTANT SAFETY INSTRUCTIONS

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

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

Read these instructions.

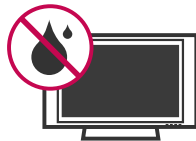
Keep these instructions.

Heed all warnings.

Follow all instructions.



- 1** Do not use this apparatus near water.



- 2** Clean only with dry cloth.



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



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



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



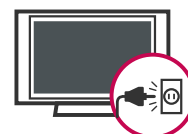
- 6** Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.



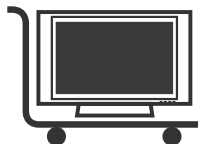
- 7** Only use attachments/accessories specified by the manufacturer.



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



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

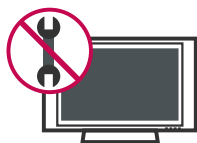


S3125A

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

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

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



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

Do not overload wall outlets. Overloaded wall outlets, loose or damaged wall outlets, extension cords, frayed power cords, or damaged or cracked wire insulation are dangerous. Any of these conditions could result in electric shock or fire. Periodically examine the cord of your appliance, and if its appearance indicates damage or deterioration, unplug it, discontinue use

of the appliance, and have the cord replaced with an exact replacement part by an authorized servicer. Protect the power cord from physical or mechanical abuse, such as being twisted, kinked, pinched, closed in a door, or walked upon. Pay particular attention to plugs, wall outlets, and the point where the cord exits the appliance.



- 14 Outdoor use marking :
WARNING - To reduce the risk of fire or electric shock, do not expose this appliance to rain or moisture.



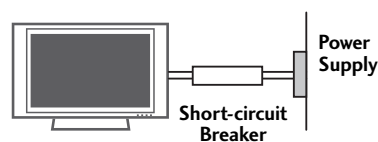
- 15 Wet Location Marking : Apparatus shall not be exposed to dripping or splashing and no objects filled with liquids, such as vases, shall be placed on or over apparatus.



16 GROUNDING

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

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



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

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FEATURE OF THIS TV



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



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.




With HDMI CEC support of LG's audio/video device connected to the HDMI (high-definition multimedia interface), LG TV with this logo works easily with one remote control.



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



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



It has 2 HDMI ports that connect audio and video devices with one cable and produces the highest quality digital images and sound.

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

On Disposal

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

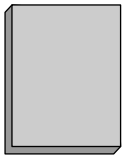
PREPARATION

ACCESSORIES

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

User must use shielded signal interface cables (D-sub 15 pin cable) with ferrite cores to maintain standard compliance for the product.

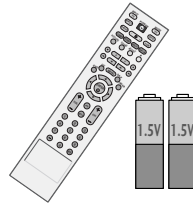
The accessories can be different from the figures shown here.



Owner's Manual



CD Manual



Remote Control,
Batteries



Power Cord

This feature is not available for all models



2- TV Bracket Bolts
(Refer to p.15)



2- TV Brackets,
2- Wall Brackets
(Refer to p.15)



Twist Holder
Arrange the wires with the
twist holder.

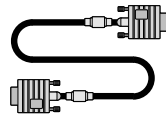


Cable Management



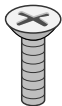
75ohm Round Cable

Option Extras



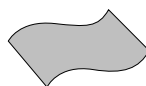
D-sub 15 pin Cable

For 26LC7D/7DC, 32LC4D



4-Bolts for stand assembly
(Refer to p.12)

For 26LC7D/7DC, 42LC4D



Polishing Cloth

* Slightly wipe stained spot on the exterior only with the polishing cloth for the product exterior if there is stain or fingerprint on surface of the exterior.

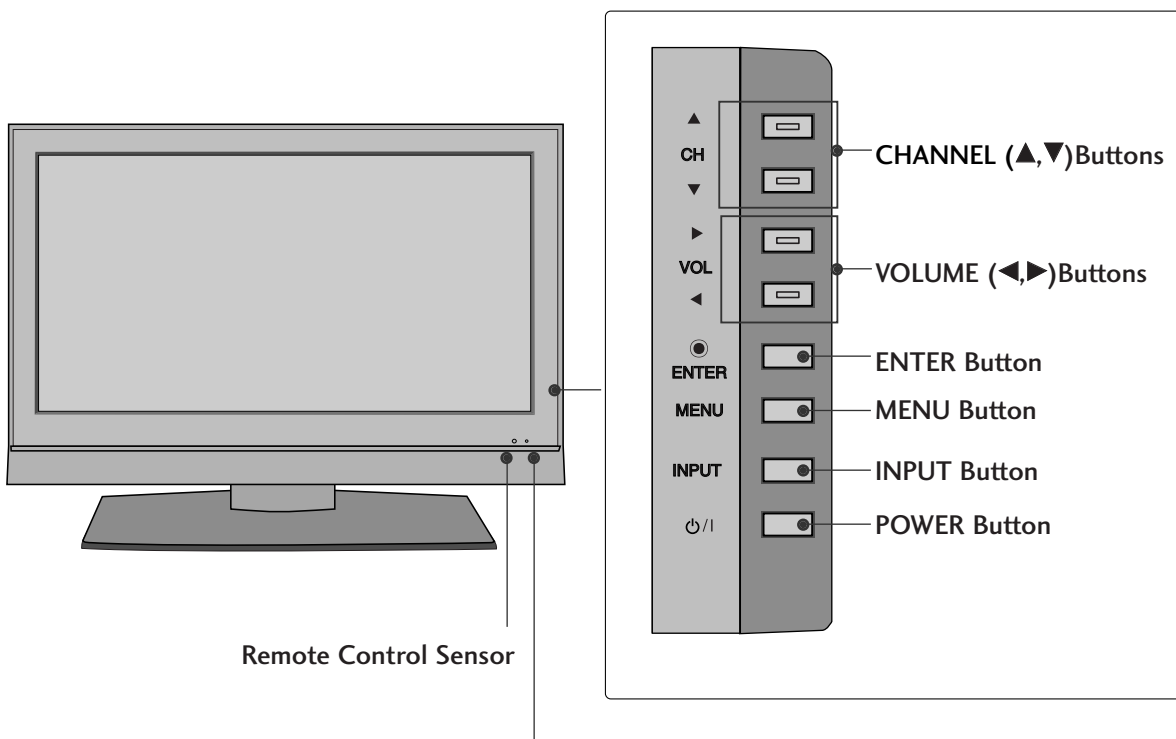
* Do not wipe roughly when removing stain. Please be cautions of that excessive pressure may cause scratch or discoloration.

PREPARATION

FRONT PANEL INFORMATION

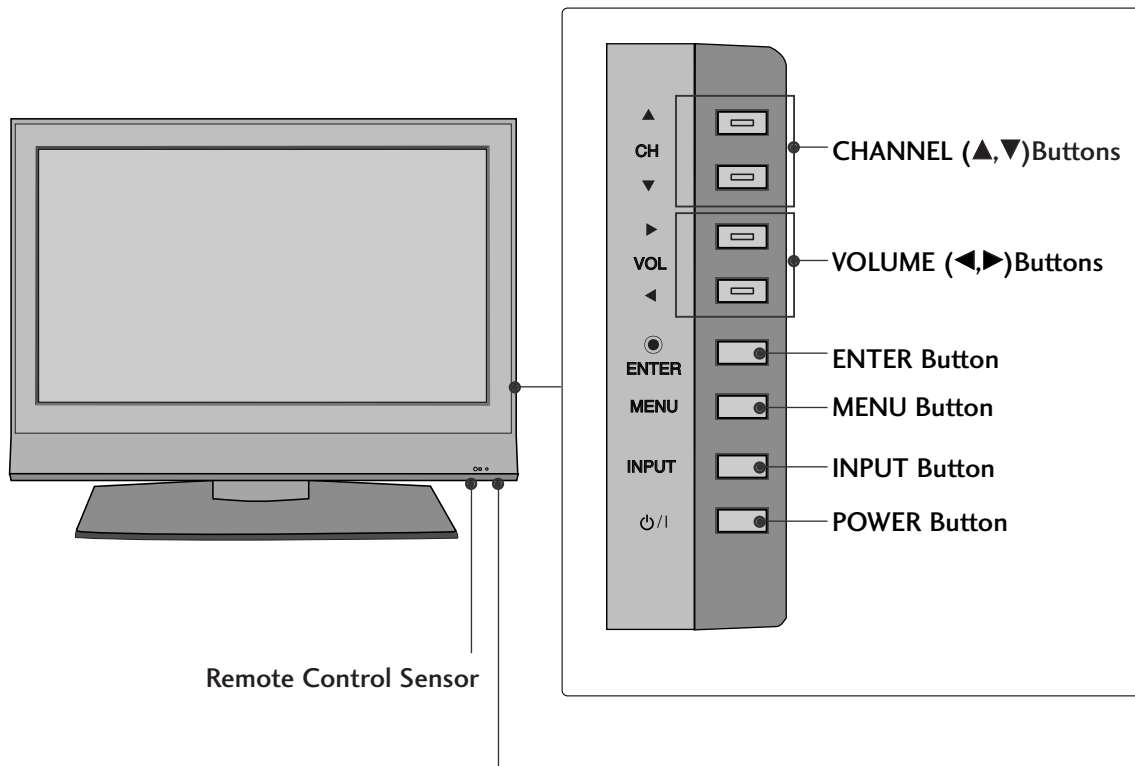
- Here shown may be somewhat different from your TV.
- **NOTE:** If your product has a protection tape attached, remove the tape. And then wipe the product with a cloth (If a polishing cloth is included with your product, use it).

Front Panel Controls (26LC7D/7DC)



Power/Standby Indicator
Illuminates red in standby mode.
Illuminates green when the set is switched on.

Front Panel Controls (32/42LC4D)



Remote Control Sensor

Power/Standby Indicator

Illuminates red in standby mode.

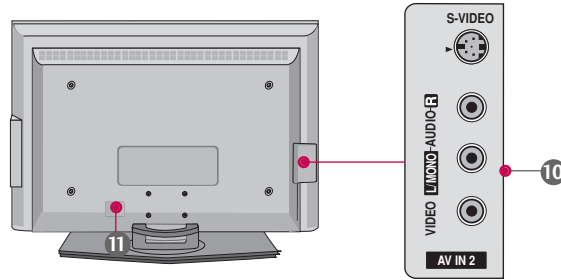
Illuminates green when the set is switched on.

PREPARATION

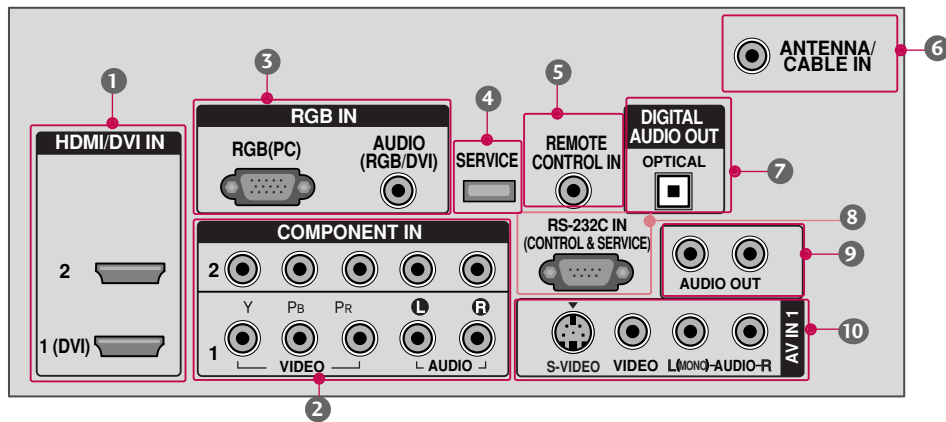
BACK PANEL INFORMATION

- Here shown may be somewhat different from your TV.

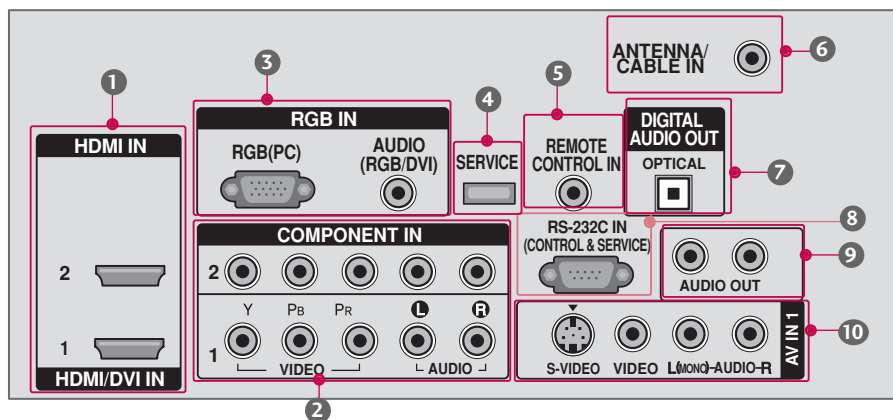
PREPARATION



26LC7D/7DC, 32LC4D



42LC4D



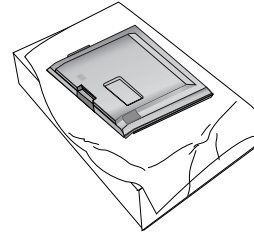
- ① **HDMI/DVI IN 1, HDMI IN 2**
Connect a HDMI (DVI) connection to either input.
- ② **COMPONENT IN**
Connect a component video/audio device to these jacks.
- ③ **RGB (PC)**
Connect the output from a PC.
AUDIO (RGB/DVI)
Connect the audio from a PC or DTV.
- ④ **SERVICE**
- ⑤ **Remote Control Port**
Connect a wired remote control.
- ⑥ **ANTENNA/CABLE IN**
Connect over-the air signals to this jack.
Connect cable signals to this jack.
- ⑦ **DIGITAL AUDIO OUT**
Connect digital audio from various types of equipment.
Note: In standby mode, these ports do not work.
- ⑧ **RS-232C IN (CONTROL & SERVICE) PORT**
For external control devices.
- ⑨ **AUDIO OUT**
Connect analog audio to various types of equipment.
- ⑩ **AV (Audio/Video) IN**
Connect audio/video output from an external device to these jacks.
S-VIDEO
Connect S-Video out from an S-VIDEO device.
- Ⓜ **Power Cord Socket**
For operation with AC power.
Caution: Never attempt to operate the TV on DC power.

PREPARATION

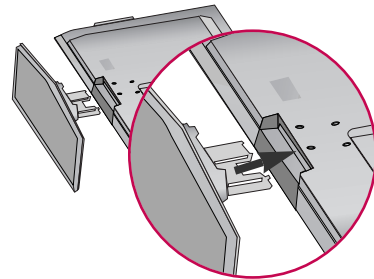
STAND INSTALLATION (Only 26LC7D/7DC, 32LC4D)

- Here shown may be somewhat different from your TV.

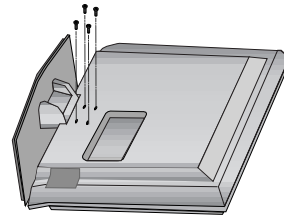
- 1 Carefully place the product screen side down on a cushioned surface that will protect product and screen from damage.



- 2 Assemble the product stand with the product as shown.



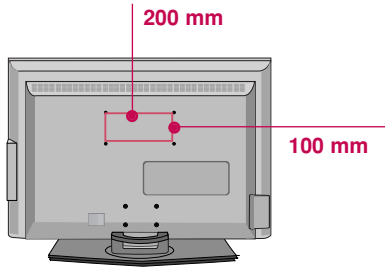
- 3 Securely install the 4 bolts provided.



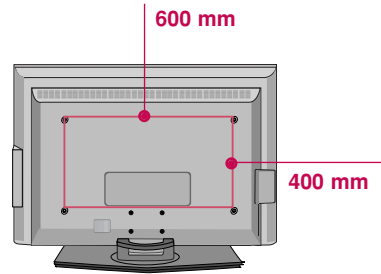
VESA WALL MOUNTING

This product accepts a VESA-compliant mounting interface pad. (optional)
 There 4 threaded holes are available for attaching the bracket.

26LC7D/7DC, 32LC4D



42LC4D

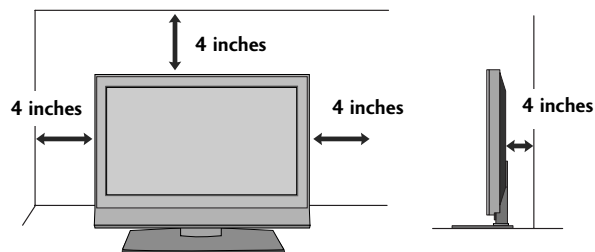


! NOTE

- Screw length needed depends on the wall mount used. For further information, refer to the VESA Wall Mounting Instruction Guide.

DESKTOP PEDESTAL INSTALLATION

For proper ventilation, allow a clearance of 4 inches on all four sides from the wall.



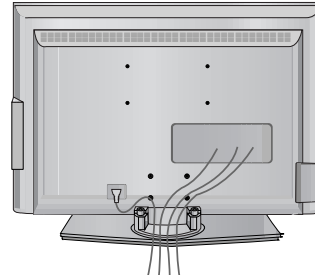
! CAUTION Ensure adequate ventilation by following the clearance recommendations.

PREPARATION

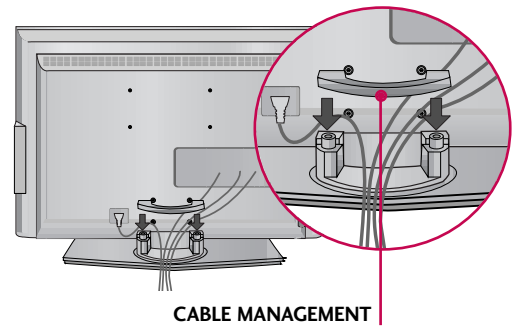
BACK COVER FOR WIRE ARRANGEMENT

■ Here shown may be somewhat different from your TV.

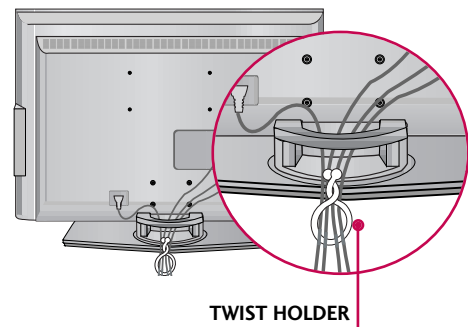
- 1 Connect the cables as necessary.
To connect an additional equipment, see the **EXTERNAL EQUIPMENT SETUP** section.



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



- 3 Bundle the cables using the supplied **TWISTER HOLDER**.
(This feature is not available for all models.)

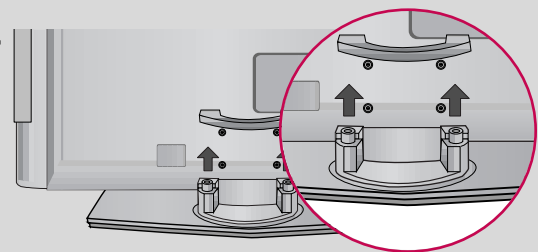


! NOTE

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

How to remove the **CABLE MANAGEMENT**

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

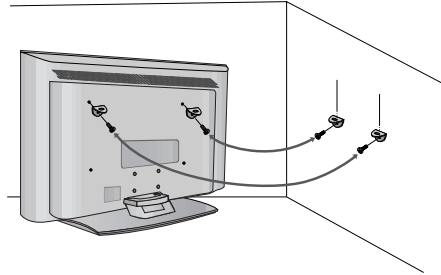


ATTACHING THE TV TO A WALL

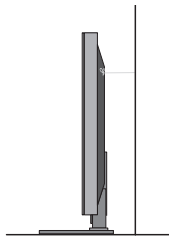
- This feature is not available for all models.
- Here shown may be somewhat different from your TV.

