LG

Life's Good

LCD TV | PLASMA TV
OWNER'S MANUAL

LCD TV MODELS	PLASMA TV MODELS
32LC7D	42PC5D
32LC7DC	42PC5DC
37LC7D	50PC5D
42LC7D	50PC5DC

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.

ENERGY STAR

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

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

SIMPLINK 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.

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

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

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

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

1

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:
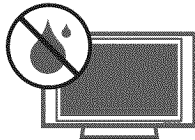
Read these instructions.
Keep these instructions.
Heed all warnings.
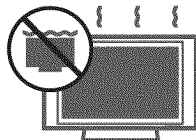**Follow all instructions.**
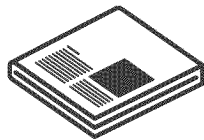
**1** Do not use this apparatus near water.

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.
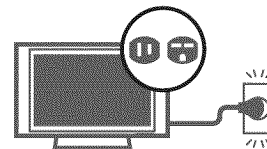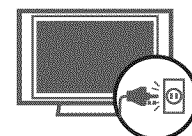
6 Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
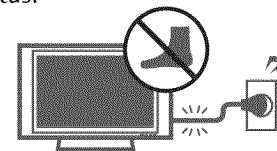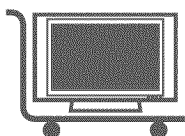
7 Only use attachments/accessories specified by the manufacturer.
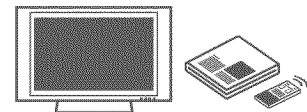
8 Unplug this apparatus when unused for long periods of time.

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.


10 Never touch this apparatus or antenna during a thunder or lighting 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.
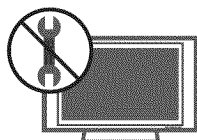

13 CAUTION concerning the Power Cord :
Most appliances recommend they be placed upon a dedicated circuit; that is, a single outlet circuit which powers only that appliance and has no additional outlets or branch circuits. Check the specification page of this owner's manual to be certain.
Do not overload 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.
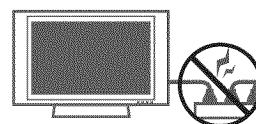
14 Outdoor use marking :
WARNING - To reduce the risk of fire or electric shock, do not expose this appliance to rain or moisture.
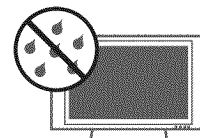

15 Wet Location Marking : Apparatus shall not be exposed to dripping or splashing and no objects filled with liquids, such as vases, shall be placed on or over apparatus.
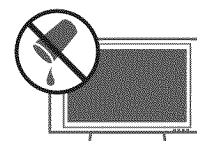
16 GROUNDING
Ensure that you connect the earth ground wire to prevent possible electric shock. If grounding methods are not possible, have a qualified electrician install a separate circuit breaker.
Do not try to ground the unit by connecting it to telephone wires, lightening rods, or gas pipes.

Power Supply

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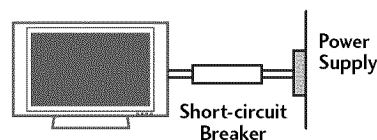
17 DISCONNECTING DEVICE FROM MAINS
Mains plug is the disconnecting device. The plug must remain readily operable.

CONTENTS

TIME SETTING

PARENTAL CONTROL / RATINGS

APPENDIX

INTRODUCTION

FEATURE OF THIS TV

What is a Plasma TV?

Using plasma is the best way to achieve flat panel displays with excellent image quality and large screen sizes that are easily viewable. The Plasma TV can be thought of as a descendant of the neon lamp and or a series of fluorescent lamps.

How does it work?

Plasma TV is an array of cells, known as pixels, which are comprised of three sub-pixels, corresponding to the colors red, green, and blue. Gas in a plasma state is used to react with phosphors in each sub-pixel to produce colored light (red, green, or blue). These phosphors are the same types used in Cathode Ray Tube (CRT) devices such as televisions and common computer monitors.

Plasma TV offers a rich, dynamic display because each sub-pixel is individually controlled by advanced electronics to produce over 16 million different colors. This means that you get perfect images that are easily viewable in a display that is fewer than five inches thick.

160° - Wide angle range of vision

Your flat panel plasma screen offers an exceptionally broad viewing angle of over 160 degrees. This means that the display is clear and visible to viewers anywhere in the room.

Wide Screen

The wide screen offers a theater-like experience in your own home.

Versatile

The light weight and thin size makes it easy to install your plasma display in a variety of locations where conventional TVs do not fit.

The Plasma TV Manufacturing Process: a few minute colored dots may be present on the Plasma TV screen

The Plasma TV is composed of 0.9 to 2.2 million cells. A few cell defects will normally occur in the Plasma TV manufacturing process. Several tiny, minute colored dots visible on the screen should be acceptable. This also occurs in other Plasma TV manufacturers' products. The tiny dots appearing does not mean that this Plasma TV is defective. Thus a few cell defects are not sufficient cause for the Plasma TV to be exchanged or returned. Our production technology minimizes these cell defects during the manufacture and operation of this product.

Cooling Fan Noise-This feature is not available for all models. In the same way that a fan is used in a PC computer to keep the CPU (Central Processing Unit) cool, the Plasma TV is equipped with cooling fans to cool the Monitor and improve its reliability. Therefore, a certain level of noise could occur while the fans are operating and cooling the Plasma TV.

The fan noise doesn't have any negative effect on the Plasma TV's efficiency or reliability. The noise from these fans is normal during the operation of this product. We hope you understand that a certain level of noise from the cooling fans is acceptable and is not sufficient cause for the Plasma TV to be exchanged or returned.

FOR LCD TV

If the TV feels cold to the touch, there may be a small "flicker" when it is turned on. This is normal, there is nothing wrong with TV.

Some minute dot defects may be visible on the screen, appearing as tiny red, green, or blue spots. However, they have no adverse effect on the monitor's performance.

Avoid touching the LCD screen or holding your finger(s) against it for long periods of time. Doing so may produce some temporary distortion effects on the screen.

On Disposal

a. The fluorescent lamp used in this product contains a small amount of mercury.

b. Do not dispose of this product with general household waste.

c. Disposal of this product must be carried out in accordance to the regulations of your local authority.

PREPARATION

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.
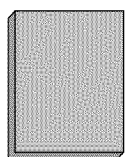
Owner's Manual	CD Manual	Remote Control, Batteries	Power Cord
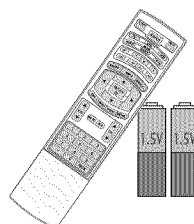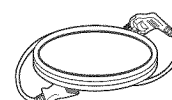
75 ohm Round Cable

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.

For Plasma TV models

This feature is not available for all models.
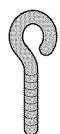
2-Eye-bolts (Refer to p.14)	2-Wall brackets (Refer to p.14)
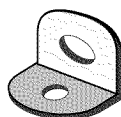
Option Extras
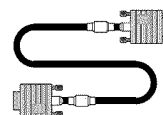
D-sub 15 pin Cable

For LCD TV models

This feature is not available for all models.

32/37 inches only

Cable Management	2- TV Bracket Bolts (Refer to p.14)	2- TV Brackets, 2- Wall Brackets (Refer to p.14)	Twist Holder Arrange the wires with the twist holder.	4-Bolts for stand assembly (Refer to p.15)

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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

Plasma TV Model
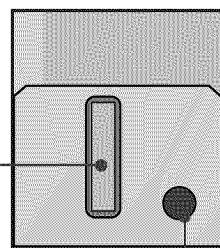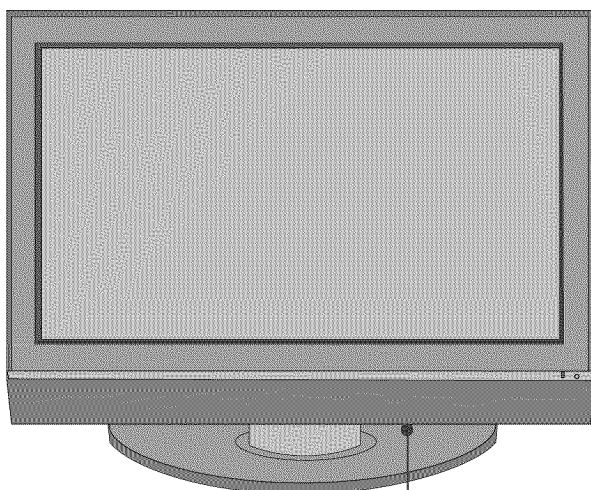
Remote Control Sensor

Power/Standby Indicator

Illuminates red in standby mode.
When the TV is turned on, the indicator
blinks green and then illuminates green
before the picture is displayed.

⏻/ I   INPUT   MENU   ENTER ◉   ◀ VOL ▶   ▼ CH ▲

| POWER | INPUT | MENU | ENTER | VOLUME | CHANNEL |
| Button | Button | Button | Button | (◀,▶)Buttons | (▼,▲)Buttons |

LCD TV Model

CHANNEL (▲,▼)Buttons

VOLUME (◄,►)Buttons

ENTER Button

MENU Button

INPUT Button

POWER Button

Remote Control Sensor
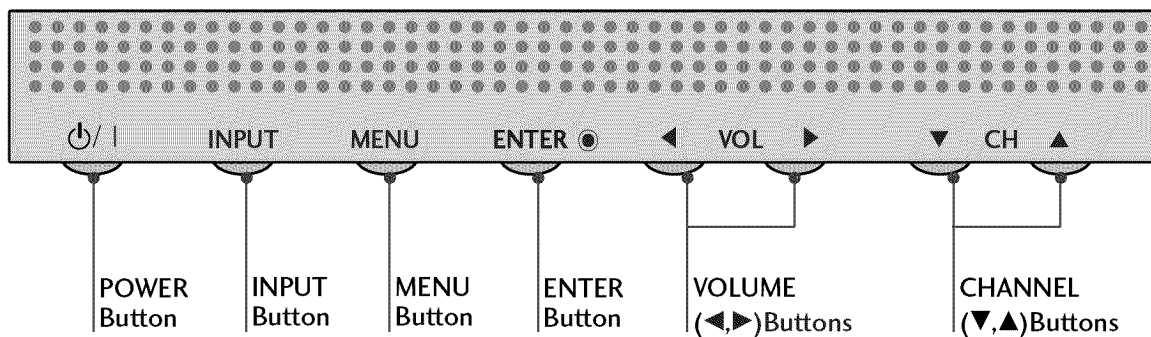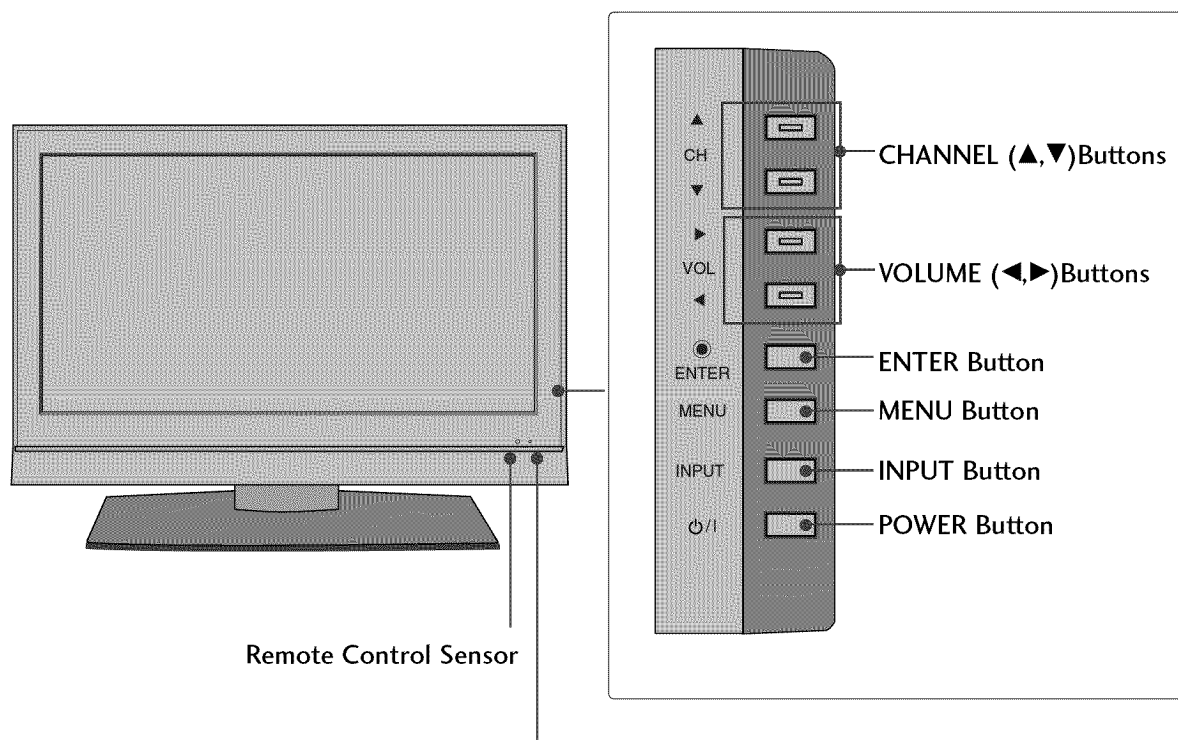
Power/Standby Indicator

Illuminates red in standby mode.
When the TV is turned on, the indicator blinks green and
then illuminates green before the picture is displayed.

PREPARATION

BACK PANEL INFORMATION

■ Here shown may be somewhat different from your TV.

Back Connection Panel
Plasma TV Model
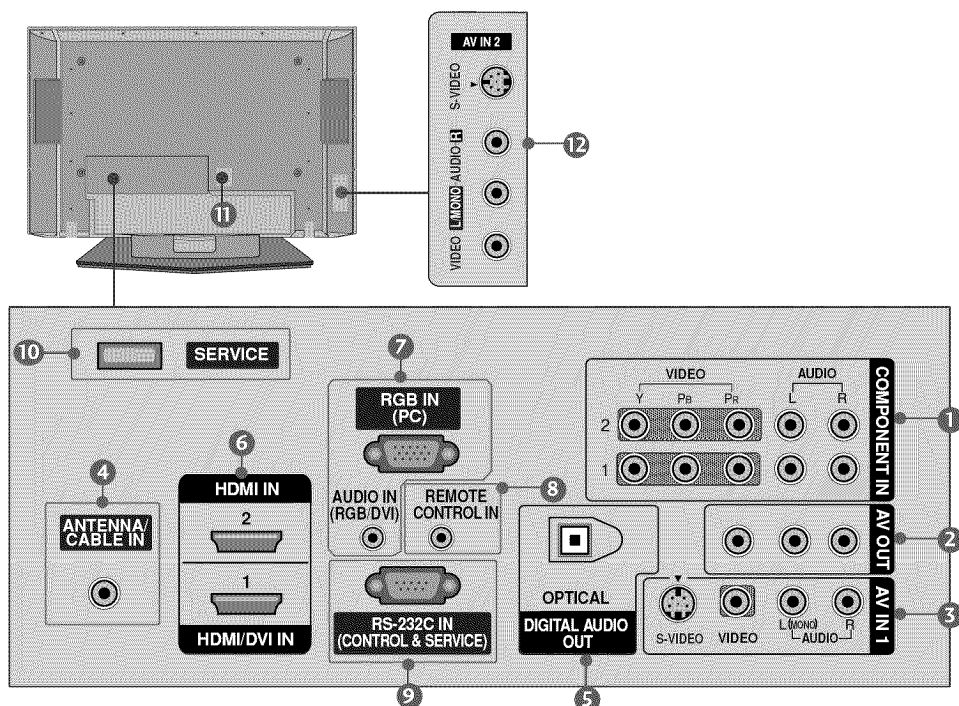
LCD TV Model
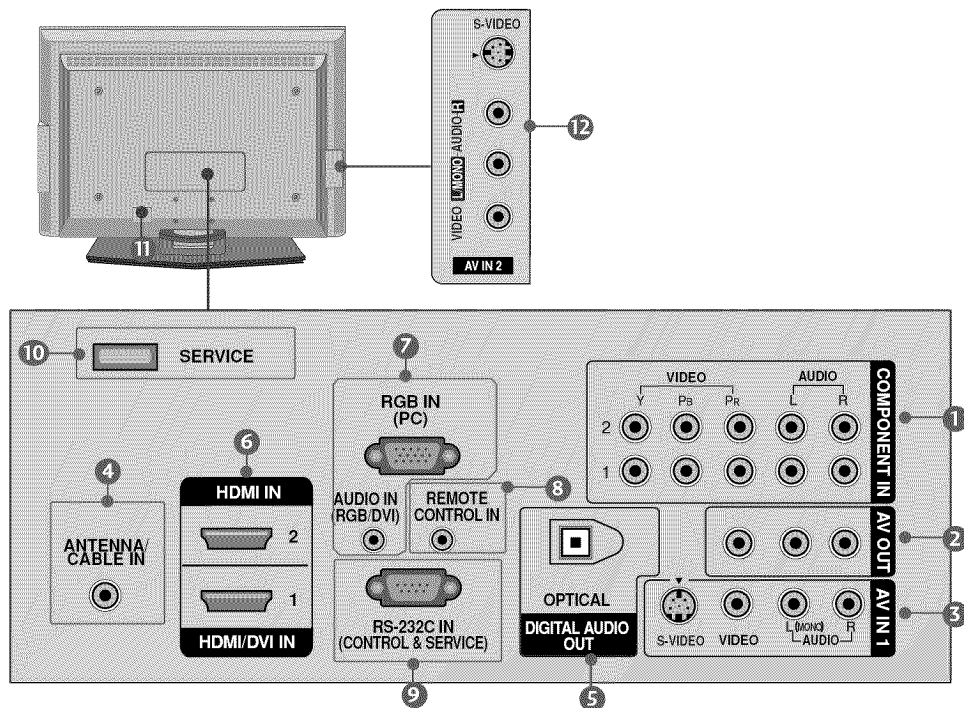
❶ COMPONENT IN

Connect a component video/audio device to these jacks.

❷ AV OUT

Connect a second TV or monitor.

❸ AV (Audio/Video) IN 1

Connect audio/video output from an external device to these jacks.
S-VIDEO
Connect S-Video out from an S-VIDEO device.

❹ ANTENNA/CABLE IN

Connect over-the air signals to this jack.
Connect cable signals to this jack.

❺ DIGITAL AUDIO OUT

Connect digital audio from various types of equipment.
Note: In standby mode, these ports do not work.

❻ HDMI/DVI IN 1, HDMI IN 2

Connect a HDMI (DVI) connection to either input.

❼ RGB IN (PC)

Connect the output from a PC.
AUDIO IN (RGB/DVI)
Connect the audio from a PC or DTV.

❽ Remote Control Port

Connect a wired remote control.

❾ RS-232C IN (CONTROL & SERVICE) PORT

For external control devices.

❿ SERVICE

⑪ Power Cord Socket

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

⑫ AV (Audio/Video) IN 2

Connect audio/video output from an external device to these jacks.
S-VIDEO
Connect S-Video out from an S-VIDEO device.

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PREPARATION

BACK COVER FOR WIRE ARRANGEMENT

▪ Here shown may be somewhat different from your TV.

Plasma TV Model

1 Hold the **CABLE MANAGEMENT** with both hands and pull it backward as shown.
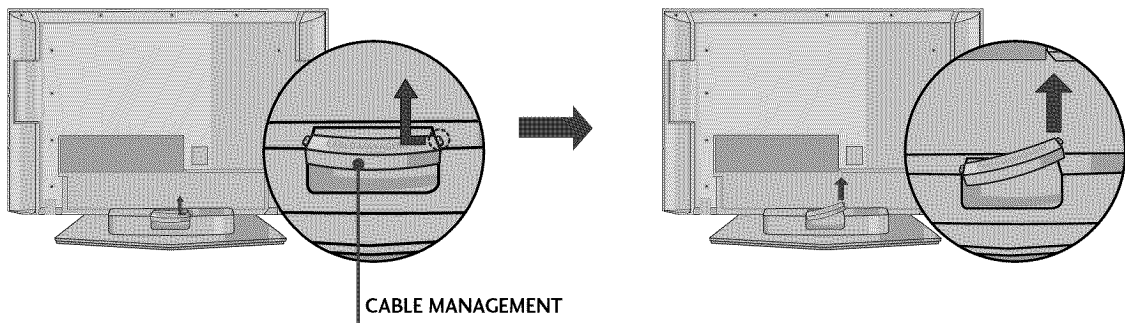
CABLE MANAGEMENT

2 Connect the cables as necessary.
To connect an additional equipment, see the **EXTERNAL EQUIPMENT SETUP** section.
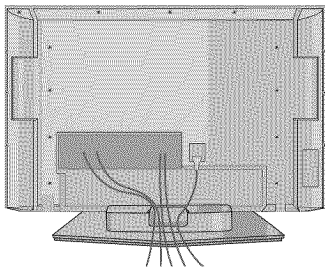
3 Install the **CABLE MANAGEMENT** as shown.
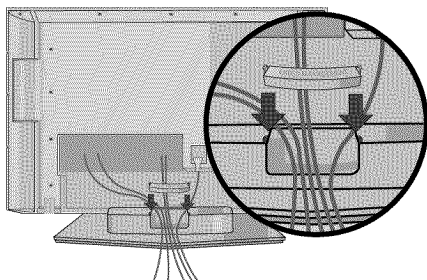
LCD TV Model

1 Connect the cables as necessary.

To connect an additional equipment, see the **EXTERNAL EQUIPMENT SETUP** section.

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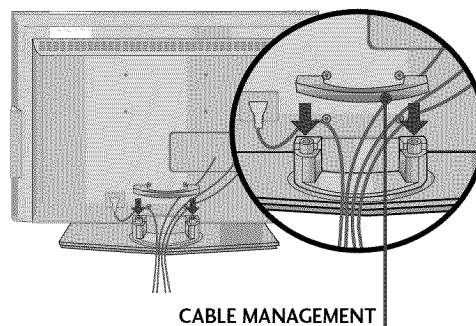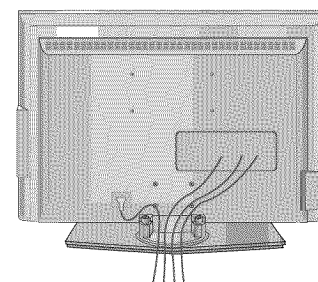
CABLE MANAGEMENT

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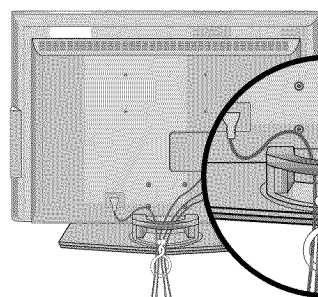
🛈 NOTE

▶ 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.

TWIST HOLDER

How to remove the CABLE MANAGEMENT

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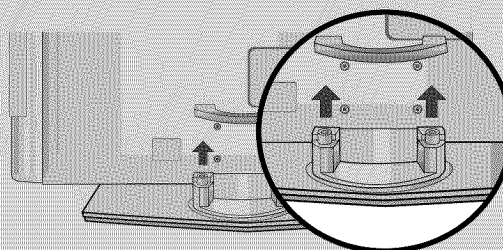
PREPARATION

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.
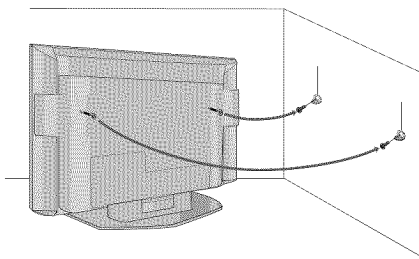
Plasma TV Model   **LCD TV Model**
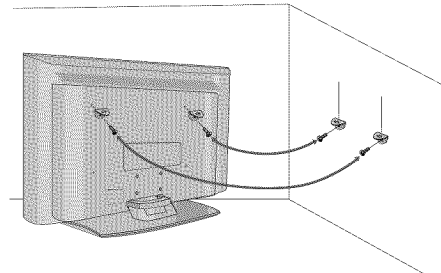
▪ Insert the eye-bolts (or TV brackets and bolts) to tighten the product to the wall as shown in the picture.
  *If your product has the bolts in the eye-bolts position before inserting the eye-bolts, loosen the bolts.
  Secure the wall brackets with the bolts (not provided as parts of the product, must purchase separately) to the wall. Match the height of the bracket that is mounted on the wall to the holes in the product.
  Ensure the eye-bolts or brackets are tightened securely.
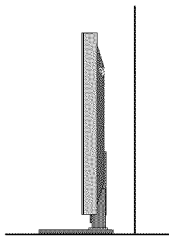
▪ Use a sturdy rope (not provided as parts of the product, must purchase separately) to tie the product. It is safer to tie the rope so it becomes horizontal between the wall and the product.