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



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

PREPARATION

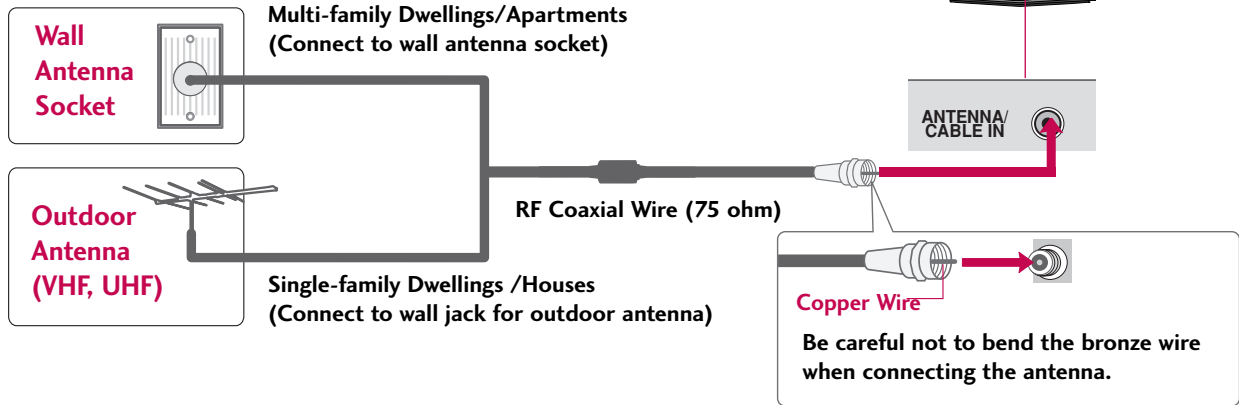
ANTENNA OR CABLE CONNECTION

- Here shown may be somewhat different from your TV.

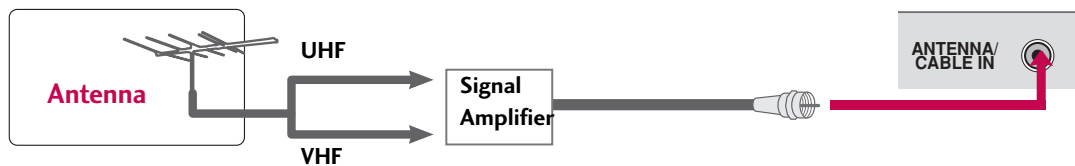
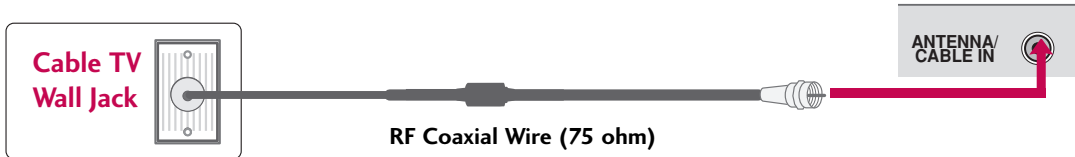
1. Antenna (Analog or Digital)

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

For optimum picture quality, adjust antenna direction if needed.



2. Cable



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

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

EXTERNAL EQUIPMENT SETUP

- To prevent the equipment damage, never plug in any power cords until you have finished connecting all equipment.
- This part of EXTERNAL EQUIPMENT SETUP mainly use picture for the 42LC4D.

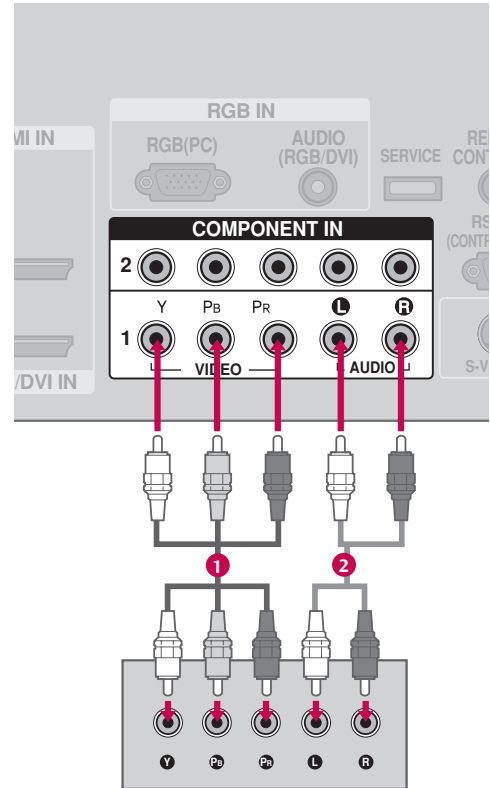
HD RECEIVER SETUP

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.

When connecting Component cable

1. How to connect

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



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 **Component 1** input source by using the **INPUT** button on the remote control.
- If connected to **COMPONENT IN2** input, select **Component 2** input source.

Signal	Component 1/2	HDMI1/2
480i	Yes	No
480p	Yes	Yes
720p	Yes	Yes
1080i	Yes	Yes
1080p	Yes	Yes

Y, CB/PB, CR/PR

Resolution	Horizontal Frequency(KHz)	Vertical Frequency(Hz)
720x480i	15.73	59.94
	15.73	60.00
720x480p	31.47	59.94
	31.50	60.00
1280x720p	44.96	59.94
	45.00	60.00
1920x1080i	33.72	59.94
	33.75	60.00
1920x1080p	26.97	23.976
	27.00	24.00
	33.71	29.97
	33.75	30.00
	67.432	59.94
	67.50	60.00

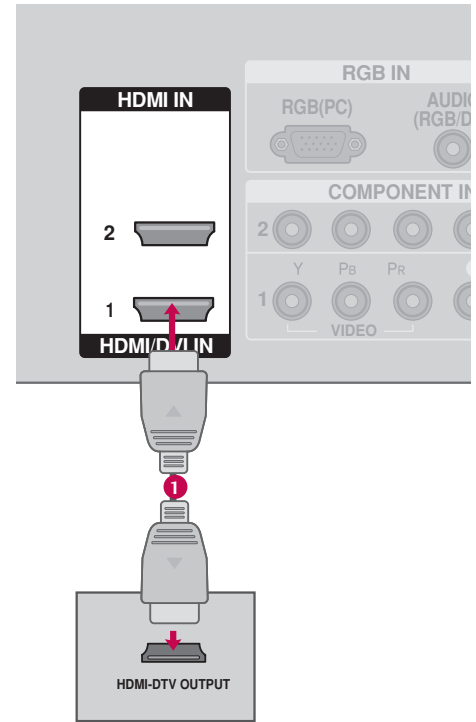
When connecting HDMI cable

1. How to connect

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

2. How to use

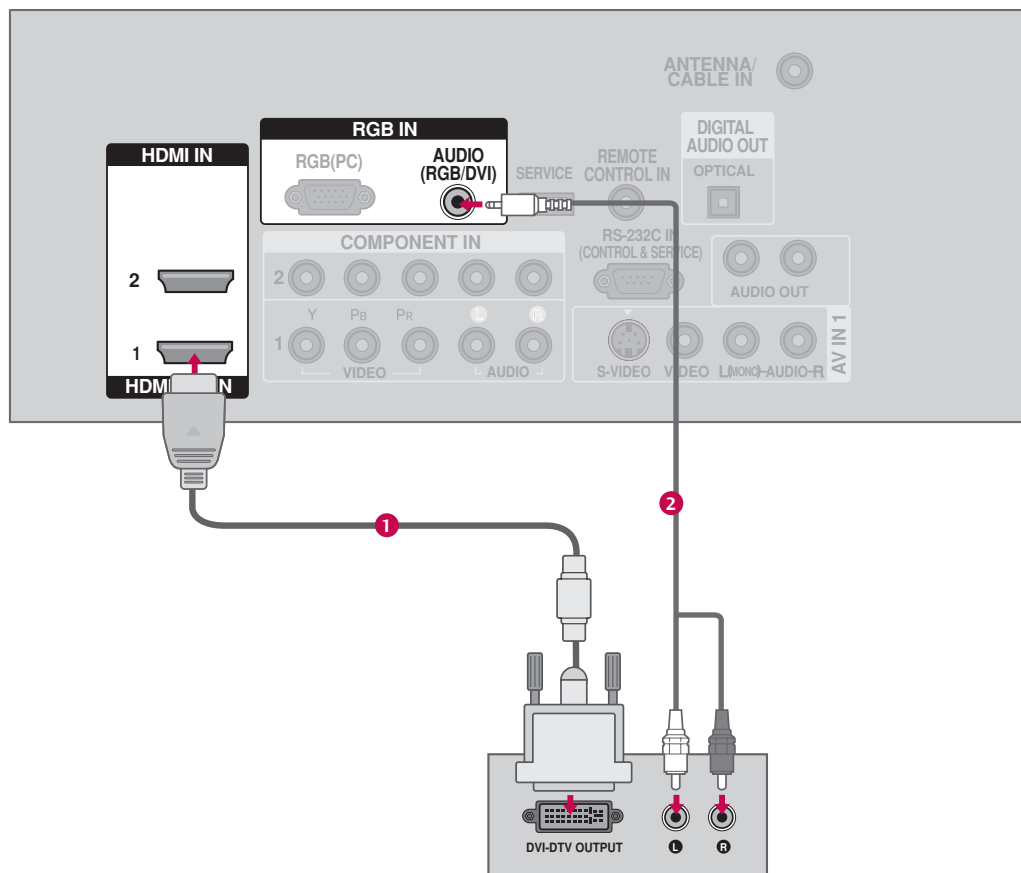
- Turn on the digital set-top box.
(Refer to the owner's manual for the digital set-top box.)
- Select **HDMI1** or **HDMI2** input source by using the **INPUT** button on the remote control.



HDMI1/DVI-DTV, HDMI2-DTV mode

Resolution	Horizontal Frequency(KHz)	Vertical Frequency(Hz)
720x480p	31.47	59.94
	31.50	60.00
1280x720p	44.96	59.94
	45.00	60.00
1920x1080i	33.72	59.94
	33.75	60.00
1920x1080p	26.97	23.976
	27.00	24.00
	33.71	29.97
	33.75	30.00
	67.432	59.939
	67.50	60.00

When connecting HDMI to DVI cable



1. How to connect

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

2. How to use

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

EXTERNAL EQUIPMENT SETUP

DVD SETUP

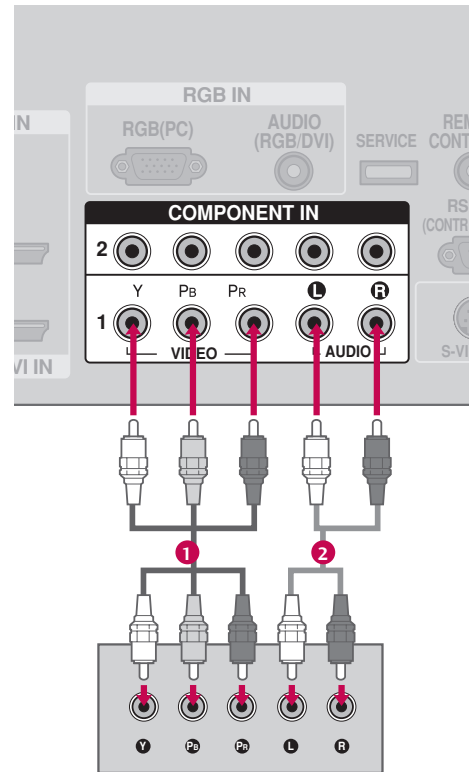
When connecting Component cable

1. How to connect

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

2. How to use

- Turn on the DVD player, insert a DVD.
- Select **Component 1** input source by using the **INPUT** button on the remote control.
- If connected to **COMPONENT IN 2** input, select **Component 2** input source.
- 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	P _B	P _R
Video output ports on DVD player	Y	P _B	P _R
	Y	B-Y	R-Y
	Y	C _b	C _r
	Y	P _b	P _r

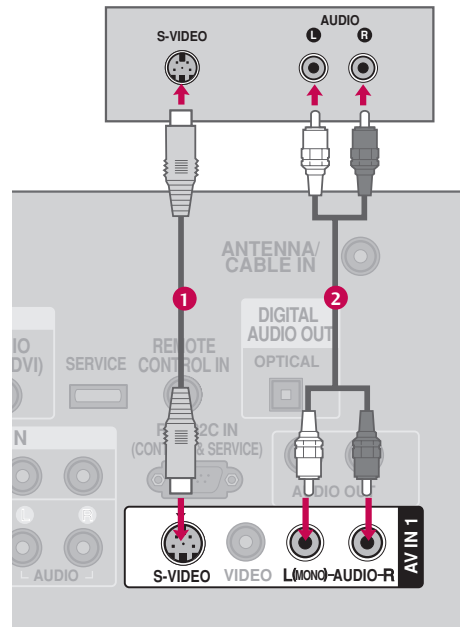
When connecting with an S-Video cable

1. How to connect

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

2. How to use

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



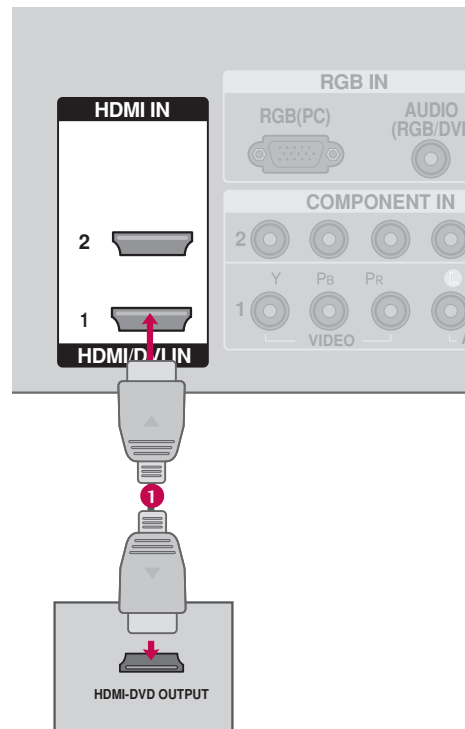
When connecting HDMI cable

1. How to connect

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

2. How to use

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

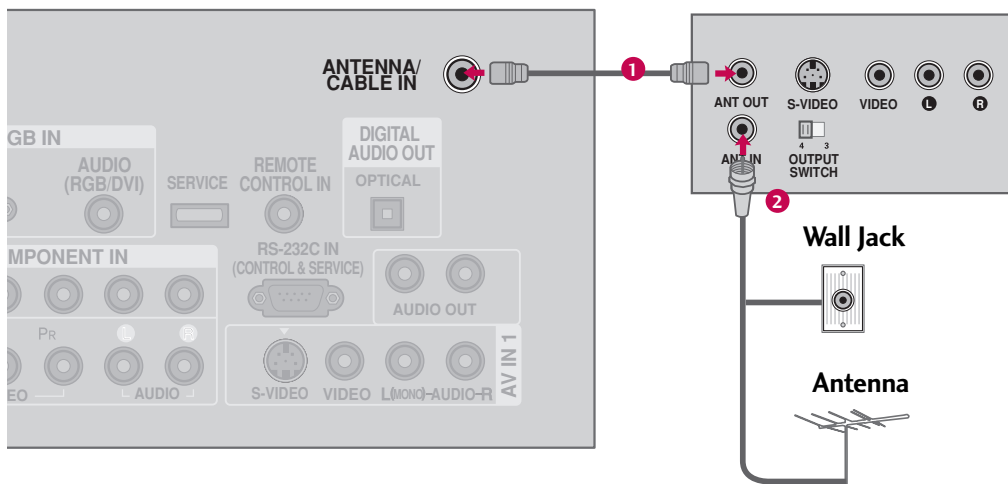


EXTERNAL EQUIPMENT SETUP

VCR SETUP

- To avoid picture noise (interference), leave an adequate distance between the VCR and TV.
- If the 4:3 picture format is used; the fixed images on the sides of the screen may remain visible on the screen. This phenomenon is common to all manufactures and in consequence the manufactures warranty does not cover the product bearing this phenomenon.

When connecting with an antenna



1. How to connect

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

When connecting with a RCA cable

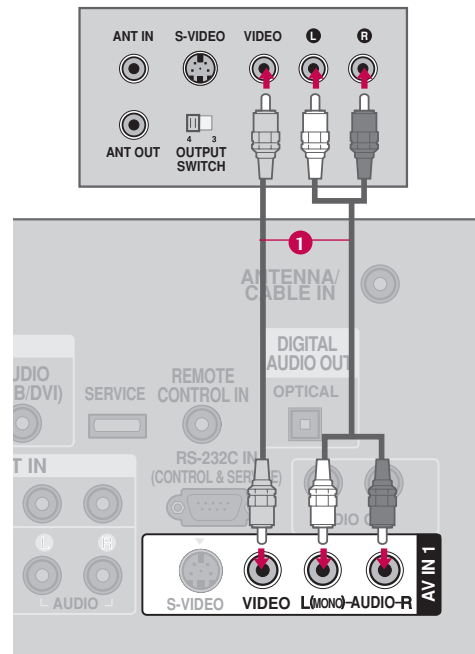
1. How to connect

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

2. How to use

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

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



When connecting with an S-Video cable

1. How to connect

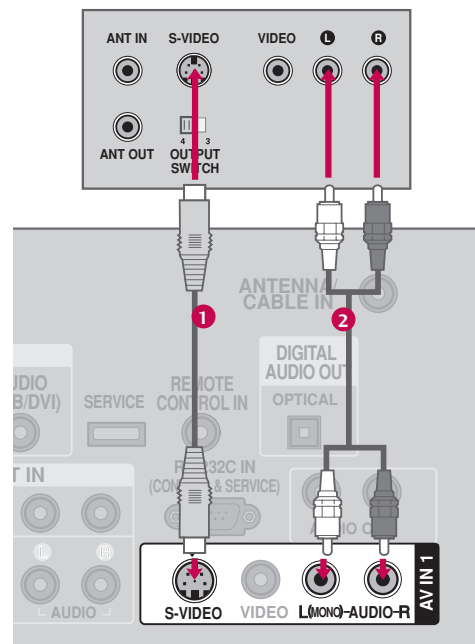
- 1 Connect the S-VIDEO output of the VCR to the **S-VIDEO** input on the set.
- 2 Connect the audio outputs of the VCR to the **AUDIO** input jacks on the set.

2. How to use

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

NOTE

▶ The picture quality is improved: compared to normal composite (RCA cable) input.



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.

EXTERNAL EQUIPMENT SETUP

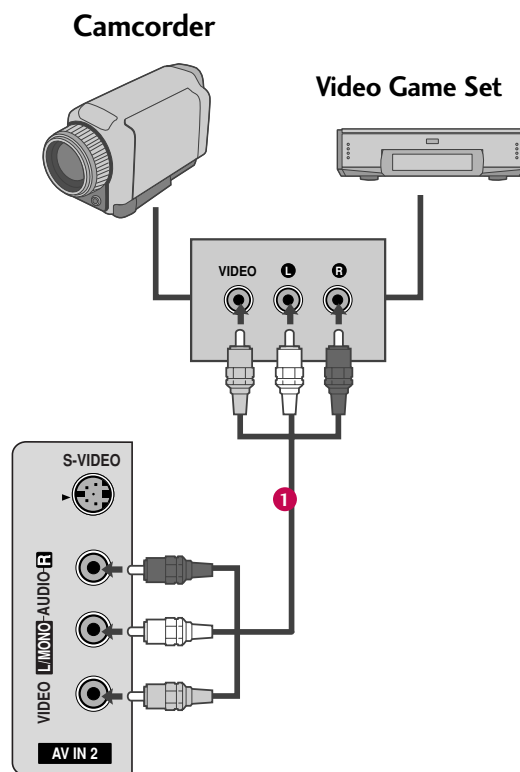
OTHER A/V SOURCE SETUP

1. How to connect

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

2. How to use

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



PC SETUP

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

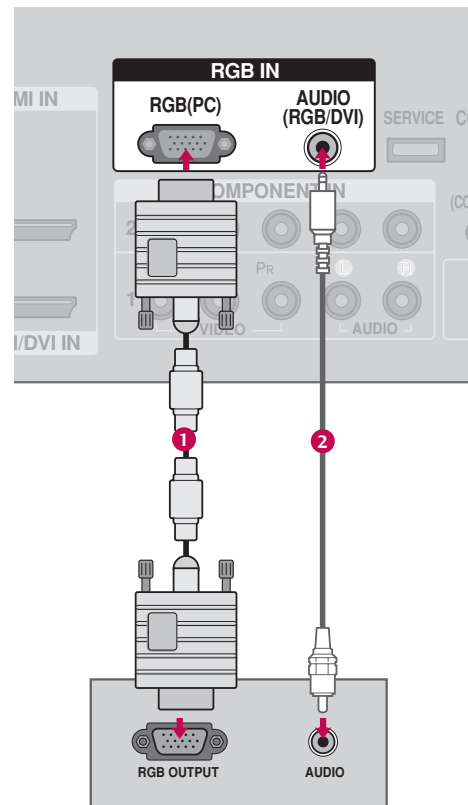
When connecting D-sub 15 pin cable

1. How to connect

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

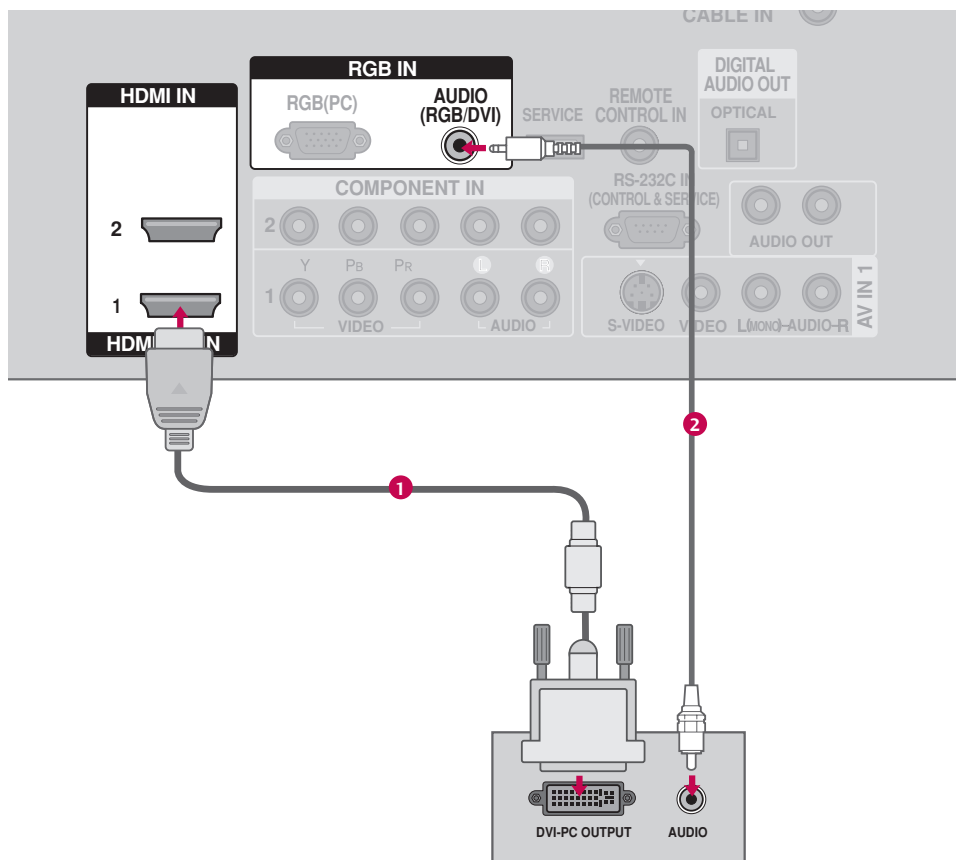
2. How to use

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



EXTERNAL EQUIPMENT SETUP

When connecting HDMI to DVI cable



1. How to connect

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

2. How to use

- Turn on the PC and the TV.
- Select **HDMI1** input source by using the **INPUT** button on the remote control.