STAND INSTALLATION (Only 32/37 inches LCD TV models)

1 Carefully place the product screen side down on a cushioned surface that will protect product and screen from damage.
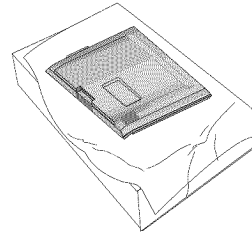
2 Assemble the product stand with the product as shown.
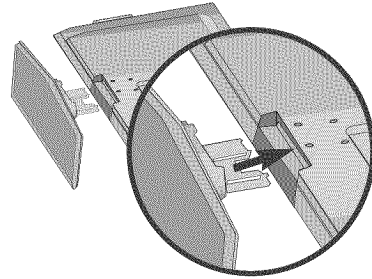
3 Securely install the 4 bolts provided.
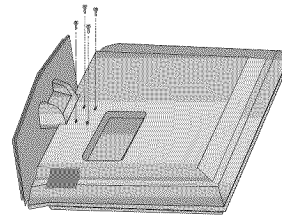
PREPARATION

VESA WALL MOUNTING

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

Plasma TV Model

600 mm

400 mm

LCD TV Model

600 mm
(32 inches only: 200 mm)

400 mm
(32 inches only: 100 mm)
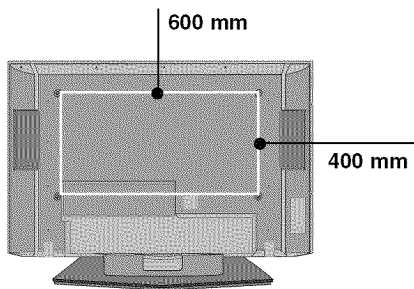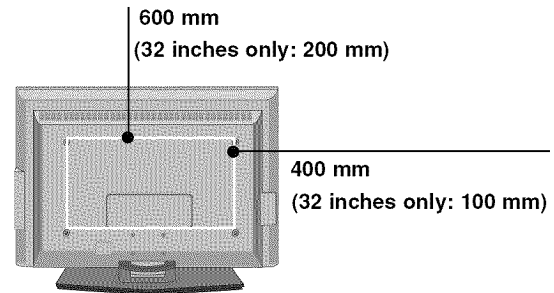
🛈 NOTE

▶ 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 4inches on all four sides from the wall.

Plasma TV Model

4 inches

4 inches   4 inches   4 inches

LCD TV Model

4 inches

4 inches   4 inches   4 inches
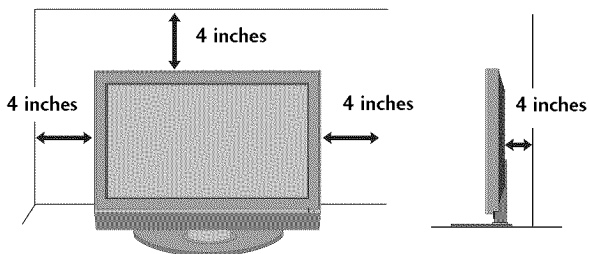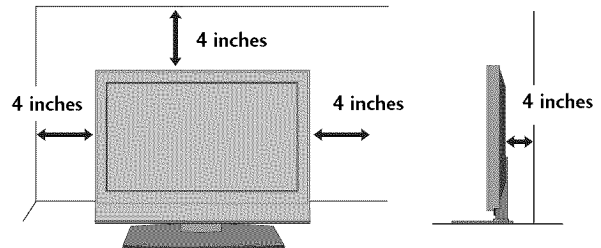
⚠ CAUTION   ▶ Ensure adequate ventilation by following the clearance recommendations.

ANTENNA OR CABLE CONNECTION

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.

Wall Antenna Socket	**Multi-family Dwellings/Apartments** **(Connect to wall antenna socket)**

**ANTENNA/
CABLE IN**

Outdoor Antenna (VHF, UHF)

RF Coaxial Wire (75 ohm)

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

Copper Wire

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

2. Cable

Cable TV Wall Jack

**ANTENNA/
CABLE IN**

RF Coaxial Wire (75 ohm)

Antenna

UHF

Signal Amplifier

**ANTENNA/
CABLE IN**

VHF

▪ 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.

❶ 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 LCD TV model.

HD RECEIVER SETUP

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

When connecting Component cable

1. How to connect

❶ 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).

❷ 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.
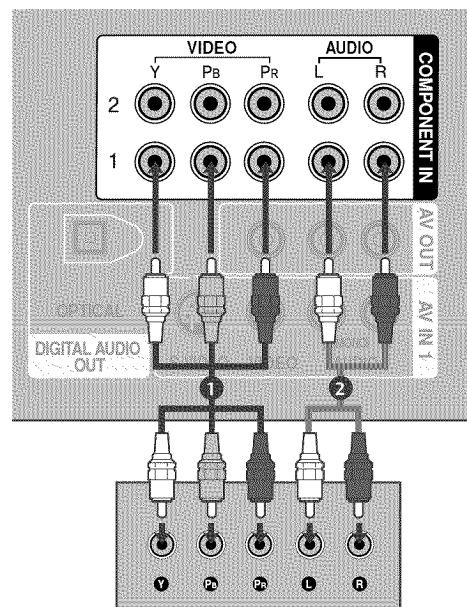
Signal	Component 1/2	HDMI1/DVI, HDMI2
480i	Yes	No
480p	Yes	Yes
720p	Yes	Yes
1080i	Yes	Yes
1080p	Yes	Yes

When connecting HDMI cable

1. How to connect

❶ Connect the digital set-top box to **HDMI/DVI IN 1** or **HDMI IN 2** jack on the set.

❷ 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/DVI** or **HDMI2** input source by using the **INPUT** button on the remote control.

🜀 NOTE

▶ When connected, the TV will tell a connected device what resolution it supports and the resolution it prefers. If the device supports this Auto HDMI function, the player output resolution will be automatically set to 720p.

▶ If the device does not support Auto HDMI, you need to set the output resolution appropriately.
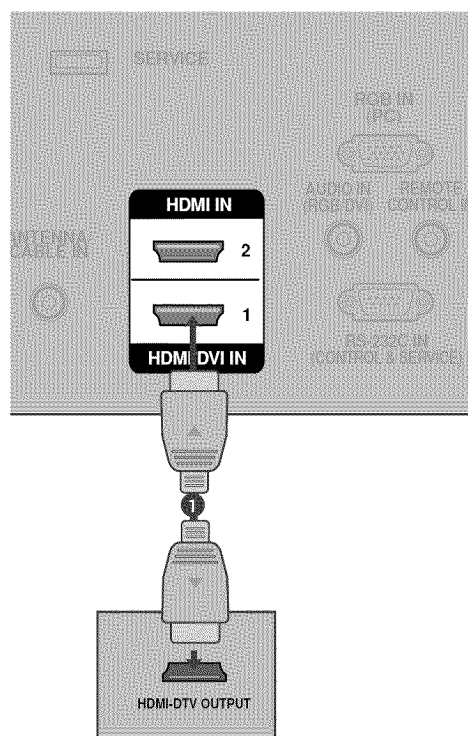
HDMI1/DVI-DTV, HDMI2-DTV mode

Resolution	Horizontal Frequency(KHz)	Vertical Frequency(Hz)
720x480	31.469	59.94
	31.500	60.00
1280x720	44.960	59.94
	45.000	60.00
1920x1080i	33.720	59.94
	33.750	60.00
1920x1080p	27.000	24.00
	33.750	30.00

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When connecting HDMI to DVI cable
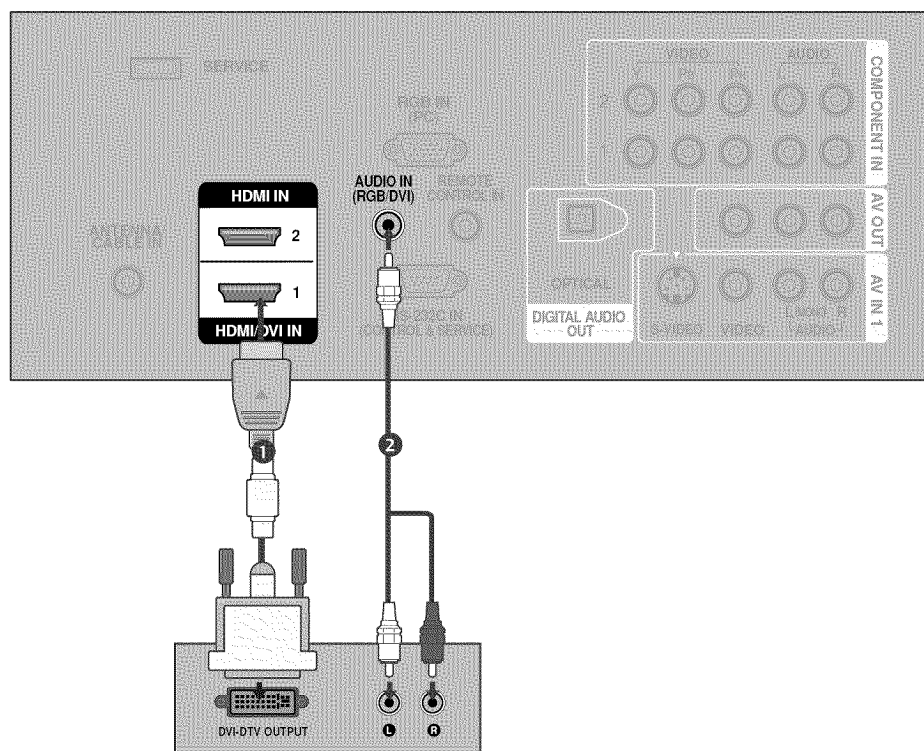
1. How to connect

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 IN (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/DVI** input source by using the **INPUT** button on the remote control.

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.
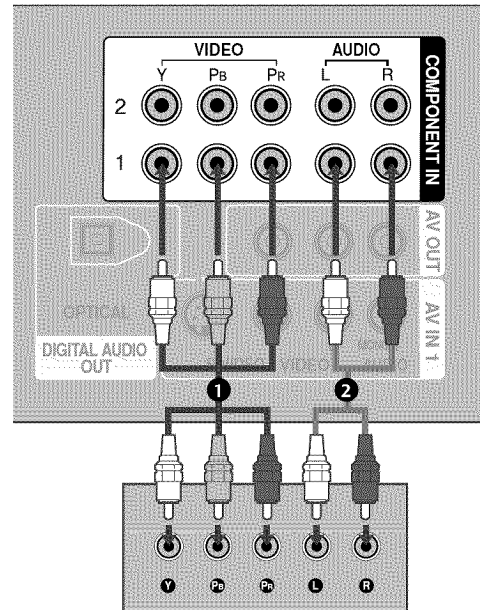
2. How to use

■ 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	PB	PR

	Y	PB	PR
Video output ports on DVD player	Y	B-Y	R-Y
	Y	Cb	Cr
	Y	Pb	Pr

EXTERNAL EQUIPMENT SETUP

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.
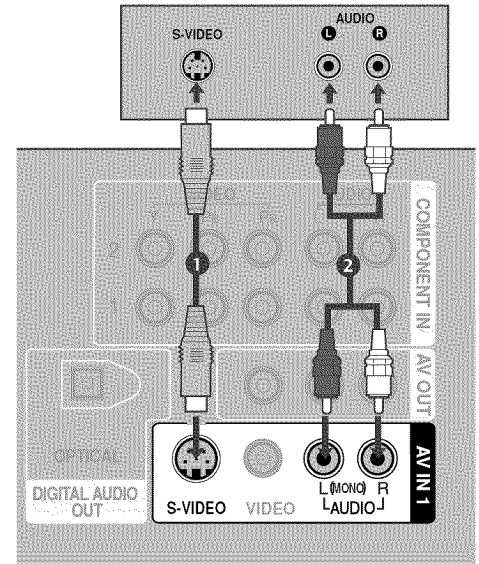
When connecting HDMI cable

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/DVI or HDMI2 input source by using the INPUT button on the remote control.

▪ Refer to the DVD player's manual for operating instructions.
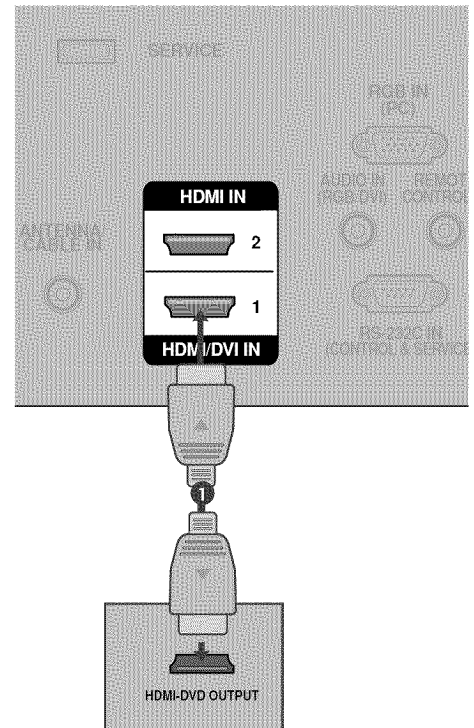
❶ NOTE

▶ When connected, the TV will tell a connected device what resolution it supports and the resolution it prefers. If the device supports this Auto HDMI function, the player output resolution will be automatically set to 720p.

▶ If the device does not support Auto HDMI, you need to set the output resolution appropriately.
To get the best picture quality, adjust the output resolution of the DVD to 720p.

VCR SETUP

* To avoid picture noise (interference), leave an adequate distance between the VCR and TV.
* Use the ISM feature in the Option menu to avoid having a fixed image remain on the screen for a long period of time. 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
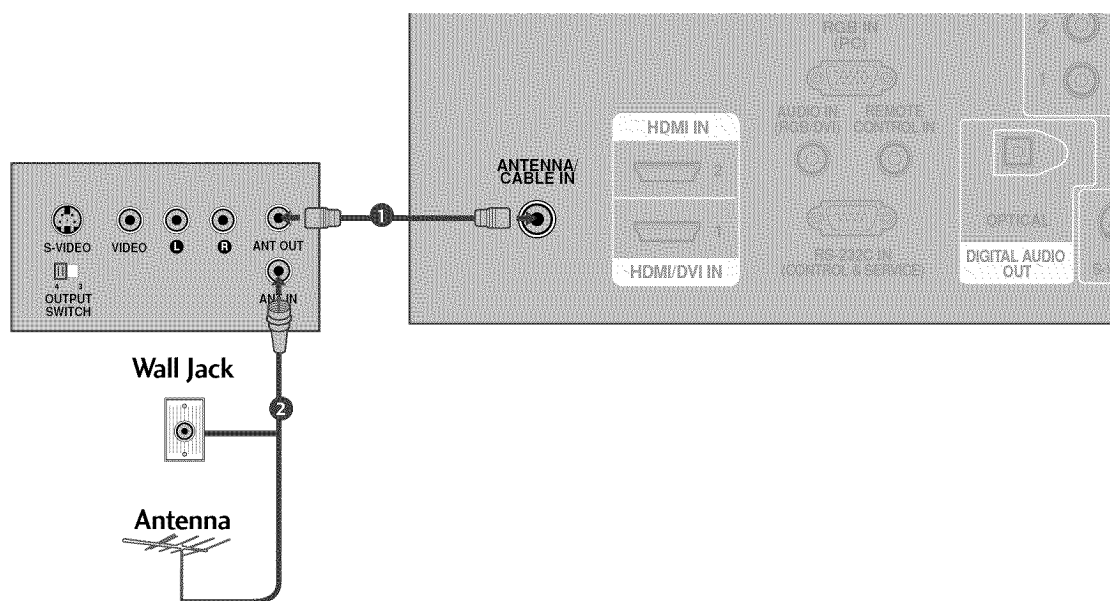
1. How to connect

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.)

EXTERNAL EQUIPMENT SETUP

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.

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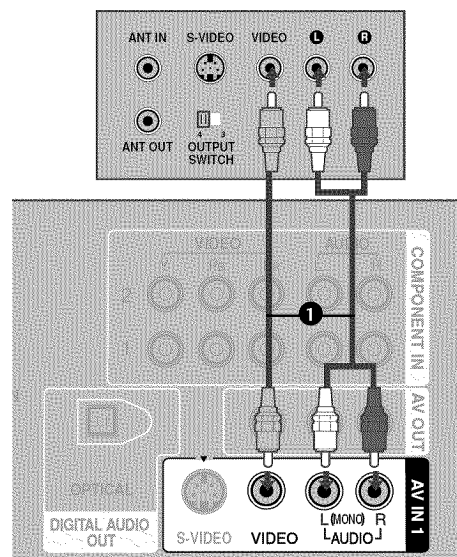
❶ NOTE
▶ If you have a mono VCR, connect the audio cable from the VCR to the **AUDIO L/MONO** jack of the set.

❶ NOTE
▶ The picture quality is improved: compared to normal composite (RCA cable) input.
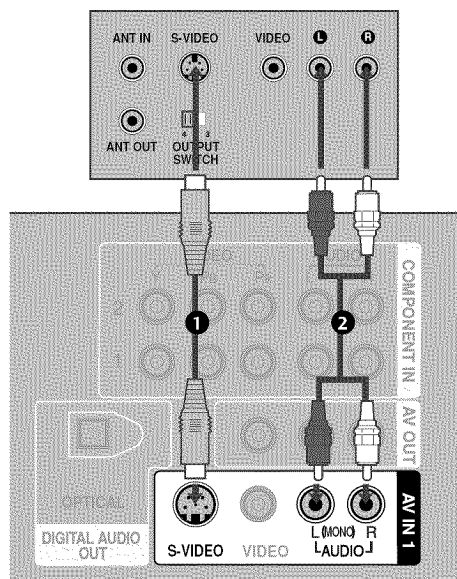
⚠ CAUTION
▶ Do not connect to both Video and S-Video at the same time. In the event that you connect both Video and the S-Video cables, only the S-Video will work.

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.

Camcorder

Video Game Set
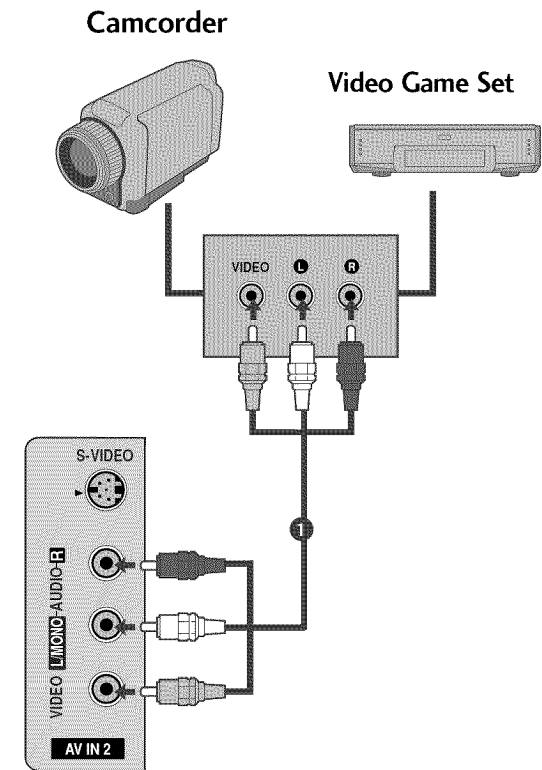
ex) LCD TV Model

EXTERNAL EQUIPMENT SETUP

PC SETUP

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

When connecting D-sub 15pin cable

1. How to connect

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

2 Connect the PC audio output to the **AUDIO IN (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.
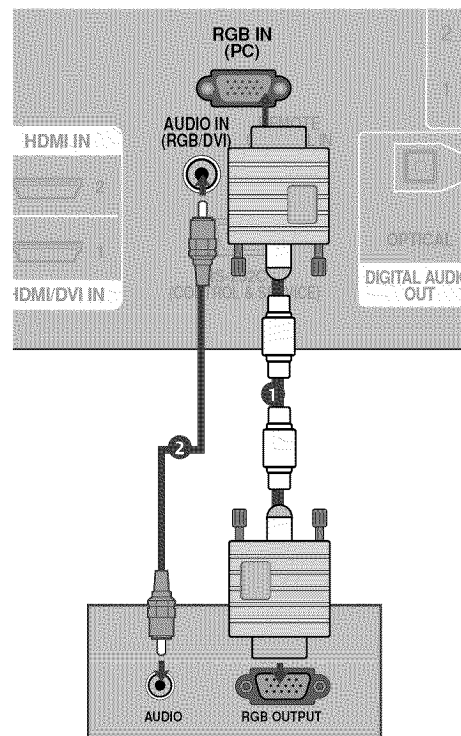
When connecting HDMI to DVI cable

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 IN (RGB/DVI)** jack on the set.

2. How to use

▦ Turn on the PC and the TV.

▦ Select **HDMI1/DVI** input source by using the **INPUT** button on the remote control.

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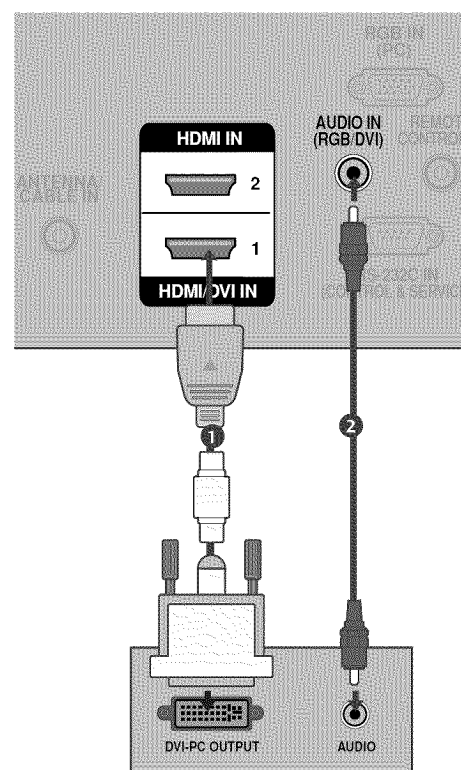
❶ NOTES

▶ To get the the best picture quality, adjust the PC graphics card to 1360x768 (42PC5D/5DC models: 1024x768).

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

▶ If the video doesn't fit the screen, try pressing the ADJUST button to adjust the screen position of TV.

▶ 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 resolu-

tion, 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: 640x350, 720X400

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EXTERNAL EQUIPMENT SETUP

Screen Setup for PC mode

Overview

When the RGB input of the set is connected to a PC output, select the RGB-PC as the main input mode.

When HDMI/DVI connect to PC output and select HDMI/DVI input, this function is used.

After connecting RGB-PC or HDMI/DVI to PC input and checking the screen quality.

When you change the resolution, select the proper resolution in present input to see the best picture appearance.
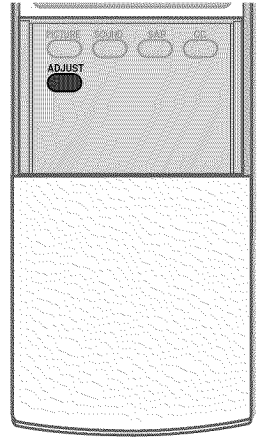
Adjustment for screen Resolution, Position, Size, and Phase

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**.
  In HDMI/DVI-PC mode, **Phase** is not available.
- The **Size** adjustment range is **-30 ~ +30**.
  In HDMI/DVI-PC mode, **Size** is not available.

③ Press the **ENTER** button.

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.

Resolution	This function allows you select resolution of XGA/WXGA.
Position	This function is to adjust picture to left/right and up/down as you prefer.
Size	This function is to minimize any vertical bars or stripes visible on the screen background. And the horizontal screen size will also change.
Phase	This function allows you to remove any horizontal noise and clear or sharpen the image of characters.

AV OUT SETUP

The TV has a special signal output capability which allows you to hook up the second TV or monitor.

1. How to connect

① Connect the second TV or monitor to the TV's **AV OUT** jacks.

② See the Operating Manual of the second TV or monitor for further details regarding that device's input settings.

ⓘ NOTE

▶ Component1-2, RGB-PC, HDMI1/DVI, HDMI2, DTV input sources cannot be used for AV out.
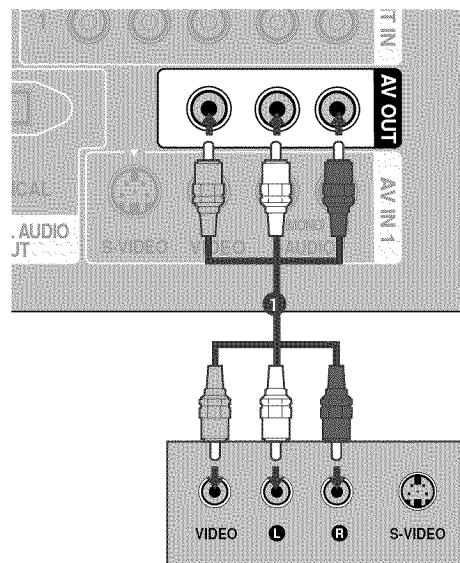
DIGITAL AUDIO OUTPUT

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

1. How to connect

① Connect one end of an optical cable to the TV Digital Audio (Optical) Output port.