! NOTES

- ▶ To get the the best picture quality, adjust the PC graphics card to 1366x768.
- ▶ Depending on the graphics card, DOS mode may not work if a HDMI to DVI Cable is in use.
- ▶ Check the image on your TV. There may be noise associated with the resolution, vertical pattern, contrast or brightness in PC mode. If noise is present, change the PC output to another resolution, change the refresh rate to another rate or adjust the brightness and contrast on the VIDEO menu until the picture is clear. If the refresh rate of the PC graphic card can not be changed, change the PC graphic card or consult the manufacturer of the PC graphic card.
- ▶ Avoid keeping a fixed image on the screen for a long period of time. The fixed image may become permanently imprinted on the screen.
- ▶ The synchronization input form for Horizontal and Vertical frequencies is separate.

Supported Display Specifications

RGB-PC, HDMI1/DVI-PC mode

Resolution	Horizontal Frequency(KHz)	Vertical Frequency(Hz)
640x350	31.469	70.08
720x400	31.469	70.08
640x480	31.469	59.94
800x600	37.879	60.31
1024x768	48.363	60.00
1280x768	47.776	59.87
1360x768	47.720	59.799
1366x768	47.130	59.65

* RGB-PC mode only

! NOTE

- ▶ Depending on graphic card and signal status, there can be some shaking to find best picture in a little time.

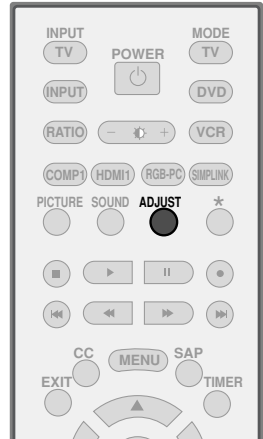
EXTERNAL EQUIPMENT SETUP

Screen Setup for PC mode

Overview

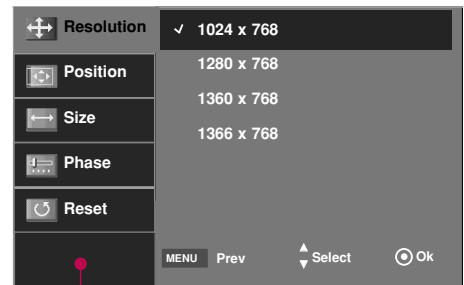
When the RGB input of the set is connected to a PC Output, Select RGB-PC with using the **INPUT** button on the remote control.

When you change the resolution, select the proper resolution in present input to see the best picture appearance.



Adjustment for screen Resolution, Position, Size, and Phase

- 1 Press the **ADJUST** button and then use **▲** or **▼** button to select **Resolution, Position, Size, or Phase**.
- 2 Press the **ENTER** button and then use **▲ ▼ ◀ ▶** button to make appropriate adjustments.
 - The **Phase** adjustment range is **-16 ~ +16**.
 - The **Size** adjustment range is **-30 ~ +30**.
- 3 Press the **ENTER** button.



- 1 **Resolution** This function allows you select resolution of XGA/WXGA.
- 2 **Position** This function is to adjust picture to left/right and up/down as you prefer.
- 3 **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.

Initializing (Reset to original factory values)

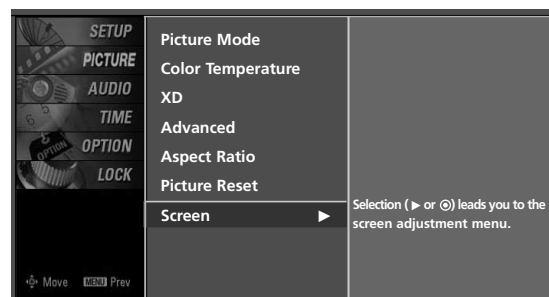
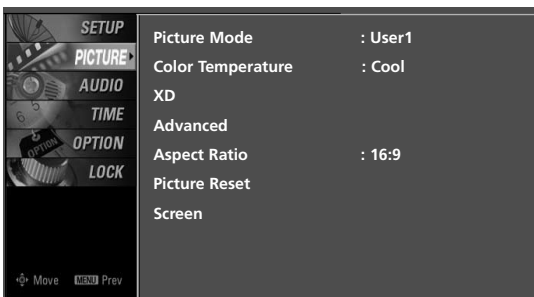
To initialize the adjusted values.

- 1 Press the **ADJUST** button and then use ▲ or ▼ button to select **Reset**.
- 2 Press the **ENTER** button and then use ◀ or ▶ button to select **Yes**.
- 3 Press the **ENTER** button.



1 2 3

- You can also use the **PICTURE** menu to adjust **Screen**.



EXTERNAL EQUIPMENT SETUP

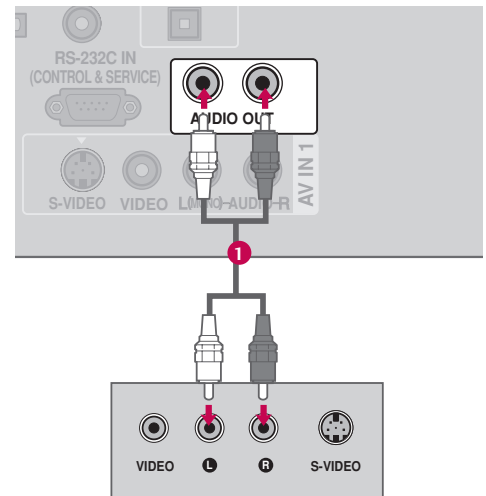
AUDIO OUT SETUP

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

Analog

1. How to connect

- 1 Connect audio outputs to the TV's **AUDIO OUT** jacks.
- 2 Set the "TV Speaker option - Off" in the AUDIO menu. (► p.57). See the external audio equipment instruction manual for operation.



Digital

1. How to connect

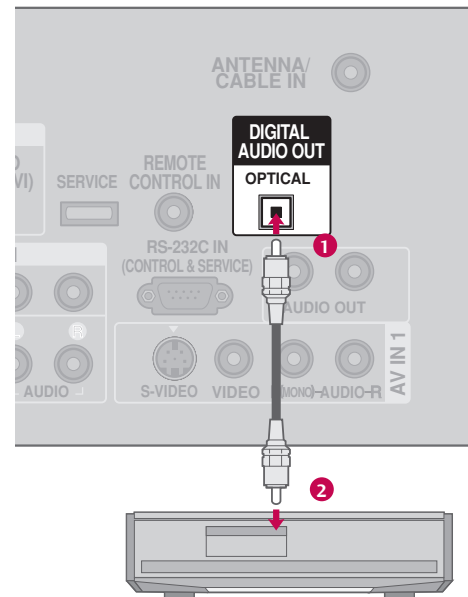
- 1 Connect one end of the optical cable to the TV's **DIGITAL AUDIO OUT OPTICAL**.
- 2 Connect the other end of the optical to the digital audio input on the audio equipment.
- 3 Set the "TV Speaker option - Off" in the AUDIO menu. (▶ p.57). See the external audio equipment instruction manual for operation.

! NOTE

- ▶ When connecting with external audio equipments, such as amplifiers or speakers, please turn the TV speakers off. (▶ p.57)

⚠ CAUTION

- ▶ Do not look into the optical output port. Looking at the laser beam may damage your vision.
- ▶ Block the SPDIF out (optical) about the contents with ACP(Audio Copy Protection) function.



WATCHING TV / CHANNEL CONTROL

REMOTE CONTROL FUNCTIONS


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

POWER Turns your TV or any other programmed equipment on or off, depending on mode.

TV INPUT In AV 1-2, Component 1-2, RGB-PC, HDMI1 and HDMI2 input sources, screen returns to the last TV channel.

INPUT External input modes rotate in regular sequence: Antenna, Cable, AV1-2, Component 1-2, RGB-PC, HDMI1 and HDMI2. (AV 1-2, Component 1-2, RGB-PC, HDMI1, and HDMI2 input sources are linked automatically, only if a device is connected.)

RATIO Change the aspect ratio. ► p.44

-  + Adjusts brightness on screen.

VCR/DVD control buttons Control video cassette recorders or DVD players.

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

VOLUME UP/DOWN Increase/decrease the sound level.

FAV Scroll through the programmed Favorite channels.► p.38

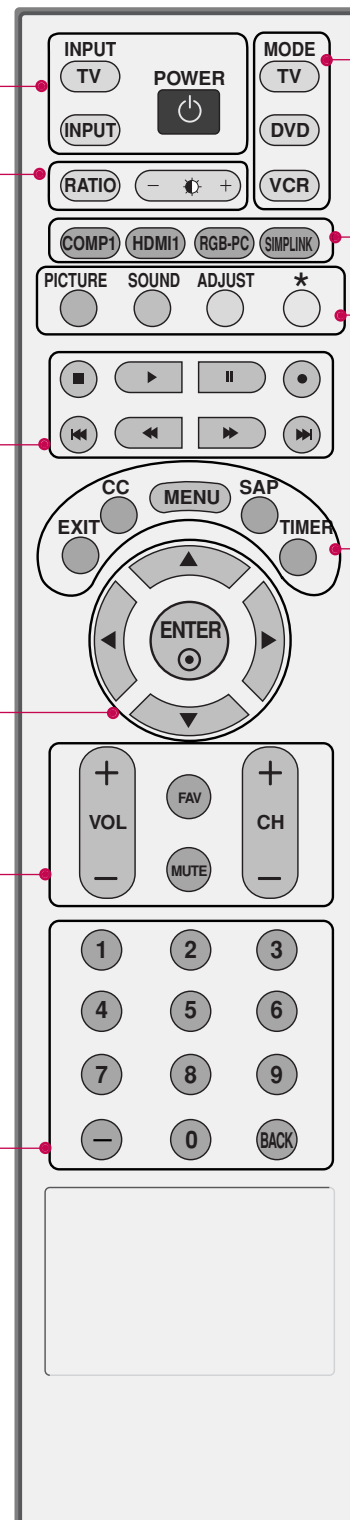
MUTE Switch the sound on or off. ► p.34

CHANNEL UP/DOWN Select available channels.

NUMBER button

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

BACK Tune to the last channel viewed.



MODE Select the remote's operating mode: TV, DVD, VCR.

COMP1 Directly, select Component1 input.

HDMI 1 Directly, select HDMI1 input.

RGB-PC Directly, select RGB-PC input.

SIMPLINK See a list of AV devices connected to TV. When you toggle this button, the Simplink menu appears at the screen. ► **p.41**

PICTURE Selects the factory preset picture depend on the viewing environment. ► **p.45**

SOUND Selects the factory preset sound for type of program. ► **p.54**

ADJUST Adjust the screen resolution, position, size and phase. ► **p.28-29**

* Not functional

EXIT Clears all on-screen displays and returns to TV viewing from any menu.

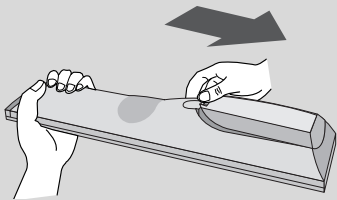
CC Select a closed caption. ► **p.61**

MENU Displays the main menu.

SAP ◦ Analog mode: Selects MTS sound (Mono, Stereo, or a SAP) ► **p.58**
◦ DTV mode: Changes the audio language.

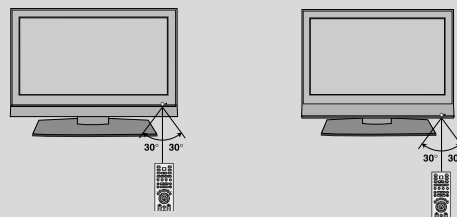
TIMER Select the amount of time before your TV turns off automatically. ► **p.68**

Installing Batteries



- Open the battery compartment cover on the back side and install the batteries matching correct polarity (+ with +, - with -).
- Install two 1.5V AA batteries. Don't mix old or used batteries with new ones.
- Close cover.

Remote control effective range

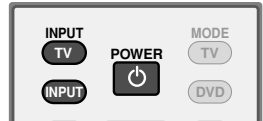


- Use a remote control up to 7 meters distance and 30 degree (left/right) within the receiving unit scope.
- Dispose of used batteries in a recycle bin to preserve environment.

WATCHING TV / CHANNEL CONTROL

TURNING ON TV

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



! NOTE

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

CHANNEL SELECTION

- 1 Press the **CH** (+ 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.

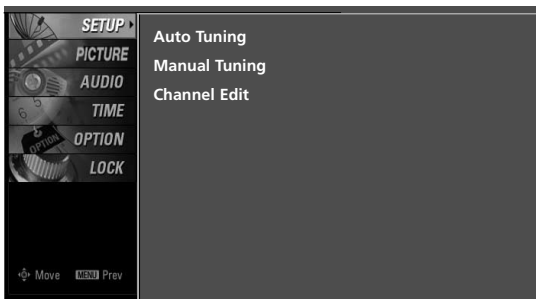


ON-SCREEN MENUS SELECTION

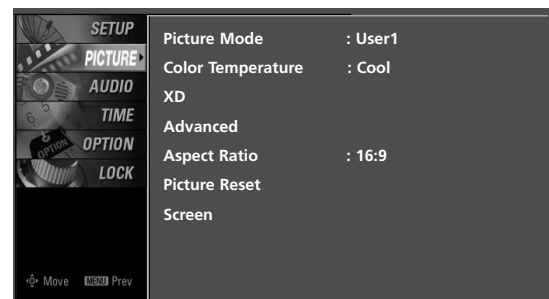
Your TV's OSD (On Screen Display) may differ slightly from what is shown in this manual.

- 1 Press the **MENU** button and then use **▲** or **▼** button to select the each menu.
- 2 Press the **▶** button and then use **▲ ▼ ◀ ▶** button to display the available menus.

SETUP



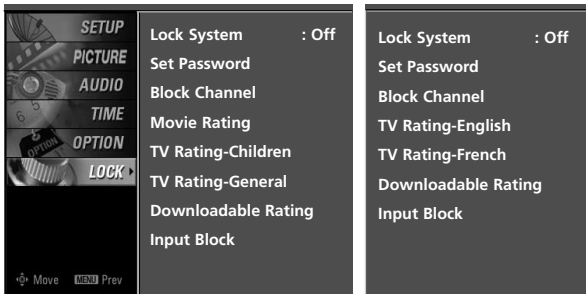
PICTURE



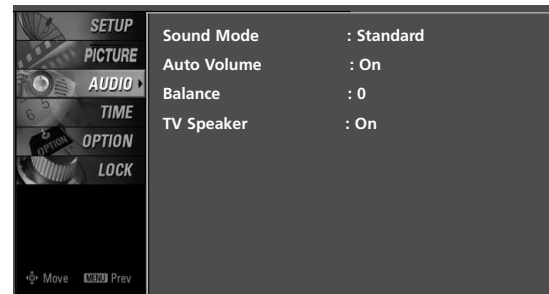
LOCK

For USA

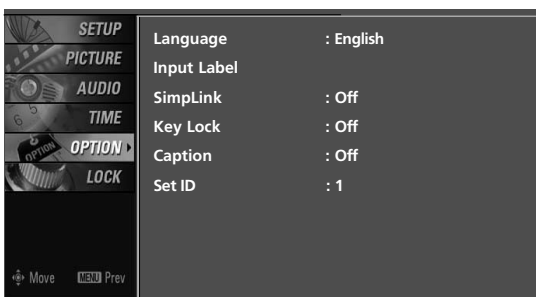
For Canada



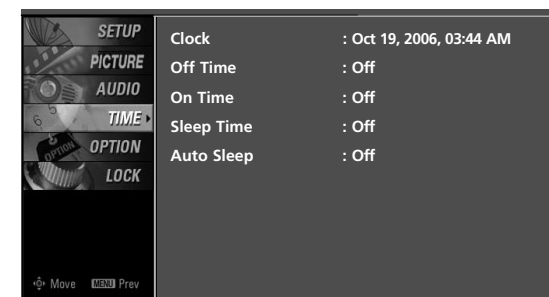
AUDIO



OPTION



TIME



WATCHING TV / CHANNEL CONTROL

CHANNEL SETUP

Auto Scan (Auto Tuning)

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

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

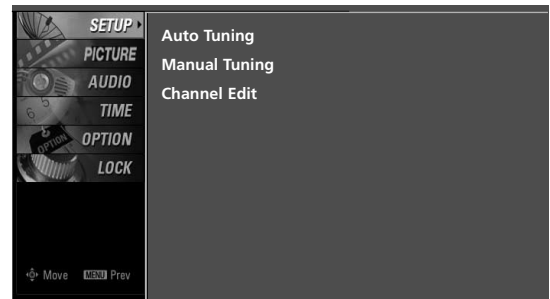
A password is required to gain access to Auto Tuning menu if the Lock System is turned on.



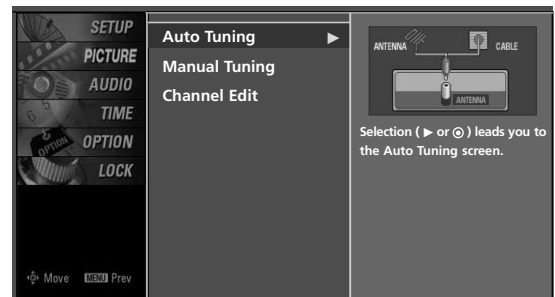
1 Press the **MENU** button and then use **▲** or **▼** button to select the **SETUP** menu.

2 Press the **▶** button and then use **▲** or **▼** button to select **Auto Tuning**.

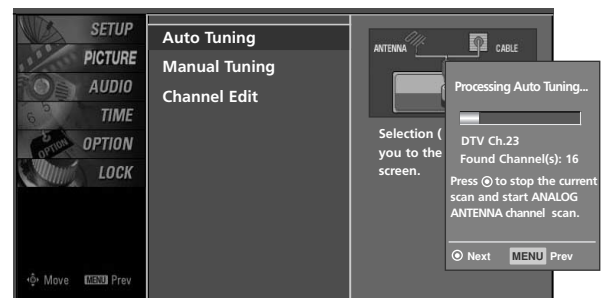
3 Press the **ENTER** button to begin the channel search. Allow **Auto Tuning** to complete the channel search cycle for **ANTENNA** and **CABLE**.