② Connect the other end of the optical cable to the digital audio (optical) 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.
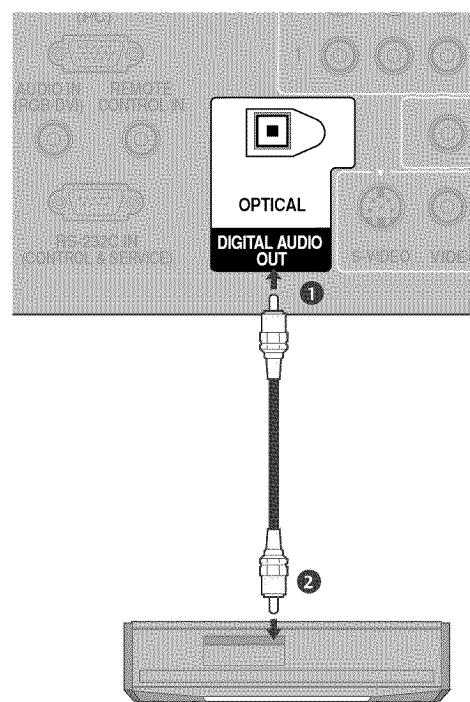
WATCHING TV / CHANNEL CONTROL

REMOTE CONTROL FUNCTIONS

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

MODE	Select the remote's operating mode. TV, DVD, VCR, AUDIO, CABLE, or STB.
VCR/DVD control buttons	Control video cassette recorders or DVD players.
MENU	Displays the main menu.
BRIGHT -/ +	Adjust the brightness on screen.
THUMBSTICK (Up/Down/Left Right/ENTER)	Navigate the on-screen menus and adjust the system settings to your preference.
EXIT	Clear all on-screen displays and return to TV viewing from any menu.
TIMER	Select the amount of time before your TV turns off automatically. ▶ **p.67**
RATIO	Change the aspect ratio. ▶ **p.42**
SIMPLINK	See a list of AV devices connected to TV. When you toggle this button, the SimpLink menu appears at the screen. ▶ **p.40**

VOLUME UP /DOWN	Increase/decrease the sound level.
MUTE	Switch the sound on or off. ▶ **p.32**
FAV	Scroll through the programmed Favorite channels. ▶ **p.36**
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.
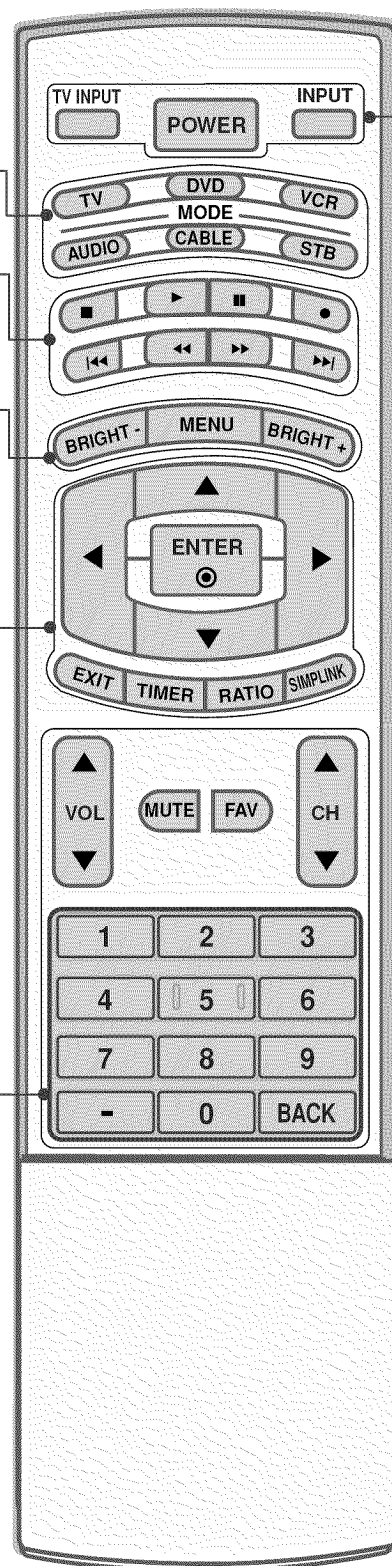
POWER Turns your TV or any other programmed equipment on or off, depending on the mode.

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

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

Inside the Sliding Cover

1	2	3
4	5	6
7	8	9
-	0	BACK

PICTURE SOUND SAP CC
ADJUST
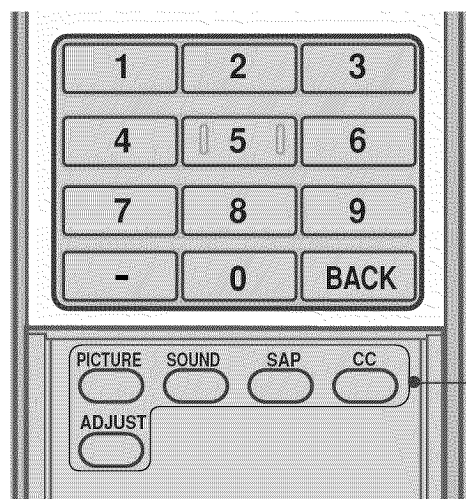
PICTURE Selects the factory preset picture depend on the viewing environment. ▶ **p.44**

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

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

CC Select a closed caption. ▶ **p.61**
(*In DTV/CADTV mode ▶ **p.62**)

ADJUST Adjust the screen resolution, position, size and phase. ▶ **p.28**

Installing Batteries
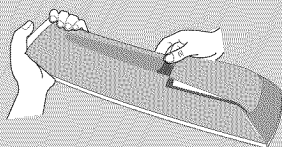
■Open the battery compartment cover on the back side and install the batteries matching correct polarity (+ with +, - with -).

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

■Close cover.

Remote control effective range
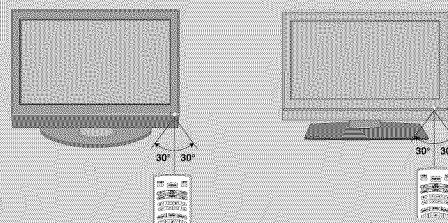
■Use a remote control up to 7 meters distance and 30 degree (left/right) within the receiving unit scope.

■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 ⏻/Ⅰ, **INPUT, CH (▲ or ▼)**
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.
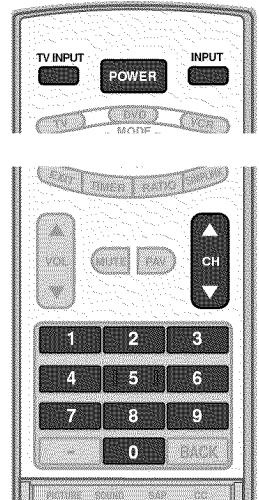
❶ NOTE

▶ 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.
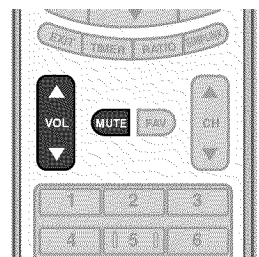
ON-SCREEN MENUS SELECTION

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

SETUP	EZ Scan
VIDEO	Manual Scan
AUDIO	Channel Edit
TIME	DTV Signal
OPTION	Input Source
LOCK	Input Label
	Set ID

Move MENU Prev

VIDEO

SETUP	EZ Picture
VIDEO	Color Temperature
AUDIO	XD
TIME	Advanced
OPTION	Video Reset
LOCK	

Move MENU Prev

LOCK

For USA

SETUP	Lock System
VIDEO	Set Password
AUDIO	Block Channel
TIME	Movie Rating
OPTION	TV Rating-Children
LOCK	TV Rating-General
	Downloadable Rating
	Input Block

Move MENU Prev

For Canada

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

AUDIO

SETUP	Audio Language
VIDEO	EZ Sound
AUDIO	Balance
TIME	TV Speaker
OPTION	
LOCK	

Move MENU Prev

OPTION

SETUP	Aspect Ratio
VIDEO	Caption/Text
AUDIO	Caption Option
TIME	Language
OPTION	ISM Method
LOCK	Low Power
	SimpLink

Plasma TV model only

Move MENU Prev

TIME

SETUP	Auto Clock
VIDEO	Manual Clock
AUDIO	Off Timer
TIME	On Timer
OPTION	Sleep Timer
LOCK	Auto Off

Move MENU Prev

CHANNEL SEARCH

Auto Scan (EZ Scan)

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

Run EZ Scan again after any Antenna/Cable connection changes.

A password is required to gain access to EZ Scan menu if the Lock System is turned on.
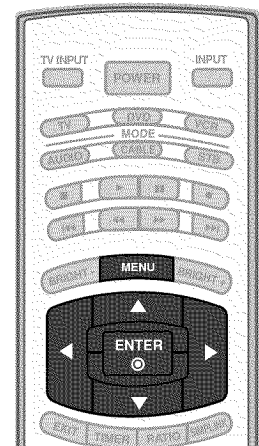
1 Press the **MENU** button and then use ▲ or ▼ button to select the **SETUP** menu.

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

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

Add/Delete Channel (Manual Scan)

A password is required to gain access to Manual Scan
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 **Manual Scan**.

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 the **EXIT** button to return to TV viewing or press
MENU button to return to the previous menu.
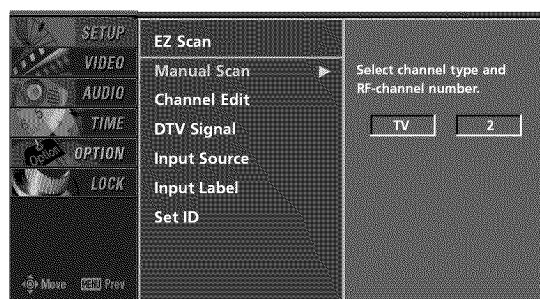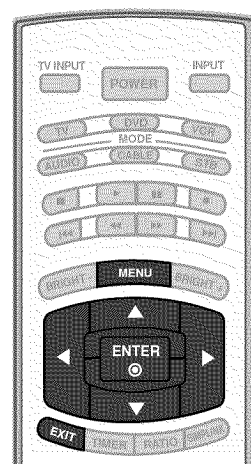
Channel Editing

There are two different ways in order to add or delete scanned channels. One is "Custom List" and the other is "Favorite List" in the channel list. Both of them are available after EZ Scan on the SETUP menu.

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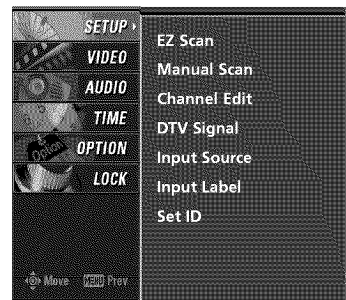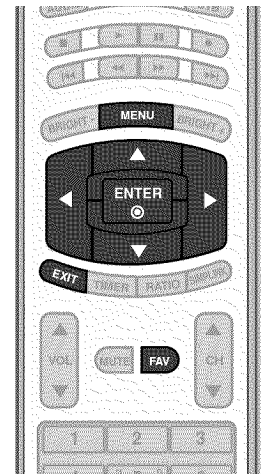
1 Press the MENU button and then use ▲ or ▼ button to select the SETUP menu.

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 heart-mark 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.
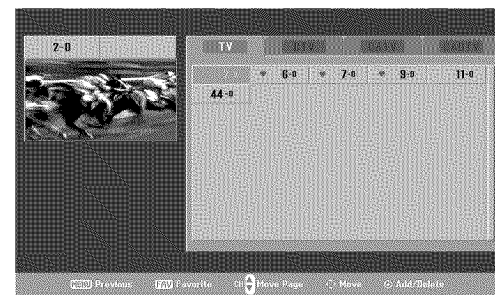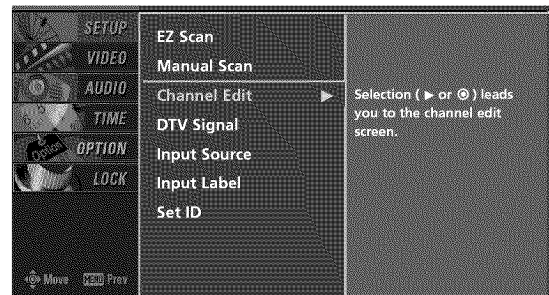
DTV SIGNAL STRENGTH

This feature displays the DTV signal levels being received
and indicates whether you need to adjust your antenna or
digital cable input. The higher the signal strength, the less
likely you are to experience picture degradation.

DTV Signal: This function is only available when the input
signal is DTV or CADTV.

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 **DTV Signal.**

③ View the on-screen signal strength monitor to see
the quality of the signal being received.

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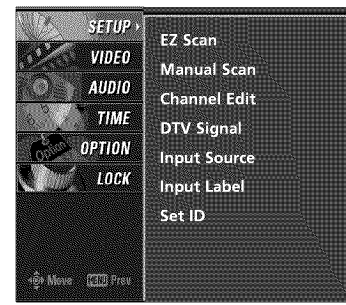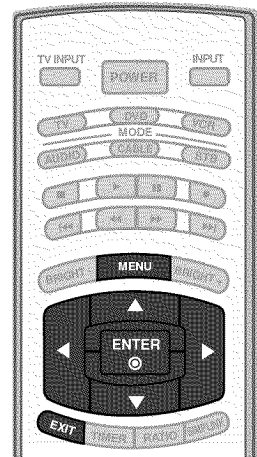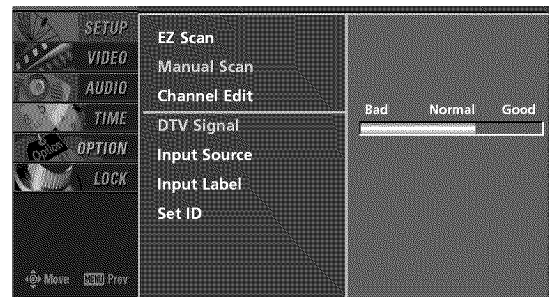
INPUT SOURCE SELECTION

Changes the picture source so you can watch your off-air TV, cable TV, VCR, DVD, or any other devices that are connected to your TV.
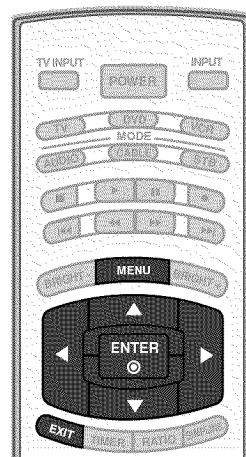
① Press the **MENU** button and then use ▲ or ▼ button to select the **SETUP** menu.

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

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

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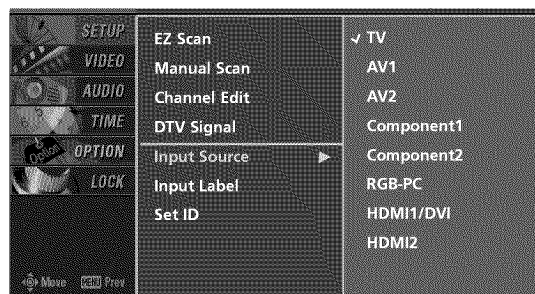
INPUT LABEL

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 **SETUP** menu.

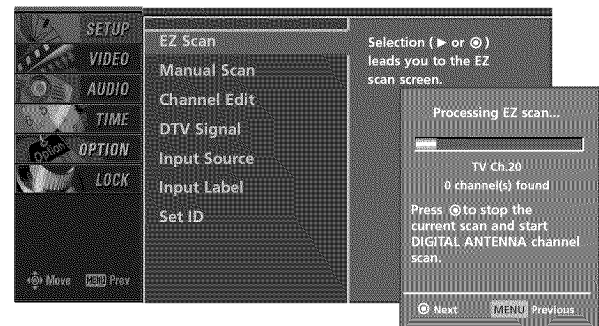**2** Press the ► button and then use ▲ or ▼ button to
select **Input Label**.

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

SETUP ›
VIDEO
AUDIO
TIME
OPTION
LOCK

EZ Scan
Manual Scan
Channel Edit
DTV Signal
Input Source
Input Label
Set ID

Move Prev

1

SETUP
VIDEO
AUDIO
TIME
OPTION
LOCK

EZ Scan
Manual Scan
Channel Edit
DTV Signal
Input Source
Input Label ►
Set ID

AV1   Cable Box
AV2   VCR
Component1   DVD
Component2   Set Top Box
RGB-PC   PC
HDMI1/DVI   Game
HDMI2   Satellite

Move Prev

2 **3** **4**
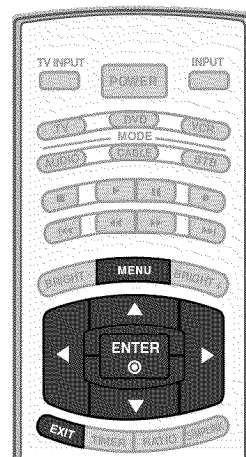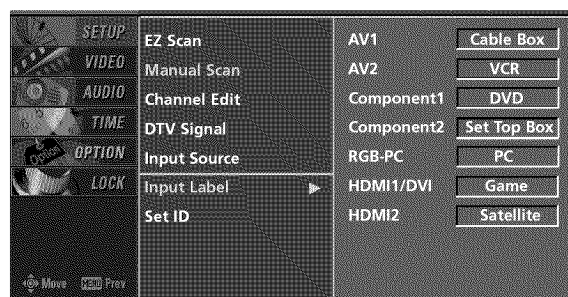
SIMPLINK

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.
If you do not want SimpLink menu, select Off.

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 OUT 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.
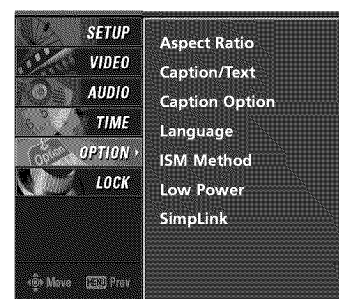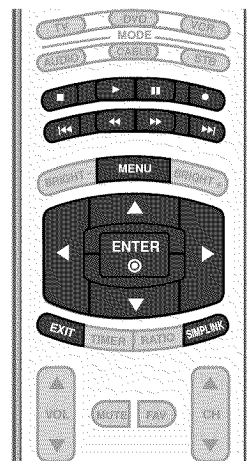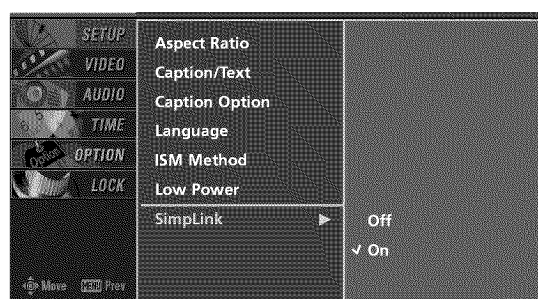
❗ NOTE

▶ 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 stoped.)

■ **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).

SimpLink Menu

▶ Selected Device

▶ When no device is connected (displayed in gray)

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

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

PICTURE CONTROL

PICTURE SIZE (ASPECT RATIO) CONTROL

This feature allows 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/DVI-PC input source use 4:3 or 16:9 aspect ratio.
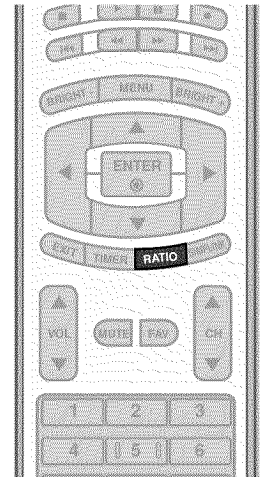
> **❶ NOTE**
>
> ▶ If a fixed image is displayed on the screen for a long time, the image may
> become imprinted on the screen and remain visible.
> This phenomenon is common to all manufactures and in consequence the
> manufactures warranty does not cover the product bearing this phenomenon.

❶ Press the **RATIO** button repeatedly to select the desired picture format.

▩ You can also adjust **Aspect Ratio** in the **OPTION** menu.

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

(4:3 → 4:3)
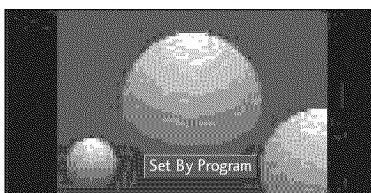
(16:9 → 16:9)
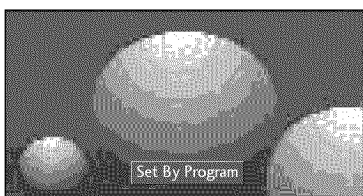
4:3
Choose 4:3 when you want to view a picture
with an original 4:3 aspect ratio.
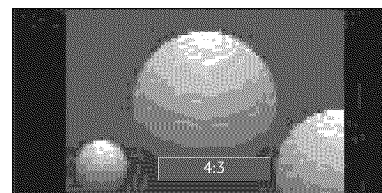
16:9

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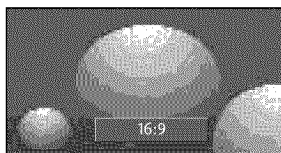
Horizon

The screen size is, more enlarged at both sides, to create a spectacular view.
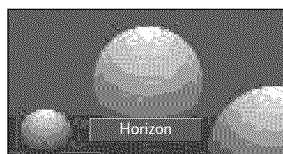
Zoom 1

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.
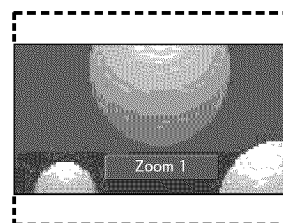
Zoom 2

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.
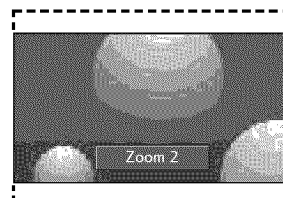
PICTURE CONTROL

PRESET PICTURE SETTINGS

EZ Picture - Preset

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

Daylight, Normal, Night Time 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.

---
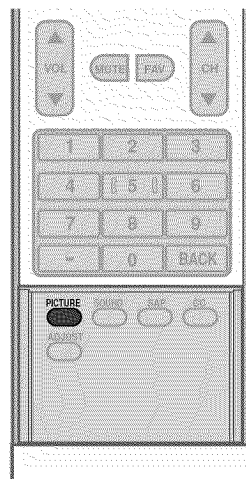
1 Press the **PICTURE** button repeatedly to select the picture appearance setup option as below :

Daylight, Normal, Night Time, User1, and **User2** (your own settings).

---

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

■ You can also use the **VIDEO** menu to adjust **EZ Picture**.

SETUP	EZ Picture
VIDEO	Color Temperature
AUDIO	XD
TIME	Advanced
OPTION	Video Reset
LOCK	

➡

SETUP	EZ Picture ►	✓ Daylight
VIDEO	Color Temperature	Normal
AUDIO	XD	Night Time
TIME	Advanced	User1
OPTION	Video Reset	User2
LOCK		
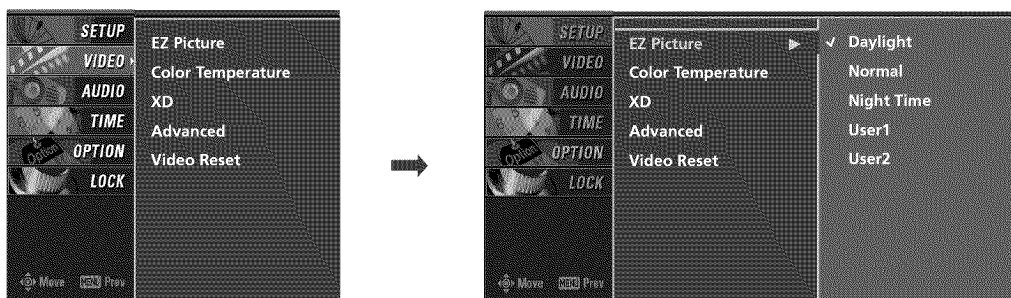
Color Tone - Preset

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.

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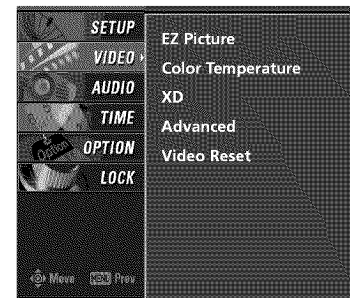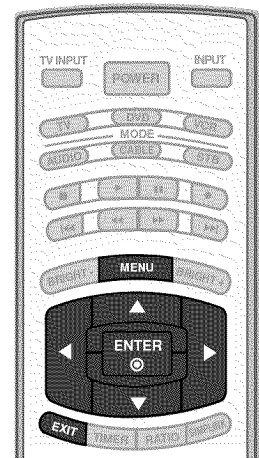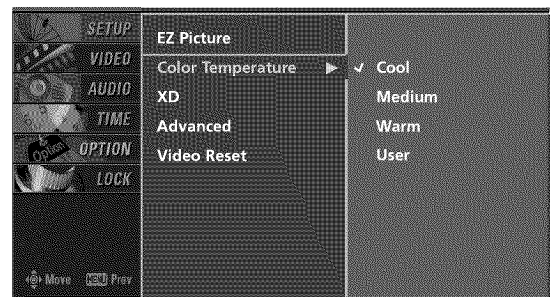
PICTURE CONTROL

## MANUAL PICTURE ADJUSTMENT

EZ Picture - User Mode

Adjust the picture appearance to suit your preference and viewing situations.
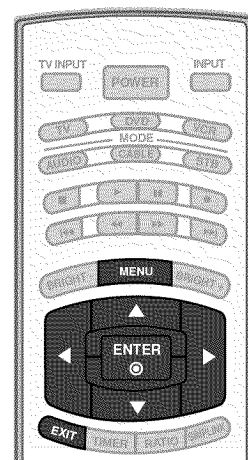
1 Press the **MENU** button and then use ▲ or ▼ button to select the **VIDEO** menu.