1



2



3

NOTE



DTV (Digital DTV antenna)
TV (Analog TV antenna)
CADTV (Digital CADTV cable)
CATV (Analog CATV cable)

Add/Delete Channel (Manual Tuning)

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

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

1 Press the **MENU** button and then use **▲** or **▼** button to select the **SETUP** menu.

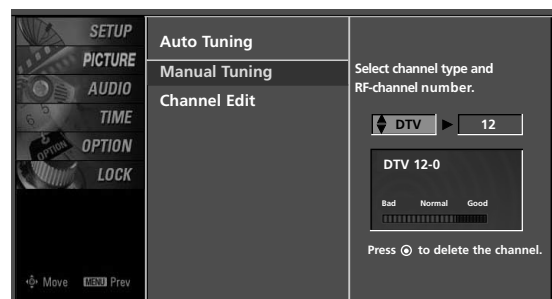
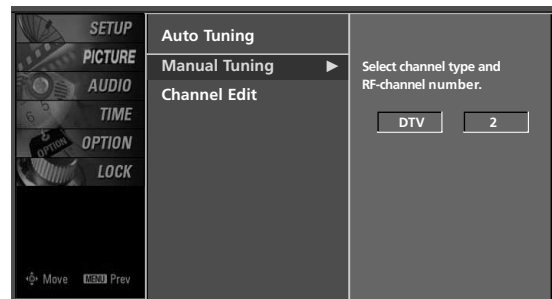
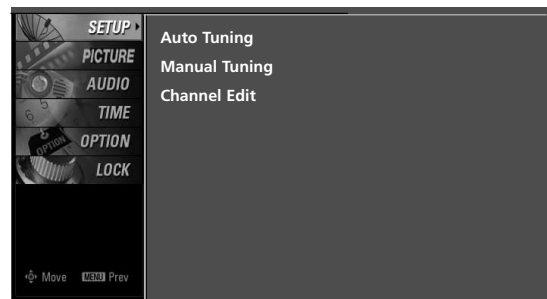
2 Press the **▶** button and then use **▲** or **▼** button to select **Manual Tuning**.

3 Press the **▶** button and then use **▲** or **▼** button to select **TV, DTV, CATV, and CADTV**.

4 Press the **▶** button and then use **▲** or **▼** button to select channel you want to add or delete.

5 Press the **ENTER** button to add or delete the channel.

6 Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.



3 4 5

WATCHING TV / CHANNEL CONTROL

Channel Editing

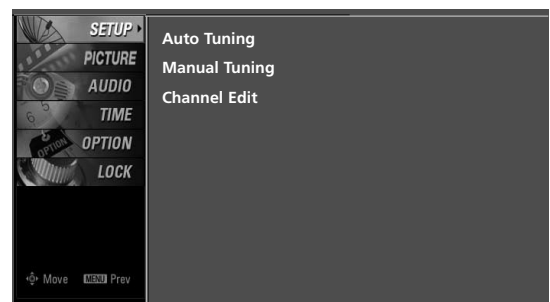
From the default channel list created from the Auto Tuning channel search, you can create two different types of channel lists in memory: “custom list” and “favorite channel list”.

A custom list can be created by toggling each channel on or off with **ENTER** button. The channels in the Custom List are displayed in black and the channels deleted from the Custom List are displayed in gray. Once a channel is highlighted you can add or delete the channel by referring to the small window at the top-left corner of the screen.

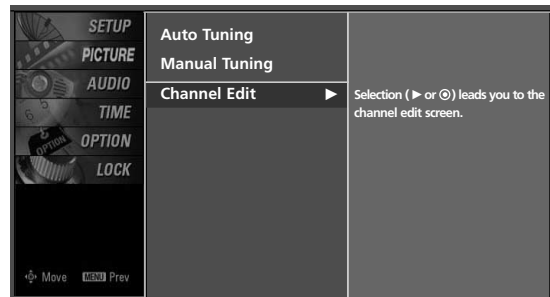
You can create your own Favorite List. Use the **FAV** button on the remote control when a channel is highlighted and then add or delete the channel to/from your Favorite List.



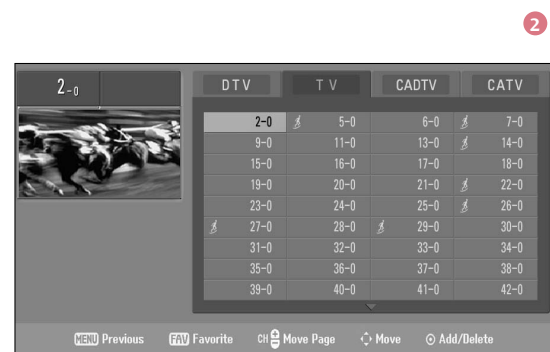
1 Press the **MENU** button and then use **▲** or **▼** button to select the **SETUP** menu.



2 Press the **▶** button and then use **▲** or **▼** button to select **Channel Edit**.



3 Press the **▶** button. You will now see a screen filled with channel numbers and a preview picture.



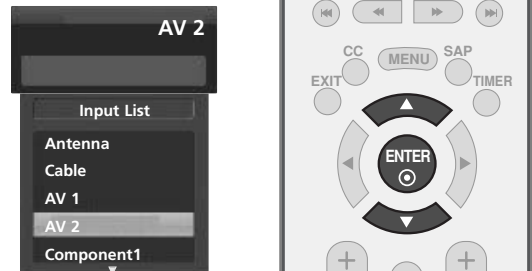
4 Use **▲▼◀▶** button to select a channel and then use the **ENTER** button to add or delete it. Press **FAV** button to add the channel to the Favorite List. The surfing icon will appear in front of that channel number.

5 Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.

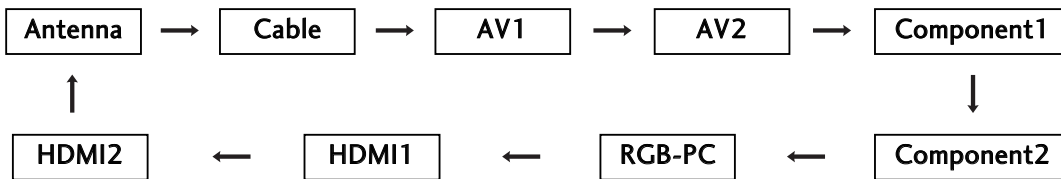
INPUT LIST

Press the **INPUT** button to display external device that is connected to the unit, on screen.

Press the **ENTER** button to change the input to the active external device. Use the **▲** or **▼** button to select the input source.



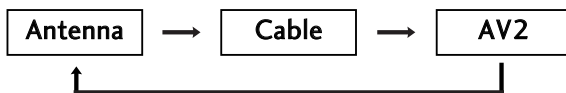
- 1** If all external input sources are connected:



- 2** If no external input sources are not connected:



- 3** If there is any external input source connected:
(ex: When connected only to AV 2)



Antenna : Select it when watching the DTV/TV.

Cable: Select it when watching the CADTV/CATV.

AV 1-2 : Select it when watching the VCR or external equipment.



Component 1-2 : Select it when using the DVD or the Digital set-top box depend on connector.

RGB-PC: Select it when using PC depend on connector.

HDMI 1-2 : Select it when using DVD, PC or Digital set-top box depend on connector.

WATCHING TV / CHANNEL CONTROL



This operates only for the devices with the  SIMPLINK logo. Please check the  SIMPLINK logo.

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



Simplink Preparations

- 1 Connect the HDMI/DVI IN 1 or HDMI IN 2 terminal of the TV to the rear terminal (HDMI output) of the Simplink device with the HDMI cable.

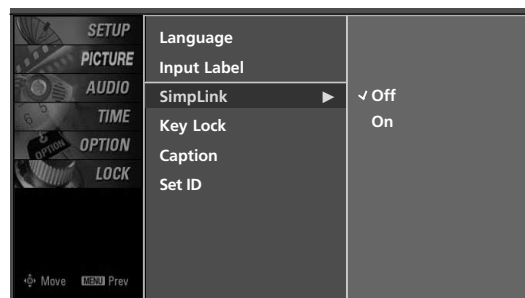
After connecting the HDMI jack for the home theater with simplink function in the above method, connect the DIGITAL AUDIO OUT OPTICAL on the back of the TV to the DIGITAL AUDIO IN terminal on the back of the simplink device with the Optical cable.



- 2 Press the **MENU** button and then use **▲** or **▼** button to select the **OPTION** menu.

- 3 Press the **▶** button and then use **▲** or **▼** button to select **Simplink**.

- 4 Press the **▶** button and then use **▲** or **▼** button to select **On**.











- 5 Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.

! NOTE

- ▶ When operating the external device with Simplink, press the TV button among the MODE button on the remote control.
- ▶ When you switch the Input source with the INPUT button on the remote control, you can stop the operation of device worked by Simplink.
- ▶ When you select or operate the media device with home theater function, the speaker automatically switches to home theater speaker (HT speaker).










SimpLink Functions

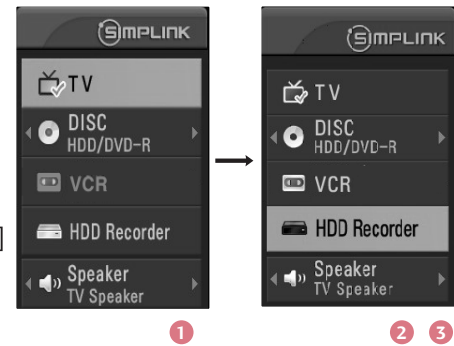
- **Direct Play:** After connecting AV devices to TV, you can directly control the devices and play media without additional settings.
- **Select AV device:** Enables you to select one of AV devices connected to TV and play it.
- **Disc playback:** Control connected AV devices by pressing the , , , , , , , , **ENTER** buttons and buttons for play, stop, pause, fast reverse, fast forward, chapter skip.
- **Power off all devices:** When you power off TV, all connected devices are turned off. (This option only applied when the devices are stopped.)
- **Switch audio-out:** Offers an easy way to switch audio-out.



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

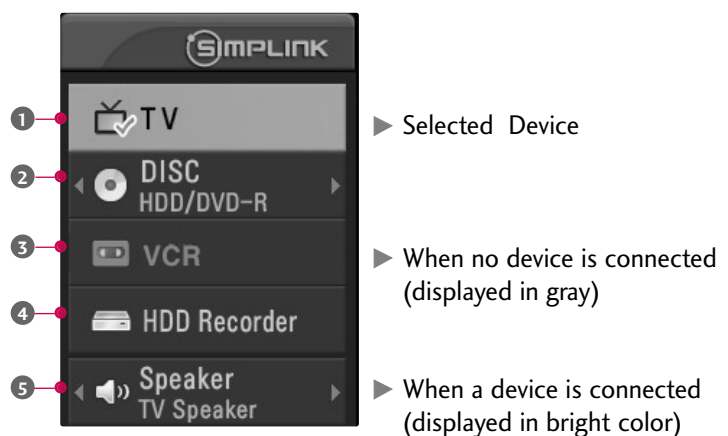
Note: To operate SIMPLINK, the HDMI cable over 1.2 Version with *CEC function should be used. (*CEC: Consumer Electronics Control).

- 1 After selecting the **TV** button of the MODE on the remote control, press the **SIMPLINK** button.
- 2 Use  button to select the desired device and then press the **ENTER** button.
- 3 Control connected AV devices by pressing the , , , , , , , , **ENTER** buttons.



SimpLink Menu

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



WATCHING TV / CHANNEL CONTROL

INPUT LABEL

Sets a label to each input source which is not in use when you press the **INPUT** button.



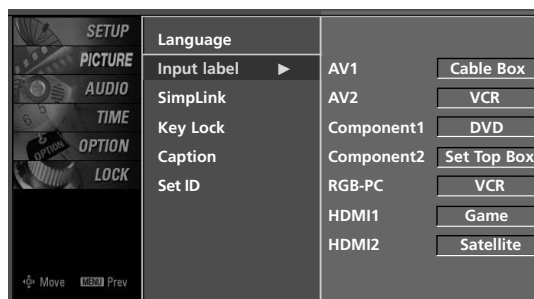
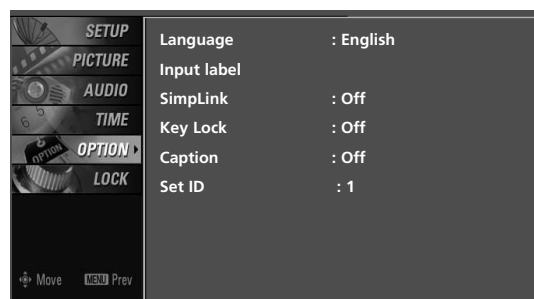
1 Press the **MENU** button and then use ▲ or ▼ button to select the **OPTION** menu.

2 Press the ► button and then use ▲ or ▼ button to select **Input Label**.

3 Press the ► button and then use ▲ or ▼ button to select the source: AV1, AV2, Component1, Component2, RGB-PC, HDMI1, or HDMI2.

4 Press the ◀ or ▶ button to select the label.

5 Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.



3 **4**

KEY LOCK

The TV can be set up so that it can only be used with the remote control.

This feature can be used to prevent unauthorized viewing by locking out the front panel controls.

This TV is programmed to remember which option it was last set to even if you turn the TV off.

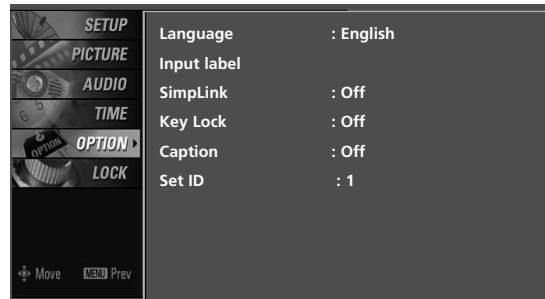


1 Press the **MENU** button and then use ▲ or ▼ button to select the **OPTION** menu.

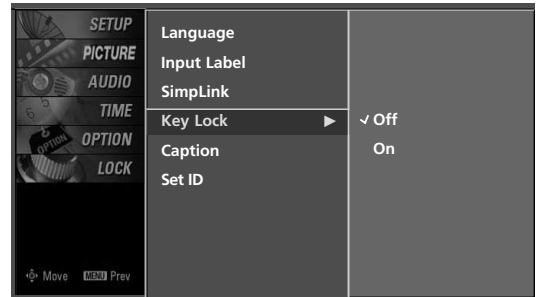
2 Press the ► button and then use ▲ or ▼ button to select **Key Lock**.

3 Press the ► button and then use ▲ or ▼ button to select **On** or **Off**.

4 Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.



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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. When you receive an analog picture with a 4:3 aspect ratio on your 16:9 TV, you need to specify how the picture is to be displayed.

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

NOTE

- ▶ If a fixed image is displayed on the screen for a long time, the image may become imprinted on the screen and remain visible. This phenomenon is common to all manufactures and in consequence the manufactures warranty does not cover the product bearing this phenomenon.



- 1 Press the **RATIO** button repeatedly to select the desired picture format.
 - You can also adjust **Aspect Ratio** in the **PICTURE** menu.

Set by program

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

(4:3 → 4:3)

(16:9 → 16:9)



4:3

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



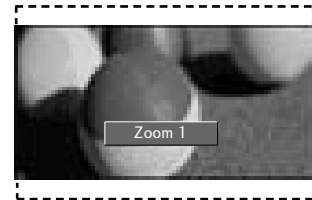
16:9

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



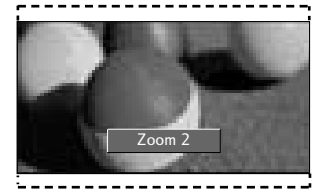
Zoom 1

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



Zoom 2

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



Just Scan

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

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

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



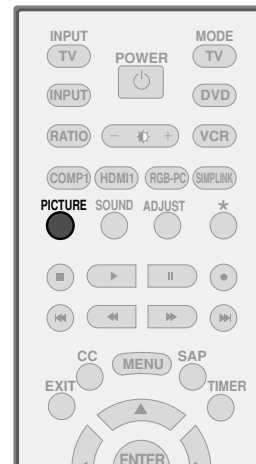
PRESET PICTURE SETTINGS

Picture Mode - Preset

Picture Mode adjusts the TV for the best picture appearance. Select the preset value in the Picture Mode menu based on the program category.

Dynamic, Standard, Mild Settings are preset for the optimum picture quality at the factory and are not adjustable.

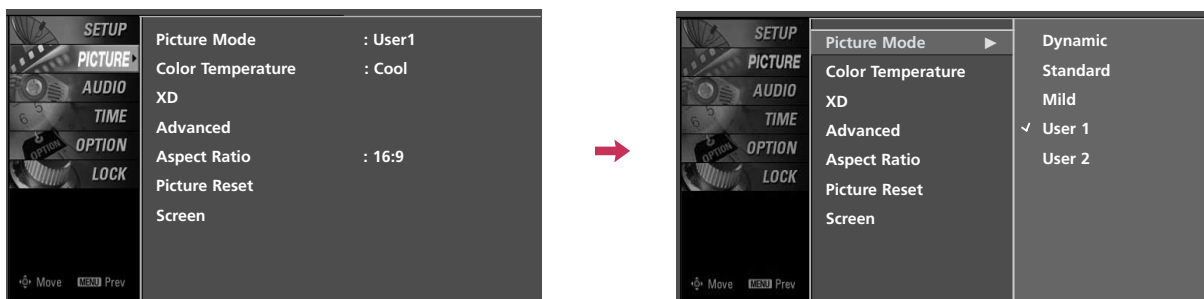
In the **User1** and **User2** modes only, user can directly adjust the contrast, brightness, color, sharpness, tint, backlight.



- 1 Press the **PICTURE** button repeatedly to select the picture appearance setup option as below :
Dynamic, Standard, Mild, User1 (your own settings), and **User2** (your own settings).

- 2 Press the **EXIT** button to save and return to TV viewing.

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



PICTURE CONTROL

Color Tone - Preset

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

When selecting Picture Mode options (Dynamic, Standard and Mild), Color Temperature is automatically change.

When selecting Picture Mode options (User 1 and User 2), you can choose the Color Temperature.

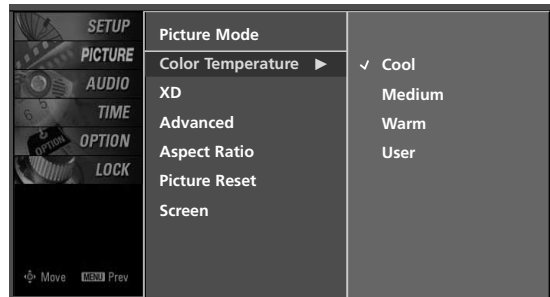
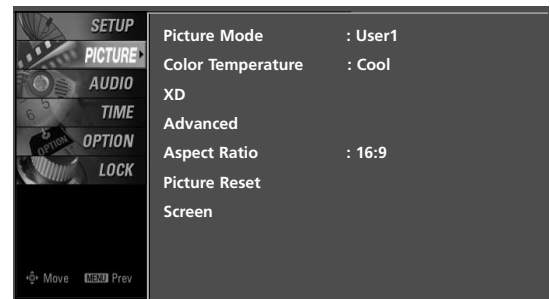


1 Press the **MENU** button and then use ▲ or ▼ button to select the **PICTURE** menu.

2 Press the ► button and then use ▲ or ▼ button to select **Color Temperature**.

3 Press the ► button and then use ▲ or ▼ button to select either **Cool, Medium, Warm** or **User**.

4 Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.



3

MANUAL PICTURE ADJUSTMENT

Picture Mode - User Mode

Adjust the picture appearance to suit your preference and viewing situations.



1 Press the **MENU** button and then use **▲** or **▼** button to select the **PICTURE** menu.

2 Press the **▶** button and then use **▲** or **▼** button to select **Picture Mode**.

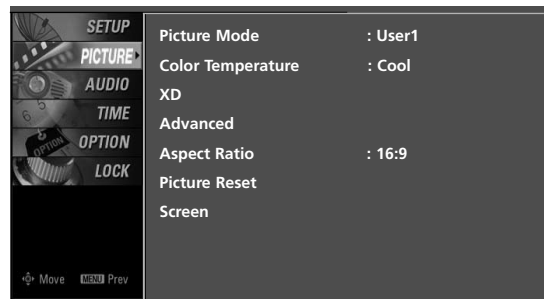
3 Press the **▶** button and then use **▲** or **▼** button to select **User 1** or **User 2**.