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

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**-This is the function for some LCD TV models. 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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Color Tone - User Mode

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

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

47
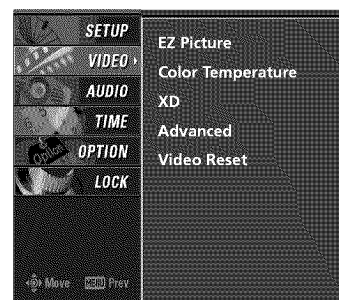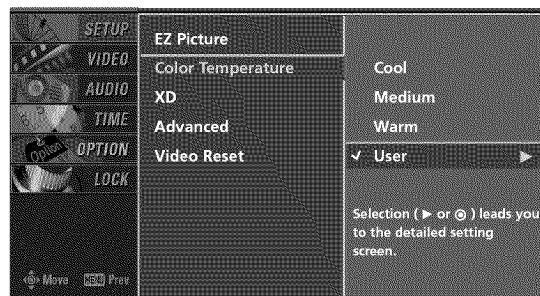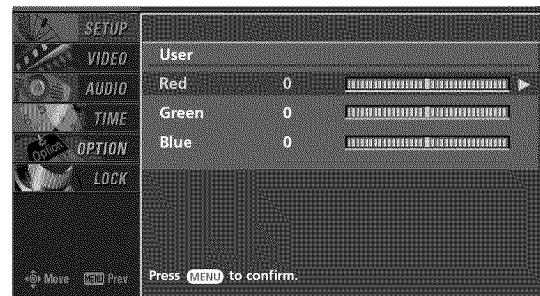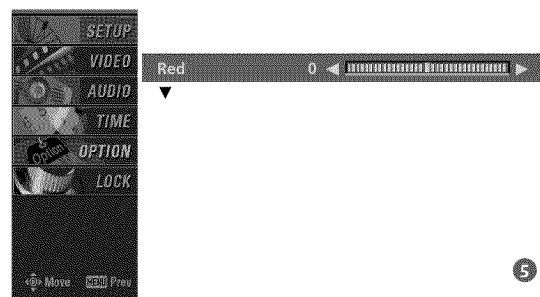
PICTURE CONTROL

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 EZ Picture options (Daylight, Normal and Night time), XD is automatically changed to Auto.

When selecting EZ Picture 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.
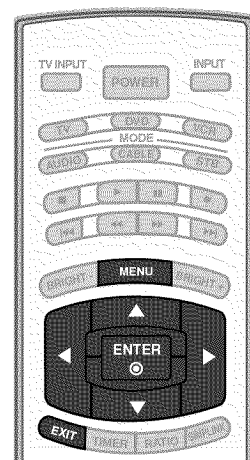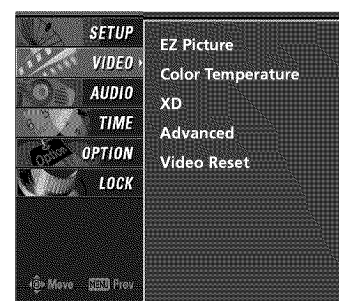
Selecting the Manual

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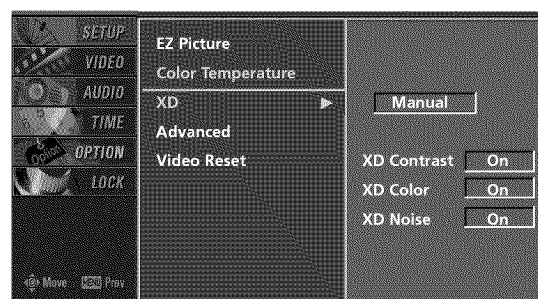
4 Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.

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 Analog, AV1, AV2, and Component 480i mode.
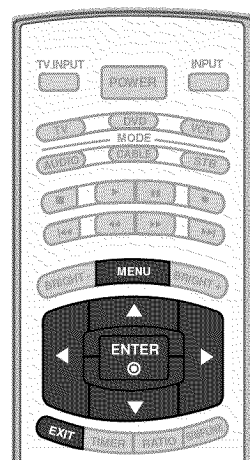
① Press the **MENU** button and then use ▲ or ▼ button to select the **VIDEO** menu.

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 Press the ▶ button and then 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.
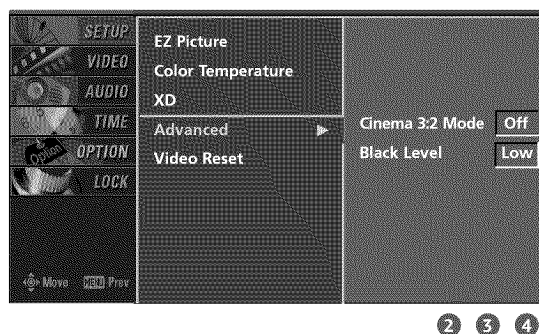
PICTURE CONTROL

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/DVI, or HDMI2mode.
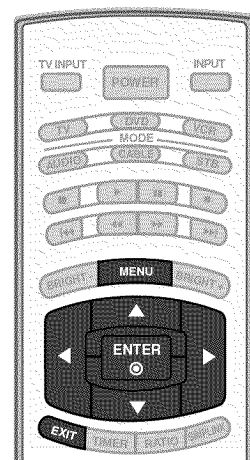
1 Press the **MENU** button and then use ▲ or ▼ button to select the **VIDEO** menu.

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 Press the ► button and then 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.
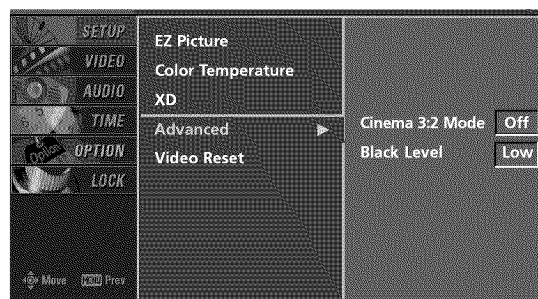
PICTURE RESET

Use to quickly reset all the Video menu options to their original factory preset values.
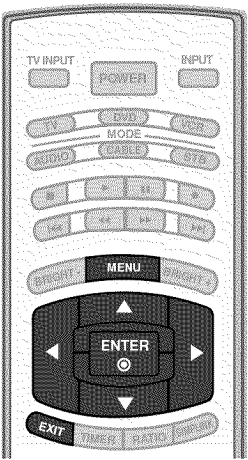
① Press the **MENU** button and then use ▲ or ▼ button to select the **VIDEO** menu.

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

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

SETUP
VIDEO ▶
AUDIO
TIME
OPTION
LOCK

EZ Picture
Color Temperature
XD
Advanced
Video Reset

Move Prev

①

SETUP
VIDEO
AUDIO
TIME
OPTION
LOCK

EZ Picture
Color Temperature
XD
Advanced
Video Reset ▶   Selection (► or ⊚) resets to the factory settings (default).

Move Prev
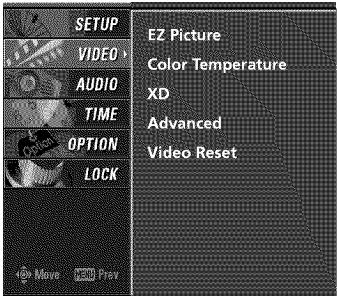
② ③

PICTURE CONTROL

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PICTURE CONTROL

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

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

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 **ISM Method**.

3 Press the ▶ button and then use ▲ or ▼ button to select either **Normal, White Wash, Orbiter** or **Inversion**.

Normal

If image sticking is never a problem, ISM is not necessary - set to Normal.

White Wash

White Wash removes ghost images from the screen.
Use sparingly. Watch the TV normally for a while before using this feature to see if the ghost image disappears on its own.

> ### ① NOTE
> ▶ An excessive ghosted image may be impossible to clear entirely with White Wash. To return to normal viewing, press the any button.

Orbiter

Orbiter may help prevent ghost images. However, it is best not to allow any fixed image to remain on the screen. To avoid a ghost image on the screen, the image will move once per 2 minutes : Left → Right → Upside → Downside → Right → Left → Downside → Upside.

Inversion

Inversion will automatically invert the plasma display panel color every 30 minutes.

4 Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.
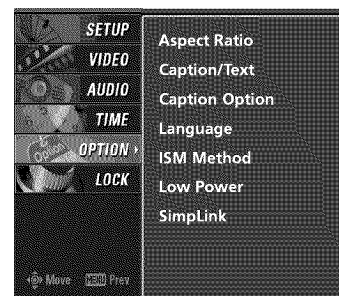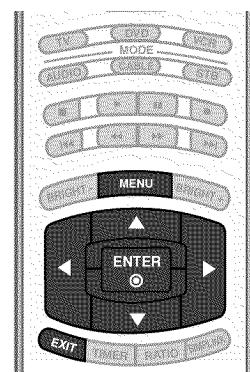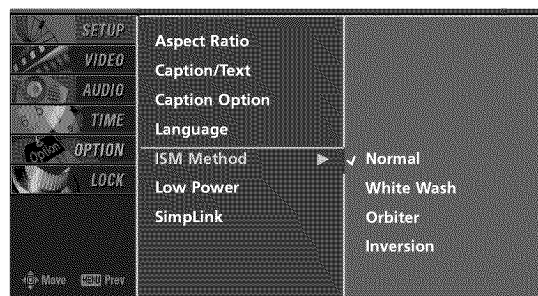
LOW - POWER PICTURE MODE - *Plasma TV only*

Low power reduces the plasma display power consumption.
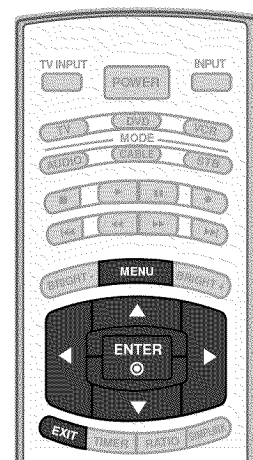
1 Press the **MENU** button and then use ▲ or ▼ button to select the **OPTION** menu.

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

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

※ When you select **On**, the screen darkens.

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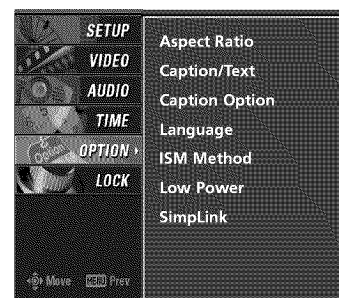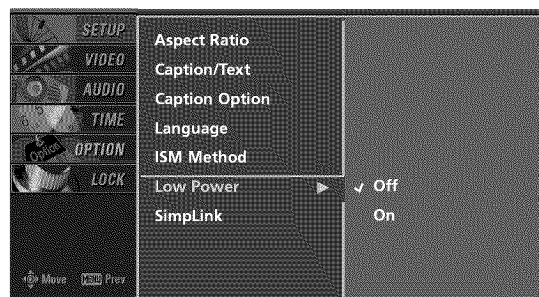
SOUND & LANGUAGE CONTROL

PRESET SOUND SETTINGS (EZ SOUND)

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

Normal, Stadium, News, Music and Theater are preset for good sound quality at the factory and are not adjustable.

When you select the Stadium or Theater, the AUDIO menu-Balance option is disabled and the Balance option is set to 0 automatically.
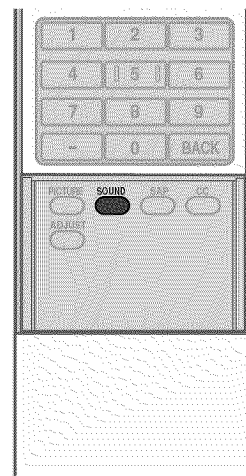
① Press the **SOUND** button repeatedly to select the appropriate sound setup as below :
Normal, Stadium, News, Music, Theater, and **User** (your own settings).

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

▪ You can also adjust **EZ Sound** in the AUDIO menu.