4 Press the **▶** button and then use **▲** or **▼** button to select the desired picture option (**Contrast**, **Brightness**, **Color**, **Sharpness**, **Tint**, or **Back Light**).

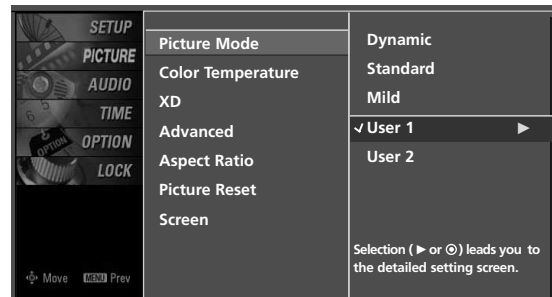
- **Back Light** (Only for 32/42LC4D)
To control the brightness of the screen, adjust the brightness of LCD panel.

5 Press the **▶** button and then use **◀** or **▶** button to make appropriate adjustments.

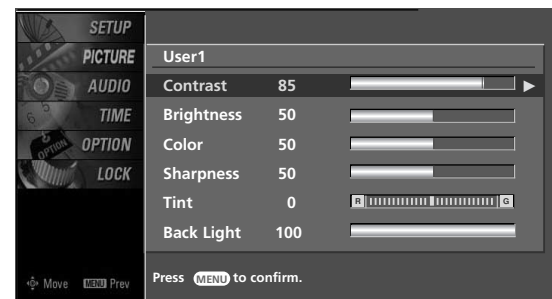
6 Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.



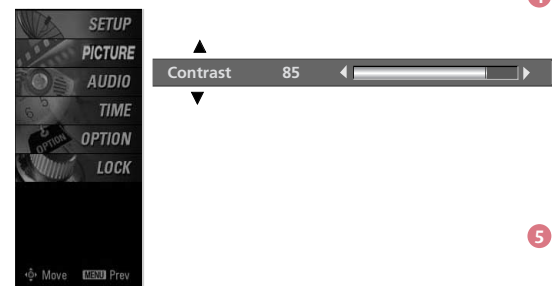
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PICTURE CONTROL

Color Tone - User Mode

You can also adjust the detailed settings (Red, Green, Blue) by selecting the **Color Temperature-User** menu.

When selecting Picture Mode options (User 1 and User 2), you can choose the **Color Temperature**.



1 Press the **MENU** button and then use **▲** or **▼** button to select the **PICTURE** menu.

2 Press the **▶** button and then use **▲** or **▼** button to select **Color Temperature**.

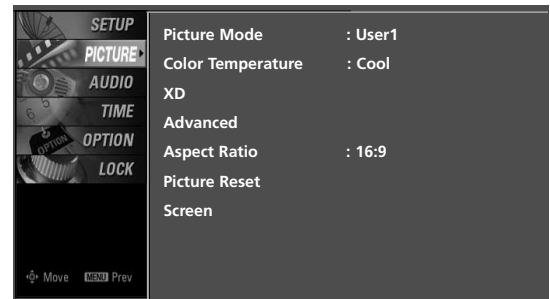
3 Press the **▶** button and then use **▲** or **▼** button to select **User**.

4 Press the **▶** button and then use **▲** or **▼** button to select **Red, Green, or Blue**.

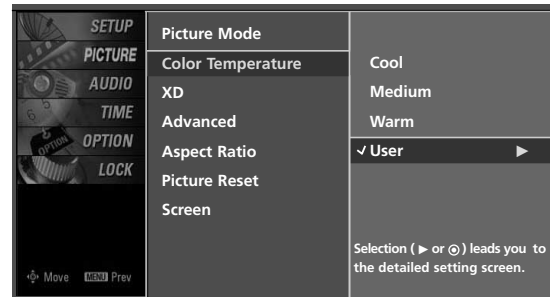
5 Press the **▶** button and then use **◀** or **▶** button to make appropriate adjustments.

- The adjustment range of **Red, Green, or Blue** is -20~ +20.

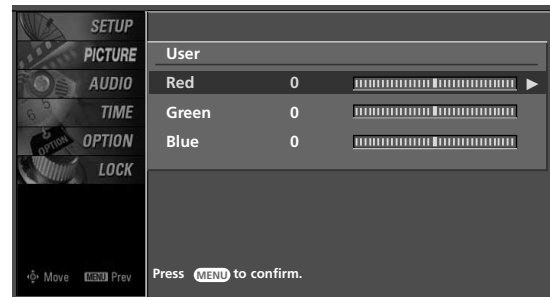
6 Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.



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XD - PICTURE IMPROVEMENT TECHNOLOGY

XD is LG Electronic's unique picture improving technology to display a real HD source through an advanced digital signal processing algorithm.

When selecting Picture Mode options (Dynamic, Standard, and Mild), XD is automatically changed to Auto.

When selecting Picture Mode options (User 1 and User 2), you can choose the Auto / Manual.

When selecting the Manual, you can adjust the XD Contrast, XD color and XD Noise.

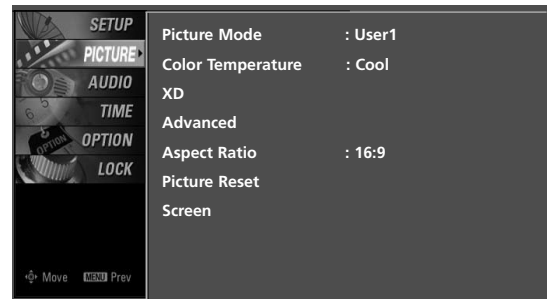
It's not available to use this function in RGB-PC input source.



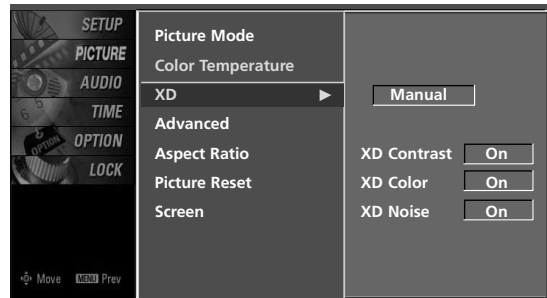
1 Press the **MENU** button and then use **▲** or **▼** button to select the **PICTURE** menu.

2 Press the **▶** button and then use **▲** or **▼** button to select **XD**.

3 Press the **▶** button and then use **◀** or **▶** button to select **Auto** or **Manual**.



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Selecting the Manual

1. Press the **▼** button and then use **▲** or **▼** button to select **XD Contrast**, **XD Color** or **XD Noise**.

- **XD Contrast:** Optimizing the contrast automatically according to the brightness of the reflection.
- **XD Color:** Adjusting the colors of the reflection automatically to reproduce as closely as possible to the natural colors.
- **XD Noise:** Removing the noise up to the point where it does not damage the original picture.

2. Use the **◀** or **▶** button to select **On** or **Off**.

4 Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.

PICTURE CONTROL

ADVANCED - CINEMA 3:2 PULL DOWN MODE

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

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

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



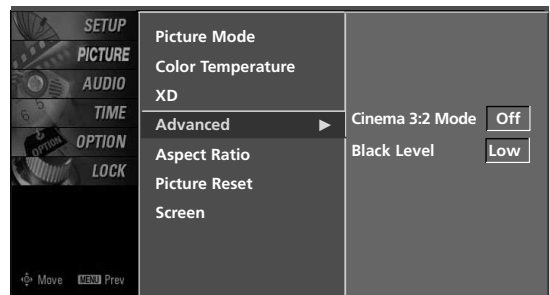
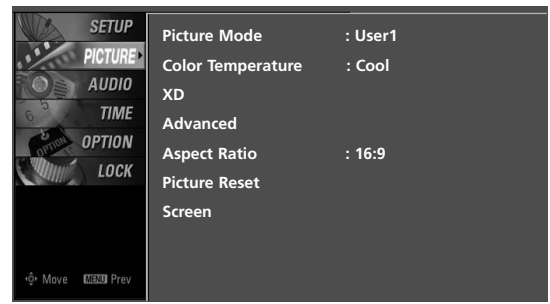
1 Press the **MENU** button and then use ▲ or ▼ button to select the **PICTURE** menu.

2 Press the ► button and then use ▲ or ▼ button to select **Advanced**.

3 Press the ► button and then use ▲ or ▼ button to select **Cinema 3:2 Mode**.

4 Use ◀ or ▶ button to select **On** or **Off**.

5 Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.



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ADVANCED - BLACK (DARKNESS) LEVEL

Adjusting the contrast and the brightness of the screen using the black level of the screen.

This feature operates only in AV1, AV2, HDMI1, or HDMI2 mode.



1 Press the **MENU** button and then use ▲ or ▼ button to select the **PICTURE** menu.

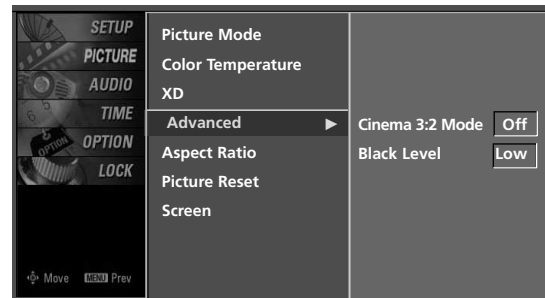
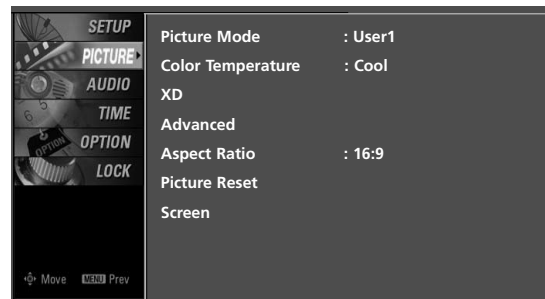
2 Press the ► button and then use ▲ or ▼ button to select **Advanced**.

3 Press the ► button and then use ▲ or ▼ button to select **Black level**.

4 Use ◀ or ▶ button to select **Low** or **High**.

- **Low**
The screen gets darker.
- **High**
The screen gets brighter.

5 Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.



3 4

PICTURE CONTROL

PICTURE RESET

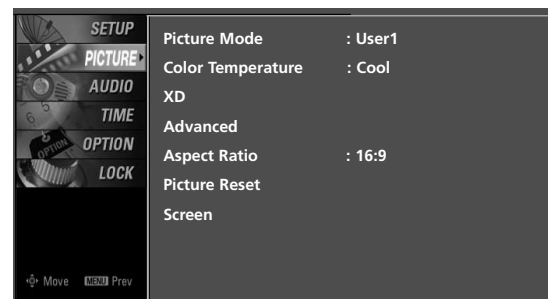
Use to quickly reset all the Picture menu options to their original factory preset values.



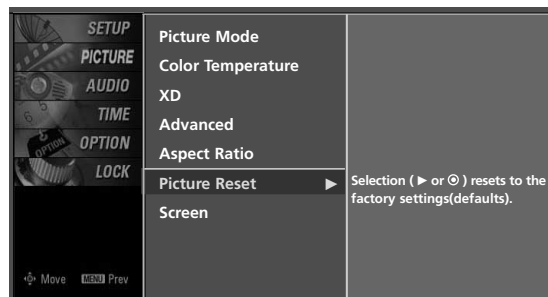
1 Press the **MENU** button and then use ▲ or ▼ button to select the **PICTURE** menu.

2 Press the ► button and then use ▲ or ▼ button to select **Picture Reset**.

3 Press the ► button to reset the Picture menu options to original values.



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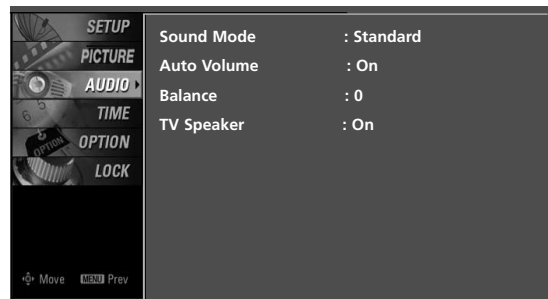
SOUND & LANGUAGE CONTROL

AUTO VOLUME LEVELLER (AUTO VOLUME)

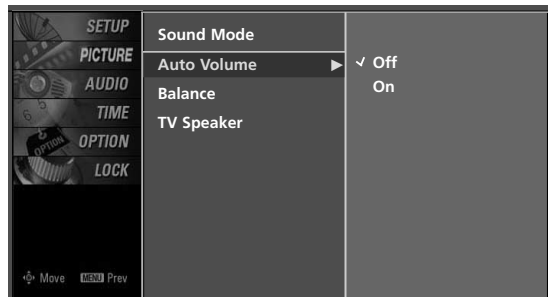
Scans for changes in sound levels during commercials, then adjusts the sound to match the specified audio level. Auto Volume makes sure that the volume level remains consistent whether you are watching a commercial or a regular TV program.



- 1 Press the **MENU** button and then use ▲ or ▼ button to select the **AUDIO** menu.
- 2 Press the ► button and then use ▲ or ▼ button to select **Auto Volume**.
- 3 Press the ► button and then use ▲ or ▼ button to select **On** or **Off**.
- 4 Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.



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SOUND & LANGUAGE CONTROL

PRESET SOUND SETTINGS (SOUND MODE)

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

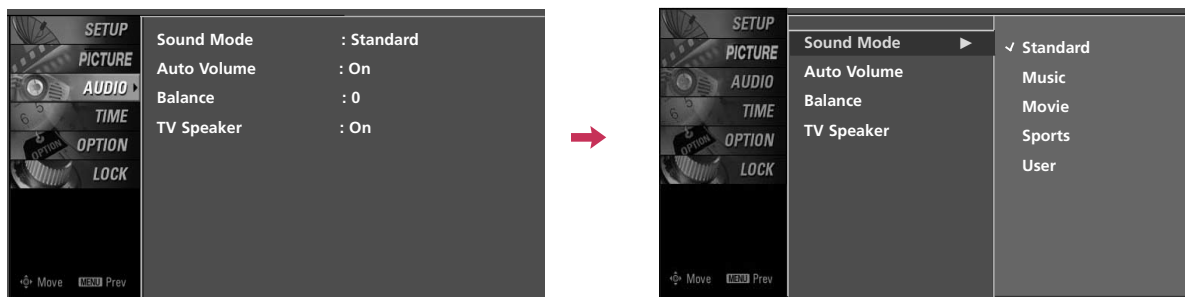
Standard, Music, Movie, and Sports are preset for good sound quality at the factory and are not adjustable.



1 Press the **SOUND** button repeatedly to select the appropriate sound setup as below:
Standard, Music, Movie, Sports, and User (your own settings).

2 Press **EXIT** button to return to TV viewing.

■ You can also adjust **Sound Mode** in the **AUDIO** menu.



SOUND SETTING ADJUSTMENT - USER MODE

Adjust the sound to suit your taste and room situations.

1 Press the **MENU** button and then use ▲ or ▼ button to select the **AUDIO** menu.

2 Press the ► button and then use ▲ or ▼ button to select **Sound Mode**.

3 Press the ► button and then use ▲ or ▼ button to select **User**.

4 Press the ► button and then use ▲ or ▼ button to select the desired sound option (**Treble**, **Bass**, or **Front Surround**).

5 Press the ► button and then use ◀ or ▶ button to make appropriate adjustments.

Selecting the Front surround

Press the ► button and then use ◀ or ▶ button to select **Off**, **3D EchoSound System** or **SRS (Sound Retrieval System) TruSurround XT**.

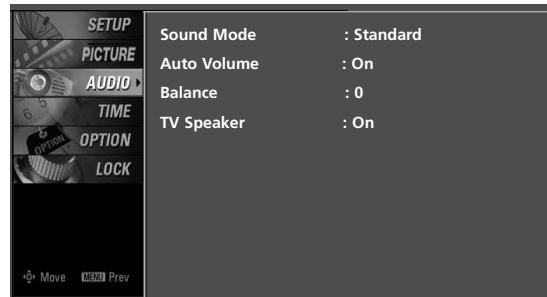
6 Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.

SRS TruSurround XT

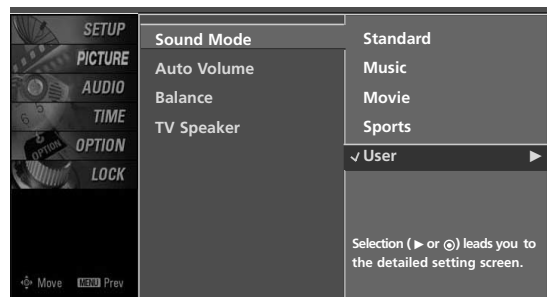
Takes advantage of any multi-channel format without needing to add extra speakers or equipment. Dialog clarity, bass enrichment, and the addition of stereo audio enhancement produces an immersive sound experience from standard stereo material.

3D EchoSound System

Creates a stunning simulated stereo effect from any mono sound and a realistic three-dimensional sound with a very wide and deep sound stage.



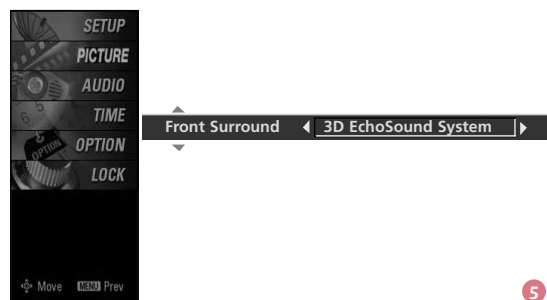
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SOUND & LANGUAGE CONTROL

BALANCE

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

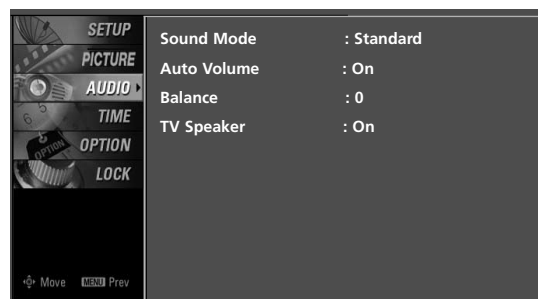


1 Press the **MENU** button and then use ▲ or ▼ button to select the **AUDIO** menu.

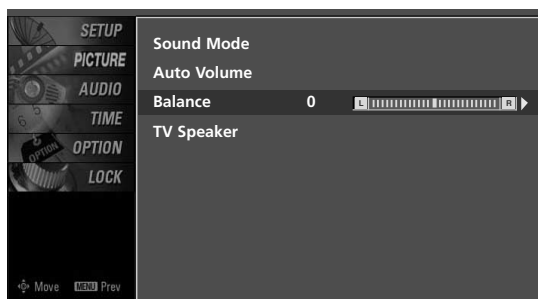
2 Press the ► button and then use ▲ or ▼ button to select **Balance**.

3 Press the ► button and then use ◀ or ▶ button to make appropriate adjustments.

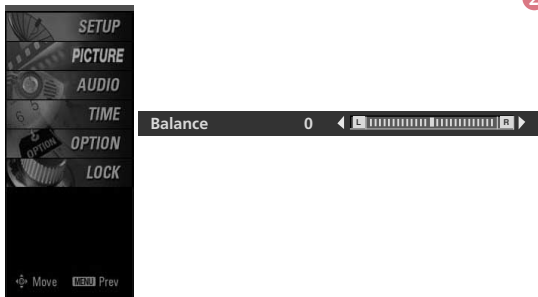
4 Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.



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3

TV SPEAKERS ON/OFF SETUP

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

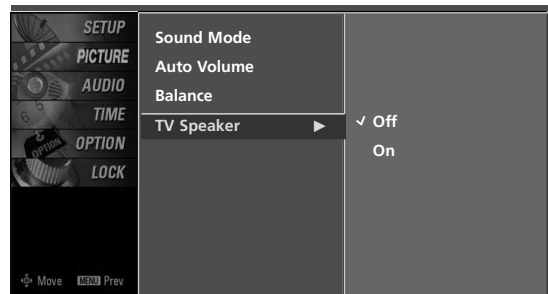
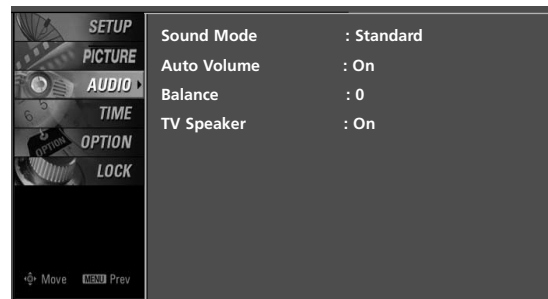


1 Press the **MENU** button and then use ▲ or ▼ button to select the **AUDIO** menu.

2 Press the ► button and then use ▲ or ▼ button to select **TV Speaker**.

3 Press the ► button and then use ▲ or ▼ button to select **On** or **Off**.

4 Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.



3

SOUND & LANGUAGE CONTROL

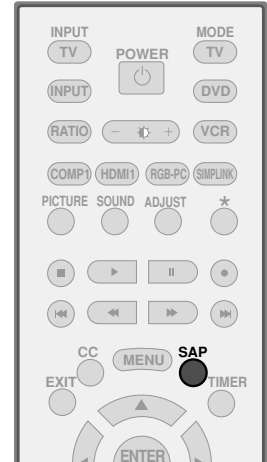
STEREO/SAP BROADCASTS SETUP

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 as well as the original one and when you select Stereo or SAP on the remote control.

Mono sound is automatically received if the broadcast is only in Mono; even though Stereo or SAP has been selected.

Select Mono if you want to listen to the mono sound in remote areas during stereo/SAP broadcasting.

Stereo or SAP can be received in Analog channel.



1 Use the **SAP** button to select your desired MTS mode in analog signal. Each time you press the **SAP** button, **Mono**, **Stereo**, or **SAP** appear in turn.

- If other languages available on the digital signal, select them with the **SAP** button.

2 Press **EXIT** button to save and 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.



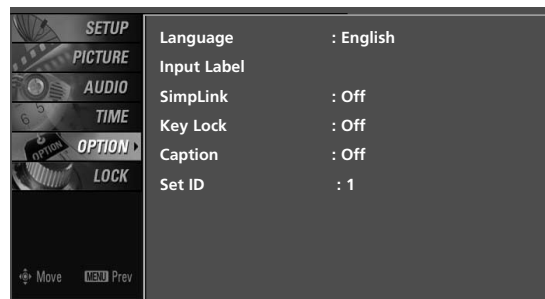
1 Press the **MENU** button and then use ▲ or ▼ button to select the **OPTION** menu.

2 Press the ► button and then use ▲ or ▼ button to select **Language**.

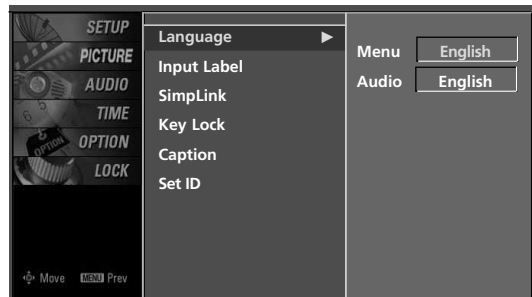
3 Press the ► button and then use ▲ or ▼ button to select **Audio**.

4 Use ◀ or ▶ button to select: **English, Spanish, or French**.

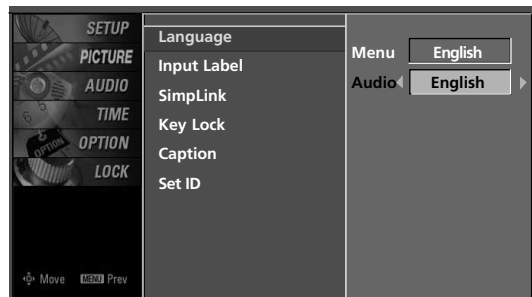
5 Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.



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4

SOUND & LANGUAGE CONTROL

ON-SCREEN MENUS LANGUAGE SELECTION

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



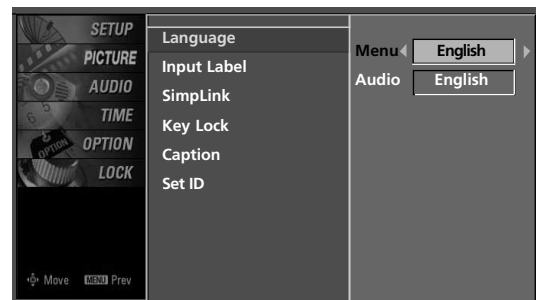
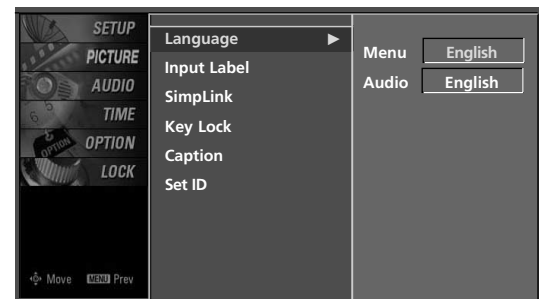
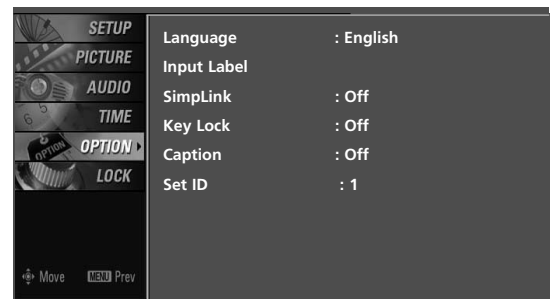
1 Press the **MENU** button and then use ▲ or ▼ button to select the **OPTION** menu.

2 Press the ► button and then use ▲ or ▼ button to select **Language**.

3 Press the ► button and then use ▲ or ▼ button to select **Menu**.

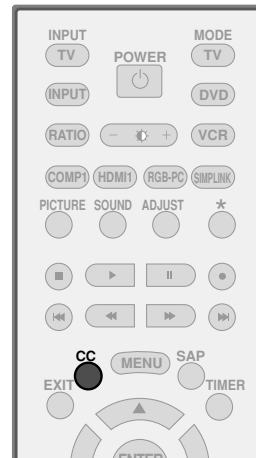
4 Use ◀ or ▶ button to select your desired language.
From this point on, the on-screen menus will be shown in the selected language.

5 Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.



CAPTION MODE

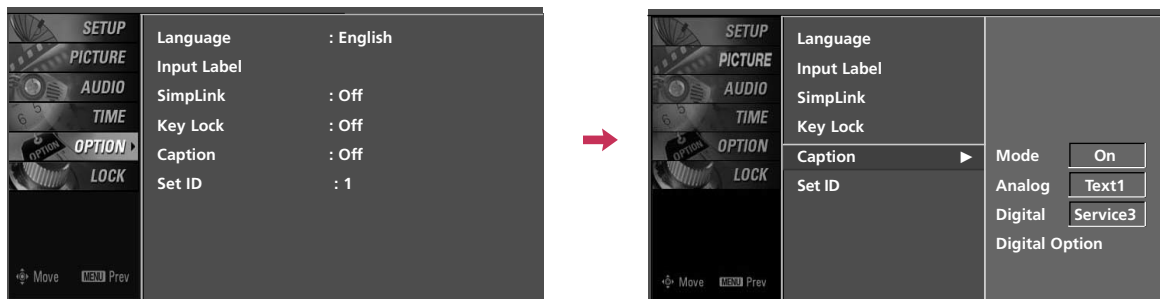
Caption must be provided to help people with hearing loss watch TV.



- 1 Use the **CC** button to select Caption **On** or **Off**.
 - When selecting **Off**, Sub-menus for Analog, DTV, and Digital Option become disabled.

- 2 Press **EXIT** to save and return to TV viewing.

- You can also adjust **Caption** in the **OPTION** menu.



SOUND & LANGUAGE CONTROL

Analog Broadcasting System Captions

Select a caption mode for displaying captioning information if provided on a program. Analog caption displays information at any position on the screen and is usually the program's dialog.

Caption/Text, if provided by the broadcaster, would be available for 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 turn the power off.

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



1 Press the **MENU** button and then use ▲ or ▼ button to select the **OPTION** menu.

2 Press the ► button and then use ▲ or ▼ button to select **Caption**.

3 Press the ► button and then use ▲ or ▼ button to select **Analog**.

4 Use ◀ or ▶ button to select **CC1**, **CC2**, **CC3**, **CC4**, **Text1**, **Text2**, **Text3** or **Text4**

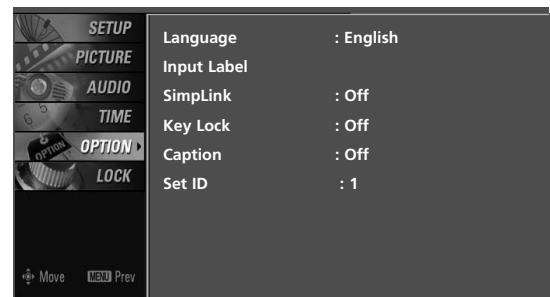
■ CAPTION

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.

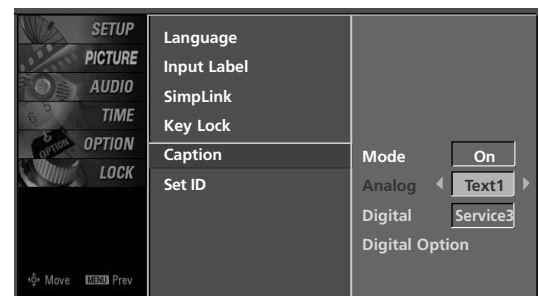
■ TEXT

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

5 Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.



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Digital Broadcasting System Captions

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

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

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



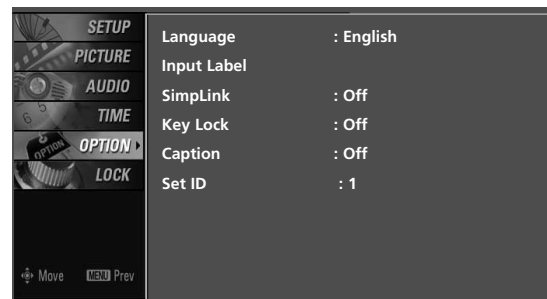
1 Press the **MENU** button and then use **▲** or **▼** button to select the **OPTION** menu.

2 Press the **▶** button and then use **▲** or **▼** button to select **Caption**.

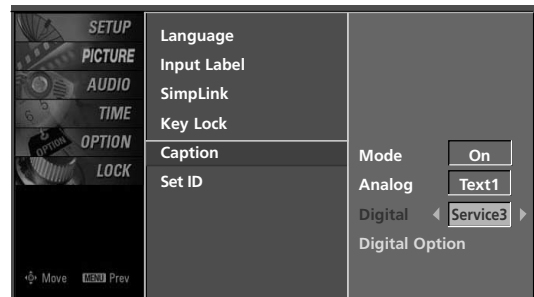
3 Press the **▶** button and then use **▲** or **▼** button to select **Digital**.

4 Use **◀** or **▶** button to select **Service1 ~ Service6**.

5 Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.



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SOUND & LANGUAGE CONTROL

Caption Option

Customize the DTV/CADTV captions that appear on your screen.

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

1 Press the **MENU** button and then use **▲** or **▼** button to select the **OPTION** menu.

2 Press the **▶** button and then use **▲** or **▼** button to select **Caption**.

3 Press the **▶** button and then use **▲** or **▼** button to select **Digital Option**.

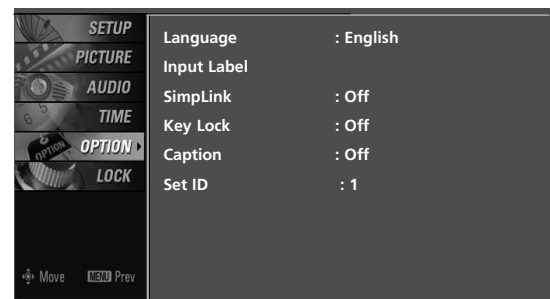
4 Press the **▶** button and then use **◀** or **▶** button to select **Custom**.

5 Use **▲** or **▼** button to customize the **Style, Font, etc.**, to your preference.

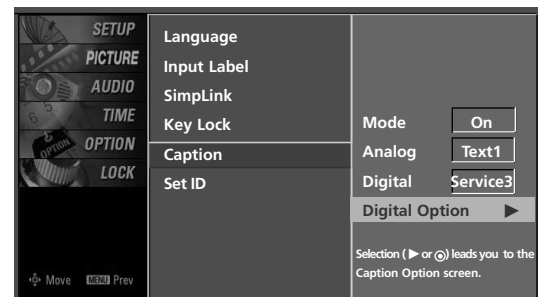
A preview icon is provided at the bottom of the screen, use it to see the caption language.

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

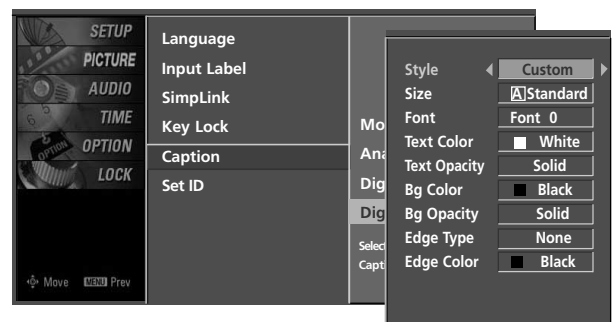
6 Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.



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4 5

TIME SETTING

CLOCK SETTING

Auto Clock Setup

The time is set automatically from a digital channel signal. The digital channel signal includes information for the current time provided by the broadcasting station. Set the clock manually if the current time is set incorrectly by the auto clock function.



1 Press the **MENU** button and then use ▲ or ▼ button to select the **TIME** menu.

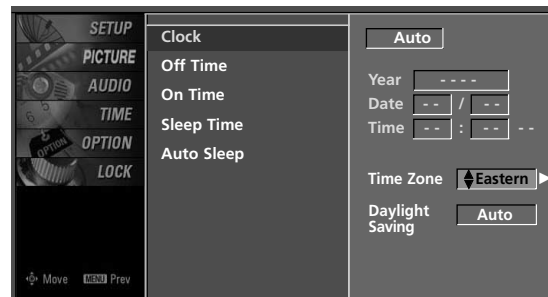
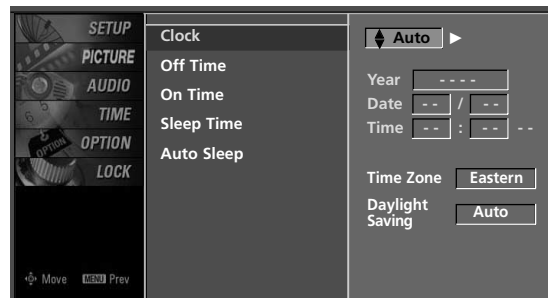
2 Press the ► button and then use ▲ or ▼ button to select **Clock**.

3 Press the ► button and then use ▲ or ▼ button to select **Auto**.

4 Press the ► button and then use ▲ or ▼ button to 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 Press the ► button and then use ▲ or ▼ button to select **Auto, Off, On**, depending on whether or not your viewing area observes Daylight Saving time.

6 Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.



Manual Clock Setup

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



1 Press the **MENU** button and then use ▲ or ▼ button to select the **TIME** menu.

2 Press the ► button and then use ▲ or ▼ button to select **Clock**.

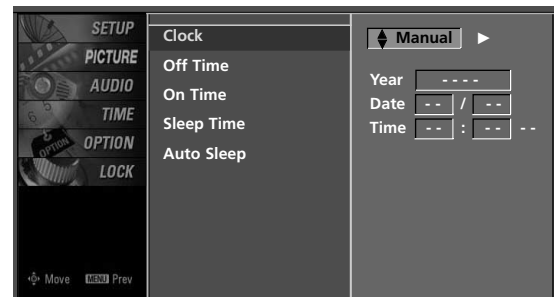
3 Press the ► button and then use ▲ or ▼ button to select **Manual**.

4 Press the ► button and then use ◀ or ▶ button to select either the year, date, or time option. Once selected, use the ▲ or ▼ button to set the year, date, and time options.

5 Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.



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AUTO ON/OFF TIMER SETTING

This function operates only if the current time has been set. The **Off Time** function overrides the **On Time** function if they are both set to the same time.

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



1 Press the **MENU** button and then use ▲ or ▼ button to select the **TIME** menu.

2 Press the ► button and then use ▲ or ▼ button to select **Off Time** or **On Time**.

3 Press the ► button and then use ▲ or ▼ button to select **On**.
 ■ To cancel the **On/Off time** function, select **Off**.

4 Press the ► button and then use ▲ or ▼ button to the hour.

5 Press the ► button and then use ▲ or ▼ button to the minutes.

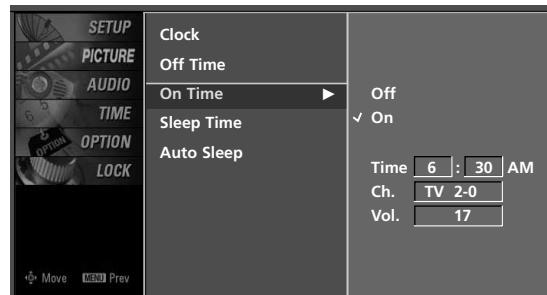
6 **Only On Time**
 Press the ► button and then use ▲ or ▼ button to select the channel at turn-on.

Press the ► button and then use ▲ or ▼ button to the sound level at turn-on.

7 Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.



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TIME SETTING

SLEEP TIME SETTING

The Sleep Time turns the TV off at the preset time.

Note that this setting is cleared when the TV is turned off.



1 Press the **TIMER** button repeatedly to select the number of minutes. First the **Off** option appears on the screen, followed by the following sleep time options: 10, 20, 30, 60, 90, 120, 180, and 240 minutes.

2 When the number of minutes you want is displayed on the screen, press the **ENTER** button. The timer begins to count down from the number of minutes selected.

3 To check the remaining minutes before the TV turns off, press the **TIMER** button once.

4 To cancel the Sleep Time, press the **TIMER** button repeatedly to select **Off**.

■ You can also set up the **Sleep Time** in the **TIME** menu.



AUTO SHUT-OFF SETTING

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



1 Press the **MENU** button and then use ▲ or ▼ button to select the **TIME** menu.

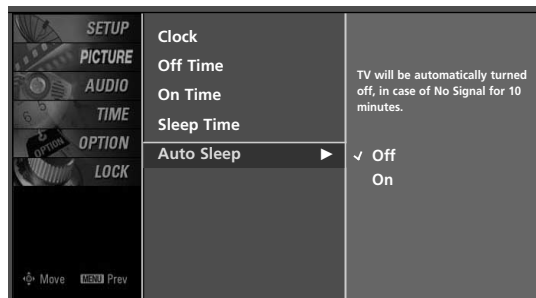
2 Press the ► button and then use ▲ or ▼ button to select **Auto Sleep**.

3 Press the ► button and then use ▲ or ▼ button to select **On** or **Off**.

4 Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.



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PARENTAL CONTROL / RATINGS

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

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

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

V-Chip rating and categories

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

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

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

SET PASSWORD & LOCK SYSTEM

Setting up Your Password

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

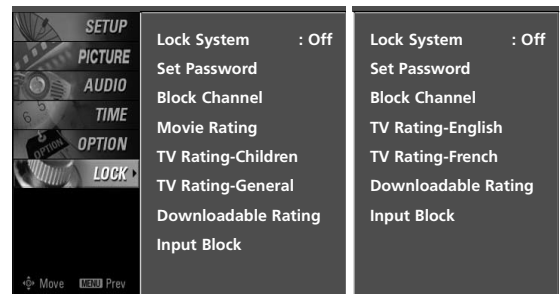
A password is required to gain access to this menu.

1 Press the **MENU** button and then use the **▲** or **▼** button to select the **LOCK** menu. Then, press the **▶** button.

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

For USA

For Canada



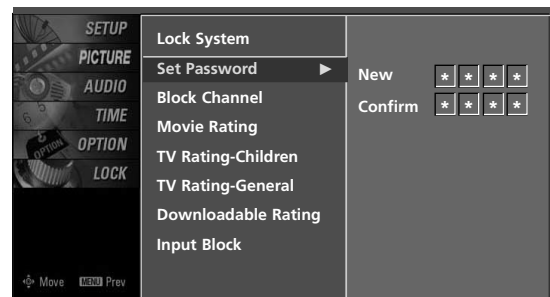
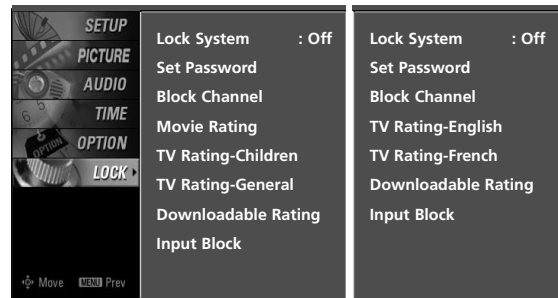
Set Password

Change the password by inputting a new password twice.

- 1 After inputting the password, use the ▲ or ▼ button to choose **Set password**.
- 2 Press the ► button and then 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**.
Then your changed password has been memorized.
- 3 Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.

For USA

For Canada



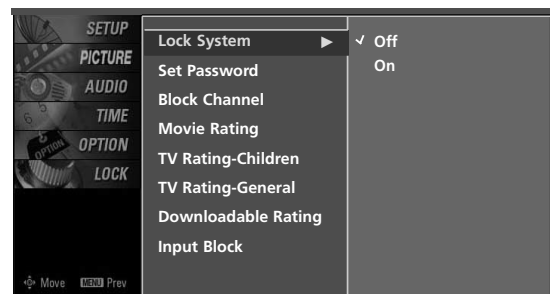
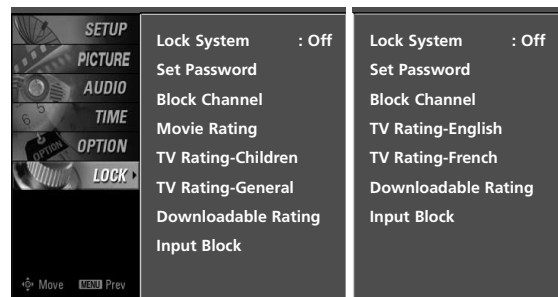
Lock System

Enables or disables the blocking scheme you set up previously.

- 1 After inputting the password, use the ▲ or ▼ button to choose **Lock System**.
- 2 Press the ► button and then use the ▲ or ▼ button to select **On** or **Off**.
 - When you select **On**, the Lock System is enable.
- 3 Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.

For USA

For Canada

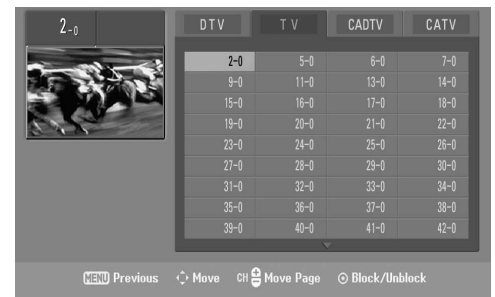
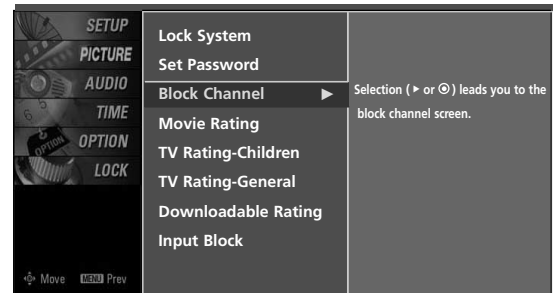


PARENTAL CONTROL /RATINGS

CHANNEL BLOCKING

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

- 1 After inputting the password, use the ▲ or ▼ button to choose **Block Channel**.
- 2 Press the ► button. You will now see a screen filled with channel numbers and a preview picture.
- 3 Use ▲ ▼ ◀ ▶ button to select a channel and then use the **ENTER** button to block or unblock it.
- 4 Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.



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- 3

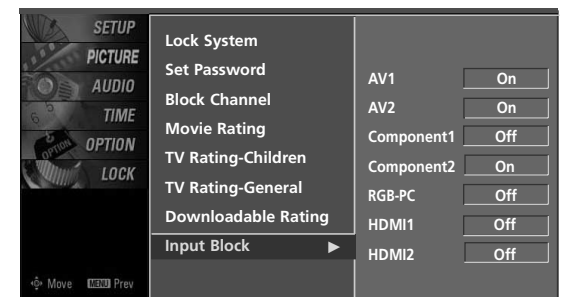
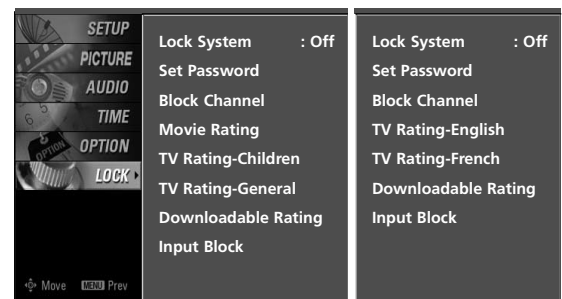
EXTERNAL INPUT BLOCKING

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

- 1 After inputting the password, use the ▲ or ▼ button to choose **Input Block**.
- 2 Press the ► button and then use the ▲ or ▼ button to select a source.
- 3 Use the ◀ or ▶ button to select **On** or **Off** on the each source.
- 4 Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.

For USA

For Canada



- 1
- 2
- 3

MOVIE & TV RATING

Movie Rating (MPAA) - for USA only

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

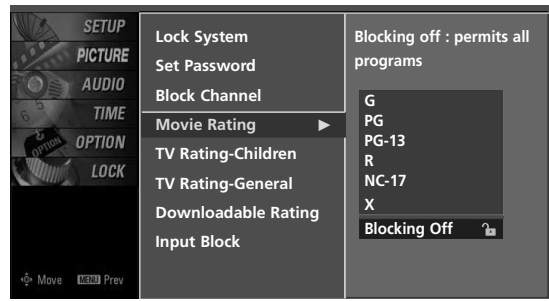
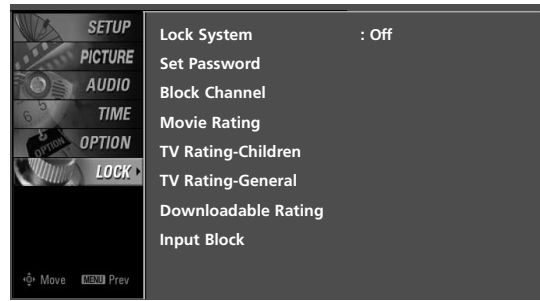
1 After inputting the password, use the ▲ or ▼ button to choose **Movie Rating**.

2 Press the ► button and then use the ▲ or ▼ button to select **G, PG, PG-13, R, NC-17** or **X**.

- 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.

3 Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.



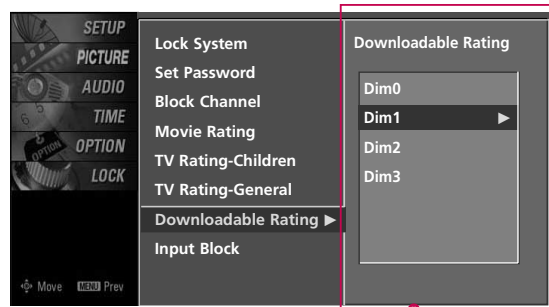
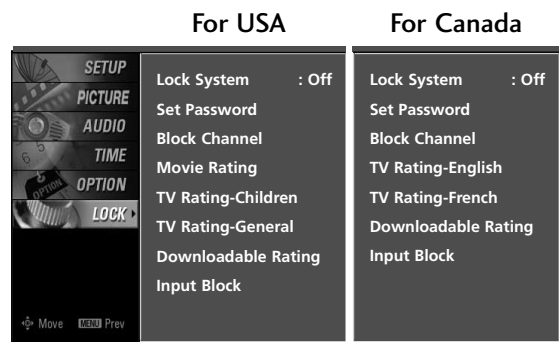
Downloadable Rating

1 After inputting the password, use the ▲ or ▼ button to choose **Downloadable Rating**.

2 Press the ► button and then use the ▲ or ▼ button to select **Dim0, Dim1, Dim2,** or **Dim3**.

3 Press the ► button and then use the ▲ or ▼ button to select **D1L1, D1L2,** or **D1L3**.

4 Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.



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

! NOTE

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

PARENTAL CONTROL /RATINGS

TV Rating Children - for USA only

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

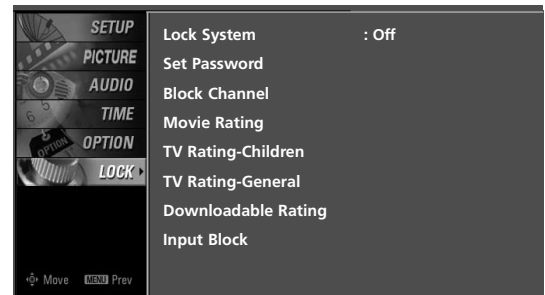
1 After inputting the password, use the ▲ or ▼ button to choose **TV Rating-Children**.

2 Press the ► button and then use the ▲ or ▼ button to select **Age**, or **Fantasy Violence**.

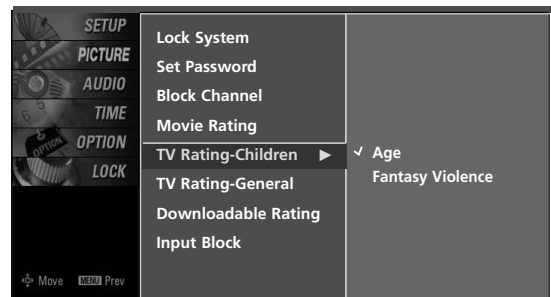
Press the ► button and then use the ▲ or ▼ button to select block options.

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

3 Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.



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TV Rating General - for USA only

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

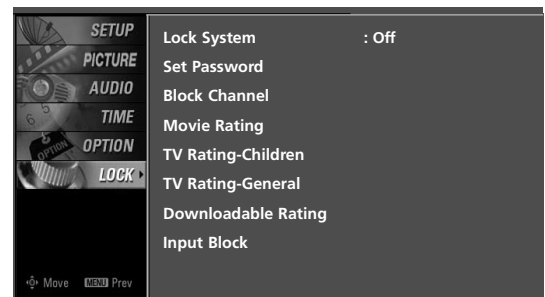
1 After inputting the password, use the ▲ or ▼ button to choose **TV Rating-General**.

2 Press the ► button and then use the ▲ or ▼ button to select **Age**, **Dialogue**, **Language**, **Sex** or **Violence**.

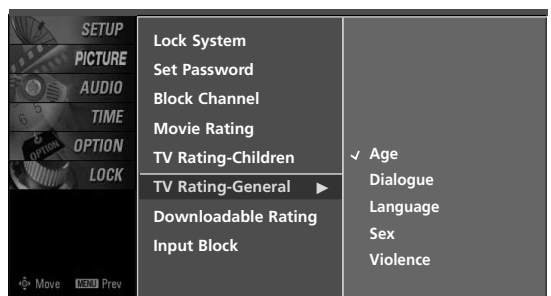
Press the ► button and then use the ▲ or ▼ button to select block options.

- 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)

3 Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.



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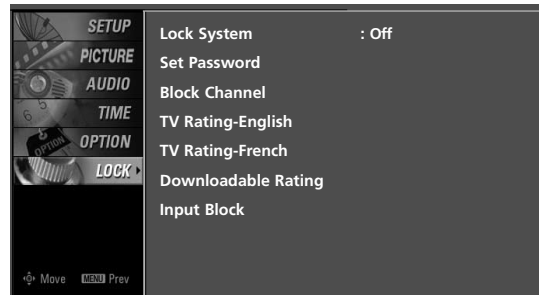
2

TV Rating English - for CANADA only

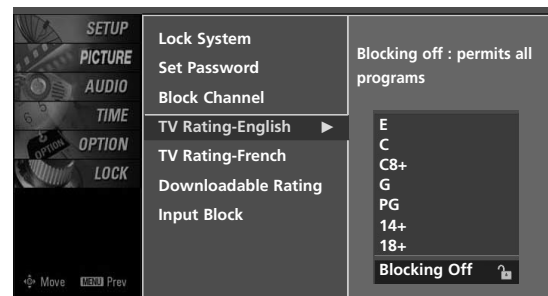
Selecting canadian english language rating system.

- 1 After inputting the password, use the ▲ or ▼ button to choose **TV Rating-English**.
- 2 Press the ► button and then use the ▲ or ▼ button to select **E, C, C8+, G, PG, 14+, 18+, or Blocking Off**.
 - 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)

- 3 Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.



1



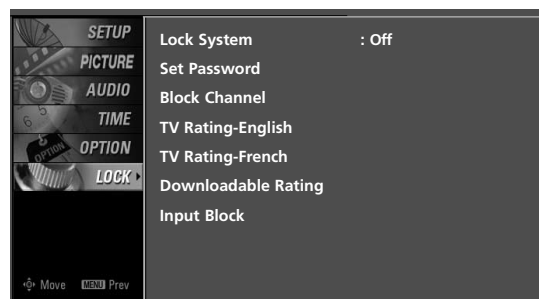
2

TV Rating French - for CANADA only

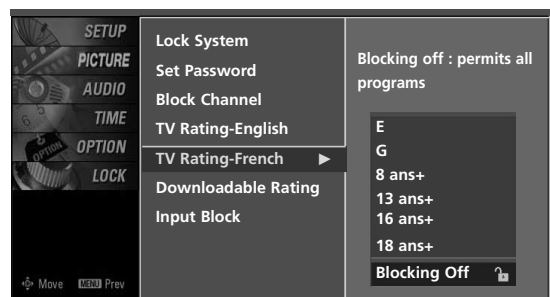
Selecting canadian french language rating system.

- 1 After inputting the password, use the ▲ or ▼ button to choose **TV Rating-French**.
- 2 Press the ► button and then use the ▲ or ▼ button to select **E, G, 8ans+, 13ans+, 16ans+, 18ans+, or Blocking off**.
 - 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)

- 3 Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.



1



2

APPENDIX

TROUBLESHOOTING

The operation does not work normally.	
The remote control doesn't work	<ul style="list-style-type: none">■ Check to see if there is any object between the product and the remote control causing obstruction. Ensure you are pointing the remote control directly at the TV.■ Ensure that the batteries are installed with correct polarity (+ to +, - to -).■ Ensure that the correct remote operating mode is set: TV, VCR etc.■ Install new batteries.
Power is suddenly turned off	<ul style="list-style-type: none">■ Is the sleep timer set?■ Check the power control settings. Power interrupted.■ No broadcast on station tuned with Auto off activated.

The video function does not work.	
No picture & No sound	<ul style="list-style-type: none">■ Check whether the product is turned on.■ Try another channel. The problem may be with the broadcast.■ Is the power cord inserted into wall power outlet?■ Check your antenna direction and/or location.■ Test the wall power outlet, plug another product's power cord into the outlet where the product's power cord was plugged in.
Picture appears slowly after switching on	<ul style="list-style-type: none">■ This is normal, the image is muted during the product startup process. Please contact your service center, if the picture has not appeared after five minutes.
No or poor color or poor picture	<ul style="list-style-type: none">■ Adjust Color in menu option.■ Keep a sufficient distance between the product and the VCR.■ Try another channel. The problem may be with the broadcast.■ Are the video cables installed properly?■ Activate any function to restore the brightness of the picture.
Horizontal/vertical bars or picture shaking	<ul style="list-style-type: none">■ Check for local interference such as an electrical appliance or power tool.
Poor reception on some channels	<ul style="list-style-type: none">■ Station or cable product experiencing problems, tune to another station.■ Station signal is weak, reorient antenna to receive weaker station.■ Check for sources of possible interference.
Lines or streaks in pictures	<ul style="list-style-type: none">■ Check antenna (Change the direction of the antenna).

The audio function does not work.

Picture OK & No sound	<ul style="list-style-type: none">■ Press the VOL or VOLUME button.■ Sound muted? Press MUTE button.■ Try another channel. The problem may be with the broadcast.■ Are the audio cables installed properly?
No output from one of the speakers	<ul style="list-style-type: none">■ Adjust Balance in menu option.
Unusual sound from inside the product	<ul style="list-style-type: none">■ A change in ambient humidity or temperature may result in an unusual noise when the product is turned on or off and does not indicate a fault with the product.

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

The signal is out of range	<ul style="list-style-type: none">■ Adjust resolution, horizontal frequency, or vertical frequency.■ Check the input source.
Vertical bar or stripe on background & Horizontal Noise & Incorrect position	<ul style="list-style-type: none">■ Work the Auto configure or adjust clock, phase, or H/V position. (Option)
Screen color is unstable or single color	<ul style="list-style-type: none">■ Check the signal cable.■ Reinstall the PC video card.

APPENDIX

MAINTENANCE

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

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

Cleaning the Screen

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

Cleaning the Cabinet

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

Extended Absence

CAUTION

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

PRODUCT SPECIFICATIONS

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

MODELS		26LC7D (26LC7D-UK) 26LC7DC (26LC7DC-UK)	32LC4D (32LC4D-UJ)	42LC4D (42LC4D-UJ)
Dimensions (Width x Height x Depth)	Including stand	26.6 x 20.9x 8.7 inches 676.5 x 531.0 x 221.0mm	31.8 x 23.8x 9.8 inches 806.8 x 605.6 x 249.0mm	40.7 x 29.5 x 11.3 inches 1032.7 x 750.0 x 287.6 mm
	Excluding stand	26.6 x 18.8 x 3.3 inches 676.5 x 478.7 x 84.0 mm	31.8 x 21.6 x 3.1 inches 806.8 x 548.6 x 79.0 mm	40.7 x 27.0x 3.5 inches 1032.7 x 685.5 x 88.5 mm
Weight	including stand	22.9 pounds / 10.4 kg	30.4 pounds / 13.8kg	54.0 pounds / 24.5 kg
	excluding stand	19.8 pounds / 9.0 kg	24.9 pounds / 11.3 kg	44.1 pounds / 20.0 kg
Power requirement	AC100-240V ~ 50/60Hz			
Television System	NTSC-M, ATSC, 64 & 256 QAM			
Program Coverage	VHF 2-13, UHF 14-69, CATV 1-135, DTV 2-69, CADTV 1-135			
External Antenna Impedance	75 ohm			
Environment condition	Operating Temperature	32 ~ 104°F (0 ~ 40°C)		
	Operating Humidity	Less than 80%		
	Storage Temperature	-4 ~ 140°F (-20 ~ 60°C)		
	Storage Humidity	Less than 85%		

PROGRAMMING THE REMOTE CONTROL

The provided universal remote control can be programmed to operate most remote-controllable devices. Note that the remote may not control all models of other brands.

Programming a code into a remote mode

- 1** To find out whether your remote control can operate each device without programming, turn on the device (such as a VCR) and press the corresponding mode button on the remote. After that, press the **POWER** button. If the device is turned off and it responds properly the remote control need not be programmed. If not, the remote should be programmed to operate the device. The programming procedures are explained below.
- 2** Press the **MENU** and **MUTE** button continuously at the same time for two seconds; the currently selected device button is illuminated. If you don't press any button for 20 seconds, the light on the mode button will be turned off. In that case, you have to repeat from step 2.
- 3** Enter the appropriate code from the code table on the following pages. When pressing the button, the light blinks at a time. If the device turned off, the programming is successful.
- 4** Press the **MENU** button to store the code. After blinking twice, this code is stored.
- 5** Test the remote control functions to see if the device responds properly. If not, steps 2-5.

Remote Control Code

VCR

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

APPENDIX

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

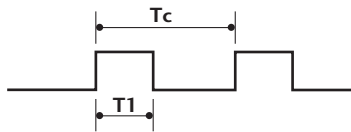
1. How to Connect

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

2. Remote Control IR Codes

Output waveform

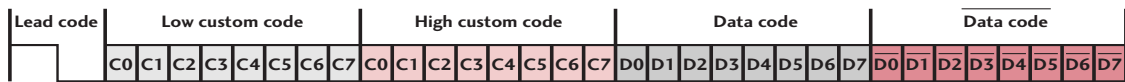
Single pulse, modulated with 37.917KHz signal at 455KHz



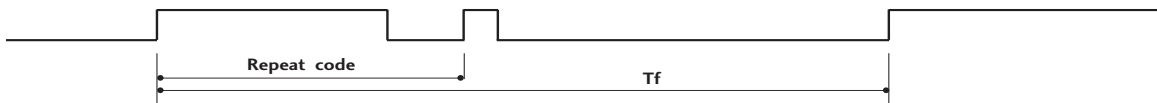
Carrier frequency
 $FCAR = 1/T_c = f_{OSC}/12$
 Duty ratio = $T_1/T_c = 1/3$

Configuration of frame

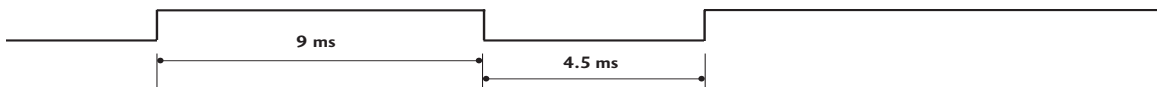
1st frame



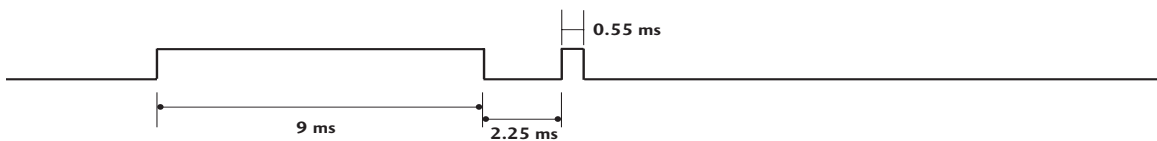
Repeat frame



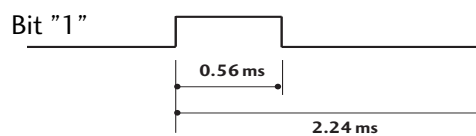
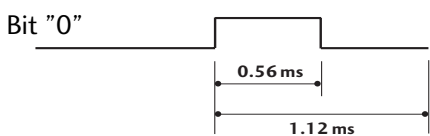
Lead code



Repeat code

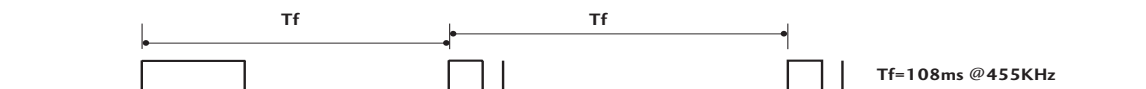


Bit description



Frame interval: T_f

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



APPENDIX

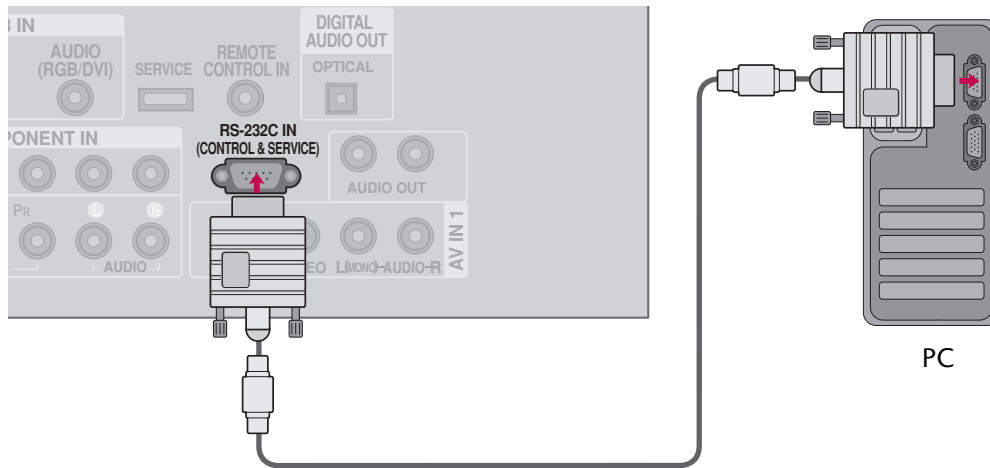
Code (Hexa)	Function	Note	Code (Hexa)	Function	Note
0F	TV INPUT	Remote control Button	BF	COMPONENT1	Discrete IR Code (Component1 Input Selection)
0B	INPUT	Remote control Button			
08	POWER	Remote control Button (Power On/Off)	D4	COMPONENT2	Discrete IR Code (Component2 Input Selection)
79	RATIO	Remote control Button			
0E	TIMER	Remote control Button	D5	RGB-PC	Discrete IR Code (RGB-PC Input Selection)
10-19	Number Key 0-9	Remote control Button			
4C	- (Dash)	Remote control Button	CE	HDMI1	Discrete IR Code (HDMI1 Input Selection)
1A	BACK	Remote control Button			
09	MUTE	Remote control Button	CC	HDMI2	Discrete IR Code (HDMI2 Input Selection)
02	VOL +	Remote control Button			
03	VOL -	Remote control Button	76	Ratio 4:3	Discrete IR Code (Only 4:3 Mode)
00	CH +	Remote control Button			
01	CH -	Remote control Button	77	Ratio 16:9	Discrete IR Code (Only 16:9 Mode)
1E	FAV	Remote control Button			
7E	SIMPLINK	Remote control Button	AF	Ratio Zoom	Discrete IR Code (Only Zoom1 Mode)
39	CC	Remote control Button			
40	▲	Remote control Button			
41	▼	Remote control Button			
07	◀	Remote control Button			
06	▶	Remote control Button			
44	ENTER	Remote control Button			
43	MENU	Remote control Button			
52	SOUND	Remote control Button			
4D	PICTURE	Remote control Button			
5B	EXIT	Remote control Button			
0A	SAP	Remote control Button			
CB	ADJUST	Remote control Button			
E1	- 🔇	Remote control Button			
E0	🔊 +	Remote control Button			
D6	TV	Discrete IR Code (TV Input Selection)			
C4	POWER ON	Discrete IR Code (Only Power On)			
C5	POWER OFF	Discrete IR Code (Only Power Off)			
5A	AV1	Discrete IR Code (AV1 Input Selection)			
D0	AV2	Discrete IR Code (AV2 Input Selection)			

EXTERNAL CONTROL THROUGH RS-232C

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

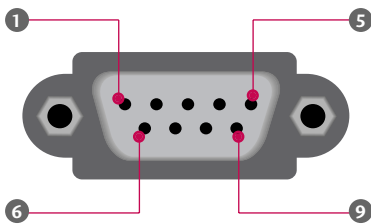
- Note: RS-232C on this unit is intended to be used with third party RS-232 control hardware and software. The instructions below are provided to help with programming software or to test functionality using telenet software.

RS-232C Setup



Type of Connector; D-Sub 9-Pin Male

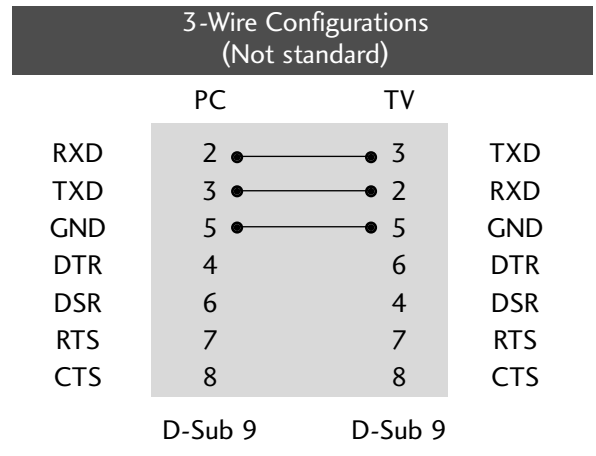
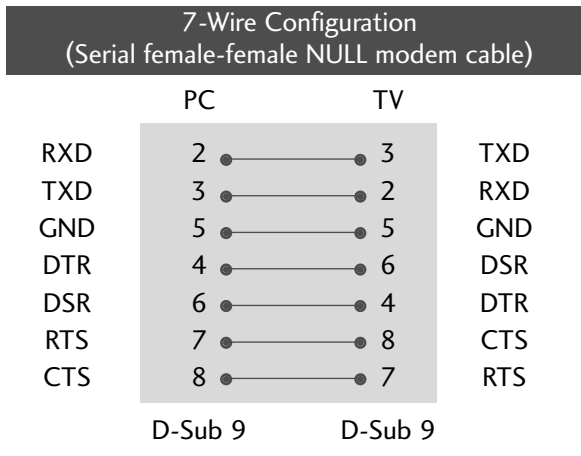
No.	Pin Name
1	No connection
2	RXD (Receive data)
3	TXD (Transmit data)
4	DTR (DTE side ready)
5	GND
6	DSR (DCE side ready)
7	RTS (Ready to send)
8	CTS (Clear to send)
9	No Connection



APPENDIX

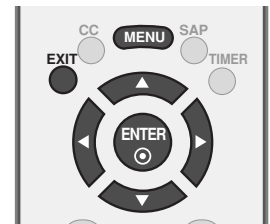
RS-232C Configurations

Either cable below can be used.

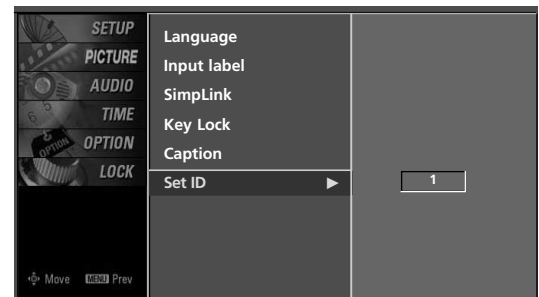
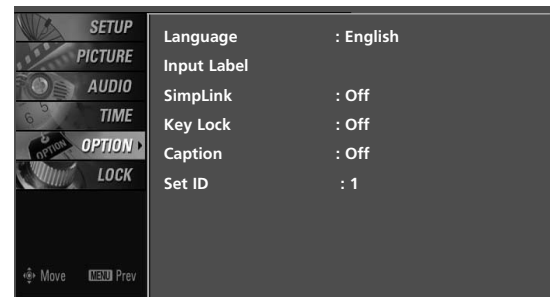


Set ID

Use this function to specify a TV ID number.
Refer to 'Real Data Mapping'. ▶ p.89.



- 1 Press the **MENU** button and then use ▲ or ▼ button to select the **OPTION** menu.
- 2 Press the ► button and then use ▲ or ▼ button to select **Set ID**.
- 3 Press the ► button and then use ▲ or ▼ button to adjust **Set ID** to choose the desired TV ID number. The adjustment range of Set ID is 1~99.
- 4 Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.



Communication Parameters

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

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

Command Reference List

	COMMAND1	COMMAND2	DATA (Hexadecimal)		COMMAND1	COMMAND2	DATA (Hexadecimal)
01. Power	k	a	0 ~ 1	15. Treble	k	r	0 ~ 64
02. Input Select	k	b	(▶ p.88)	16. Bass	k	s	0 ~ 64
03. Input Select	x	b	(▶ p.88)	17. Balance	k	t	0 ~ 64
04. Aspect Ratio	k	c	(▶ p.88)	18. Color Temperature	k	u	0 ~ 3
05. Screen Mute	k	d	0 ~ 1	19. Red Adjustment	k	v	0 ~ C8
06. Volume Mute	k	e	0 ~ 1	20. Green Adjustment	k	w	0 ~ C8
07. Volume Control	k	f	0 ~ 64	21. Blue Adjustment	k	\$	0 ~ C8
08. Contrast	k	g	0 ~ 64	23. Channel Add/Del	m	b	0 ~ 1
09. Brightness	k	h	0 ~ 64	24. Key	m	c	(▶ p.91)
10. Color	k	i	0 ~ 64	25. Back Light	m	g	0 ~ 64
11. Tint	k	j	0 ~ 64	Only for 32/42LC4D			
12. Sharpness	k	k	0 ~ 64				
13. OSD Select	k	l	0 ~ 1				
14. Remote Control Lock Mode	k	m	0 ~ 1				

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

Transmission / Receiving Protocol

Transmission

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

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

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

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

[DATA]: To transmit the command data.

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

[Cr]: Carriage Return

ASCII code '0x0D'

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

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

OK Acknowledgement

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

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

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

* Data Format

[Command 2]: Use as command.

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

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

[OK]: Use the large character.

Error Acknowledgement

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

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

Data1: Illegal Code

Data2: Not supported function

Data3: Wait more time

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

* Data Format

[Command 2]: Use as command.

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

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

[NG]: Use the large character

01. Power (Command: k a)

To control Power On/Off of the TV.

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

Data 0: Power Off Data 1: Power On

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

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

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

There might be a time delay between command and acknowledge.

02. Input Select (Command: k b) (Main Picture Input)

To select input source for the TV.

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

Data 0: DTV Data 1: Analog
 Data 2: AV1 Data 3: AV2
 Data 4: Component 1 Data 5: Component 2
 Data 7: RGB-PC Data 8: HDMI1
 Data 9: HDMI2

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

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

03. Input Select (Command: x b)

To select input source for TV.

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

Data 00: DTV (Antenna) Data 01: DTV (Cable)
 Data 10: Analog (Antenna) Data 11: Analog (Cable)
 Data 20: AV1 Data 21: AV2
 Data 40: Component 1 Data 41: Component 2
 Data 60: RGB-PC Data 90: HDMI1
 Data 91: HDMI2

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

04. Aspect Ratio (Command: k c)

To adjust the screen format.

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

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

Data 1: 4:3 5: Zoom 2
 2: 16:9 6: Set by program
 4: Zoom 1 9: Just scan
 ⋮
 Reserved

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

05. Screen Mute (Command: k d)

To select screen mute on/off.

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

Data 0: Screen mute off (Picture on)

Data 1: Screen mute on (Picture off)

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

06. Volume Mute (Command: k e)

To control volume mute on/off.

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

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

Data 0: Volume mute on (Volume off)

Data 1: Volume mute off (Volume on)

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

07. Volume Control (Command: k f)

To adjust volume.

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

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

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

*Refer to 'Real data mapping 1'. See page 89.

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

08. Contrast (Command: k g)

To adjust screen contrast.

You can also adjust contrast in the Picture menu.

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

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

*Refer to 'Real data mapping 1'. See page 89.

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

09. Brightness (Command: k h)

To adjust screen brightness.

You can also adjust brightness in the Picture menu.

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

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

*Refer to 'Real data mapping 1'. See page 89.

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

10. Color (Command: k i)

To adjust screen color.

You can also adjust color in the Picture menu.

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

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

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

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

11. Tint (Command: k j)

To adjust screen tint.

You can also adjust tint in the Picture menu.

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

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

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

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

12. Sharpness (Command: k k)

To adjust screen sharpness.

You can also adjust sharpness in the Picture menu.

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

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

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

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

13. OSD Select (Command: k l)

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

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

Data 0: OSD off Data 1: OSD on

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

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

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

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

Data 0: Lock off Data 1: Lock on

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

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

15. Treble (Command: k r)

To adjust treble.

You can also adjust treble in the Audio menu.

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

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

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

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

16. Bass (Command: k s)

To adjust bass.

You can also adjust bass in the Audio menu.

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

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

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

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

17. Balance (Command: k t)

To adjust balance.

You can also adjust balance in the Audio menu.

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

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

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

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

18. Color Temperature (Command: k u)

To adjust color temperature.

You can also adjust color temperature in the Picture menu.

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

Data 0: Medium 1: Cool 2: Warm 3: User

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

19. Red Adjustment (Command: k v)

To adjust red in color temperature

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

Data Min: 0 ~ Max: C8

*Refer to 'Real data mapping 2' as shown below.

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

20. Green Adjustment (Command: k w)

To adjust green in color temperature.

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

Data Min: 0 ~ Max: C8

*Refer to 'Real data mapping 2' as shown below.

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

*Real data mapping 1	*Real data mapping 2
0: Step 0	0: -20
⋮	5: -19
A: Step 10 (SET ID 10)	A: -18
⋮	⋮
F: Step 15 (SET ID 15)	5F: -1
⋮	64: 0
10: Step 16 (SET ID 16)	69: +1
⋮	⋮
63: Step 99 (SET ID 99)	⋮
⋮	C3: +19
64: Step 100	C8: +20

21. Blue Adjustment (Command: k \$)

To adjust blue in color temperature.

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

Data Min: 0 ~ Max: C8

*Refer to 'Real data mapping 2'. See page 89.

Acknowledgement [\$][][Set ID][][OK/NG][Data][x]

22. Channel Tuning (Command: m a)

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

Transmission [m][a][][Set ID][][Data0][][Data1]
[][Data2][][Data3][][Data4][][Data5][Cr]

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

Data 0: Physical Channel Number

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

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

Data1 & 2: Major Channel Number

Data1: High byte

Data2: Low byte

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

Data3 & 4: Minor Channel Number

Not needed for NTSC.

Data5:

7	Main/Sub Picture	6	Two/One Part Channel	5	Using Physical Channel	4	Reserved	3	2	1	0	Step
0	Main	0	Two	0	Use	x		0	0	0	0	NTSC Air
1	Sub	1	One	1	No Use	x		0	0	0	1	NTSC Cable
						x		0	0	1	0	ATSC Air
						x		0	0	1	1	ATSC Cable_std
						x		0	1	0	0	ATSC Cable_hrc
						x		0	1	0	1	ATSC Cable_irc
						x		0	1	1	0	ATSC cable_auto
						x		0	1	1	1	Reserved
						x		x	x	x	x	...
						x		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 0 = Physical of 35 = 23
 Data 1 & 2 = No Major = 00 00
 Data 3 & 4 = No Minor = 00 00
 Data 5 = 0000 0001 in binary = 01
 Total = ma 00 23 00 00 00 00 01

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

Data 0 = Don't know Physical = 00
 Data 1 & 2 = Major is 30 = 00 1E
 Data 3 & 4 = Minor is 3 = 00 03
 Data 5 = 0010 0010 in binary = 22
 Total = ma 00 00 00 1E 00 03 22

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

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

To add and delete the channels

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

Data 0: Channel Delete Data 1: Channel Add

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

24. Key (Command: m c)

To send IR remote key code.

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

Data Key code: Refer to page 84.

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

25. Back Light (Command: m g)

(Only for 32/42LC4D)

To adjust screen back light.

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

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

*Refer to 'Real data mapping 1'. See page 89.

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

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(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

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Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the library.

In addition, mere aggregation of another work not based on the library with the library (or with a work based on the library) on a volume of a storage or distribution medium does not bring the other work under the scope of this license.

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This option is useful when you wish to copy part of the code of the library into a program that is not a library.

4. You may copy and distribute the library (or a portion or derivative of it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of sections 1 and 2 above on a medium customarily used for software interchange.

If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place satisfies the requirement to distribute the source code, even though third parties are not compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a “work that uses the Library”. Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this license.

However, linking a “work that uses the library” with the Library creates an executable that is a derivative of the Library (because it contains portions of the library), rather than a “work that uses the library”. The executable is therefore covered by this license. Section 6 states terms for distribution of such executable.

When a “work that uses the library” uses material from a header file that is part of the library, the object code for the work may be a derivative work of the library even though the source code is not.

Whether this is true is especially significant if the work can be linked without the library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessories, and small macros and small inline functions (ten lines or less in length), then the use of

the object file is unrestricted, regardless of whether it is legally a derivative work. (Executable containing this object code plus portions of the library will still fall under Section 6.)

Otherwise, if the work is a derivative of the library, you may distribute the object code for the work under the terms of Section 6. Any executable containing that work also fall under Section 6, whether or not they are linked directly with the library itself.

6. As an exception to the sections above, you may also combine or link a “work that uses the library” with the library to produce a work containing portions of the library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer’s own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the library is used in it and that the Library and its use are covered by this license. You must supply a copy of this license. If the work during execution displays copyright notices, you must include the copyright notice for the library among them, as well as a reference directing the user to the copy of this license. Also, you must do one of these things:

- a) Accompany the work with the complete corresponding machine-readable source code for the library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable “work that uses the Library”, as object code and/or source code, so that the user can modify the library and then relink to produce a modified executable containing the modified library. (It is understood that the user who changes the contents of definitions files in the library will not necessarily be able to recompile the application to use the modified definitions.)
- b) Use a suitable shared library mechanism for linking with the library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user’s computer system, rather than copying library functions into the executable, and (2) will operate properly with a modified version of the library, if the user installs one, as long as the modified version is interface-compatible with the version that the work was made with.
- c) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6, above, for a charge no more than the cost of performing this distribution.
- d) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.
- e) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the “work that uses the library” must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the materials to be distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot use both them and the library together in an executable that you distribute.

7. You may place library facilities that are a work based on the library side-by-side in a single library together with other library facilities not covered by this license, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:
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Version 1.1

1. Definitions.

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1.1. “Contributor” means each entity that creates or contributes to the creation of modifications.

1.2. “Contributor version” means the combination of the original code, prior modifications used by a contributor, and the modifications made by that particular contributor.

1.3. “Covered code” means the original code or modifications or the combination of the original code and modifications, in each case including portions thereof.

1.4. “Electronic distribution mechanism” means a mechanism generally accepted in the software development community for the electronic transfer of data.

1.5. “Executable” means covered code in any form other than source code.

1.6. “Initial developer” means the individual or entity identified as the initial Developer in the Source Code notice required by exhibit A.

1.7. “Larger work” means a work which combines covered code or portions thereof with code not governed by the terms of this License.

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1.10. “Original code” means source code of computer software

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