SETUP	Audio Language				SETUP	Audio Language	
VIDEO	EZ Sound				VIDEO	EZ Sound ►	✓ Normal
AUDIO ▸	Balance		⟹		AUDIO	Balance	Stadium
TIME	TV Speaker				TIME	TV Speaker	News
OPTION					OPTION		Music
LOCK					LOCK		Theater
							User
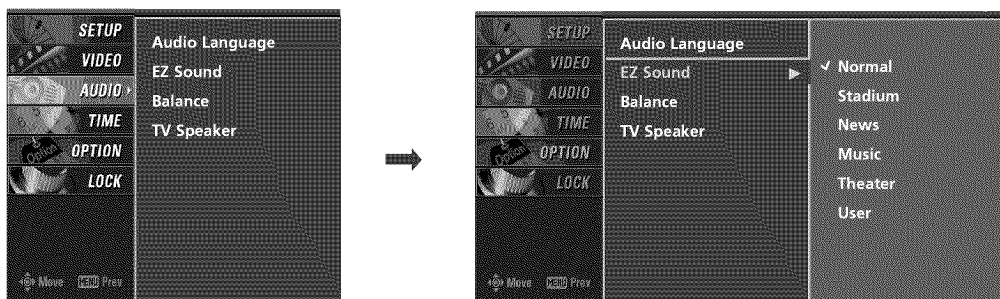
SOUND SETTING ADJUSTMENT - USER MODE

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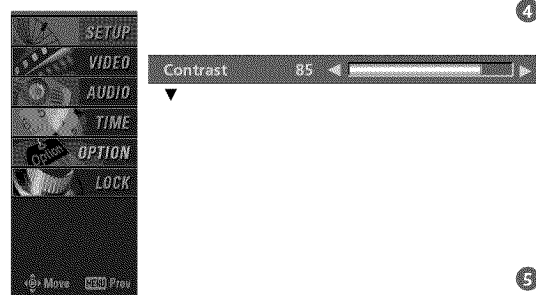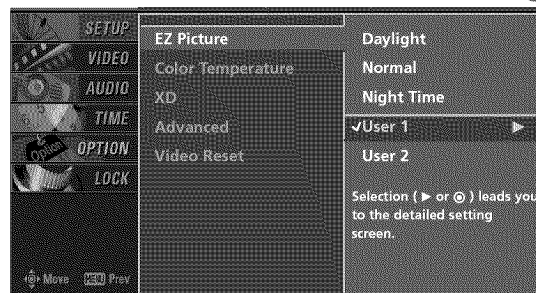
3 Press the ► button and then use ▲ or ▼ button to select **User**.

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** or **SRS** (Sound Retrieval System) **TruSurround XT**.

▪ When SRS (Sound Retrieval System) TruSurround XT is selected, **Balance** is disable and set to 0.
▪ When **Off** is selected, **Balance** is restored to the original value set the user.

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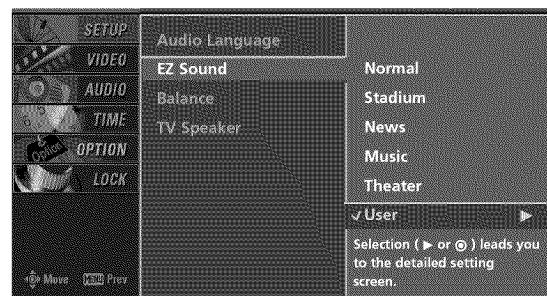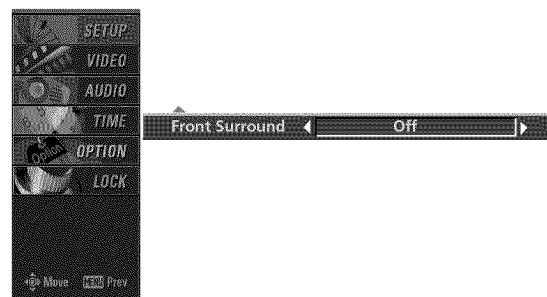
SRS TruSurround XT

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.

SOUND &LANGUAGE CONTROL

BALANCE

Adjust the left/right sound of speaker to suit your taste and
room situations.
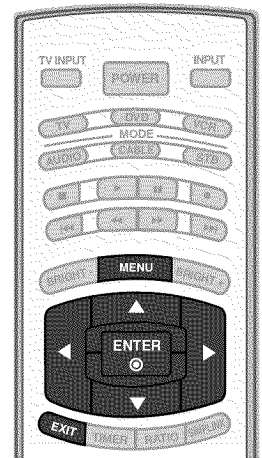
1 Press the **MENU** button and then use ▲ or ▼ button
to select the **AUDIO** menu.

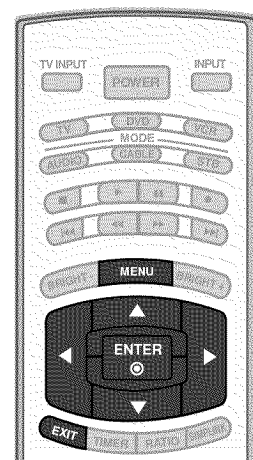**2** Press the ▶ button and then use ▲ or ▼ button to
select **Balance**.

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.
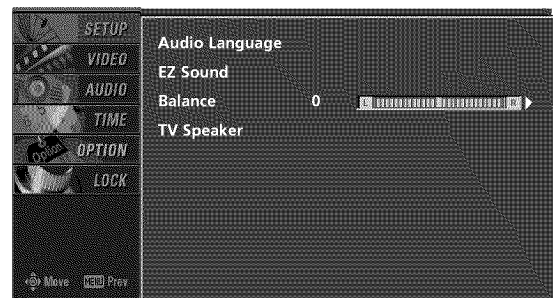
TV SPEAKERS ON/OFF SETUP

Turn the TV speakers off if using external audio equipment.
Feature turns the TV Speakers option On or Off.
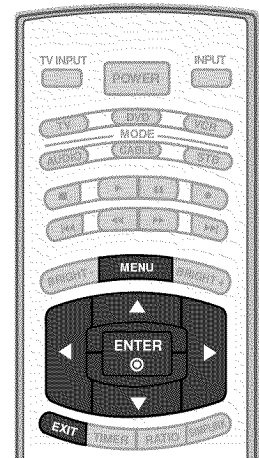
1 Press the **MENU** button and then use ▲ or ▼ button
to select the **AUDIO** menu.

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.

SOUND &LANGUAGE CONTROL

STEREO/SAP BROADCASTS SETUP

This TV can receive MTS stereo programs and any SAP
(Secondary Audio Program) that accompanies the stereo pro-
gram 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.

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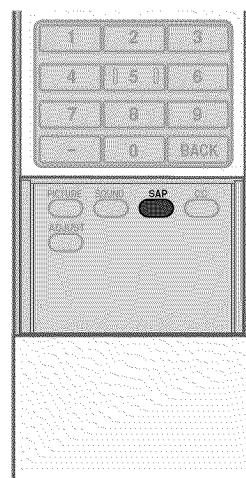
1   Use the **SAP** button to select your desired MTS mode in
analog signal. Each time you press the **SAP** button, **Mono**,
Stereo, or **SAP** appear in turn.

     ▥ 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 pro-
vided 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 **AUDIO** menu.

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

③ Press the ▶ button and then use ▲ or ▼ button to
select : **English**, **Spanish**, or **French**.

④ Press **EXIT** button to return to TV viewing or press
MENU button to return to the previous menu.
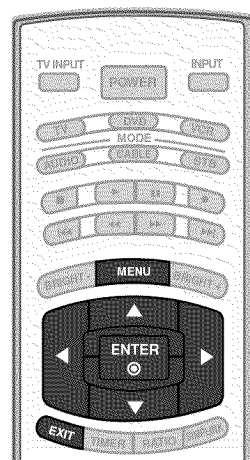
# SOUND &LANGUAGE CONTROL

ON-SCREEN MENUS LANGUAGE SELECTION

The menus can be shown on the screen in the selected language. First select your language.
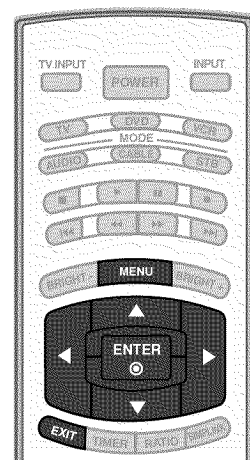
① Press the **MENU** button and then use ▲ or ▼ button to select the **OPTION** menu.

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

③ Press the ▶ button and then use ▲ or ▼ button to select your desired language.
From this point on, the on-screen menus will be shown in the selected language.

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

SOUND & LANGUAGE CONTROL
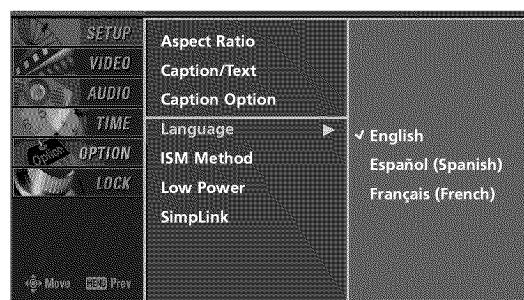
CAPTION / TEXT

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.

Text displays information, usually at the bottom position and is used for a data service, generally not program related.

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.

When you select the CC1 ~ Text4, Caption option must be disabled.
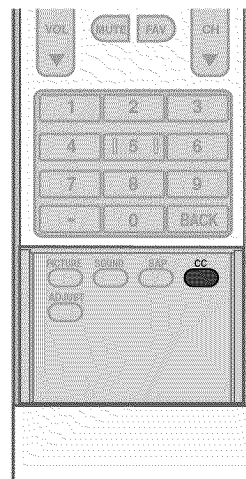
1 Use the **CC** button repeatedly to select Caption **Off, CC1, CC2, CC3, CC4, Text1, Text2, Text3** or **Text4**.

■ **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.

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

■ You can also use the OPTION menu to select **Caption/Text**.

SETUP	Aspect Ratio
VIDEO	Caption/Text
AUDIO	Caption Option
TIME	Language
OPTION ▸	ISM Method
LOCK	Low Power
	SimpLink

➡

SETUP	Aspect Ratio	✓ Off
VIDEO	Caption/Text ▶	CC1
AUDIO	Caption Option	CC2
TIME	Language	CC3
OPTION	ISM Method	CC4
LOCK	Low Power	Text1
	SimpLink	Text2
		Text3
		Text4
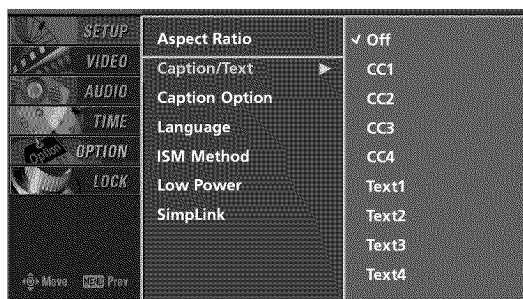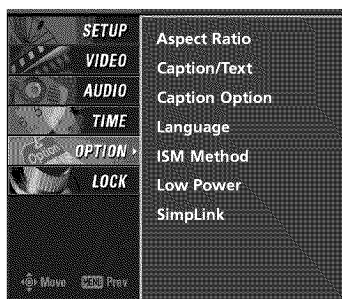
SOUND &LANGUAGE CONTROL

Digital Broadcasting System Captions

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

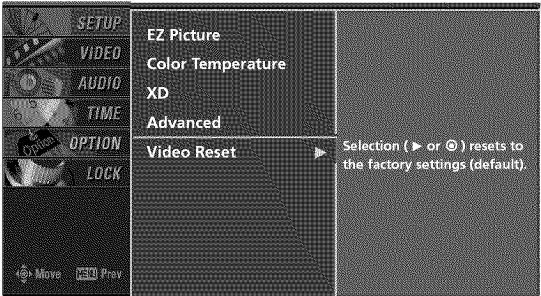Other Languages can be chosen for digital sources only if they are included on the program.
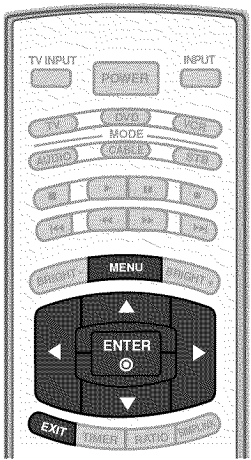
1 Press the **MENU** button and then use ▲ or ▼ button to select the **OPTION** menu.

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

3 Press the ▶ button and then use ▲ or ▼ button to select available caption languages : **English**, **Spanish** or **French**.

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

SETUP	Aspect Ratio
VIDEO	Caption/Text
AUDIO	Caption Option
TIME	Language
OPTION ‣	ISM Method
LOCK	Low Power
	SimpLink

Move | Prev

❶

SETUP	Aspect Ratio	
VIDEO	Caption/Text ▶	Off
AUDIO	Caption Option	✓ English
TIME	Language	Spanish
OPTION	ISM Method	French
LOCK	Low Power	
	SimpLink	

Move | Prev

❷ **❸**

62
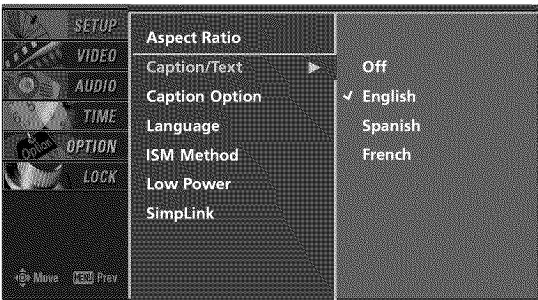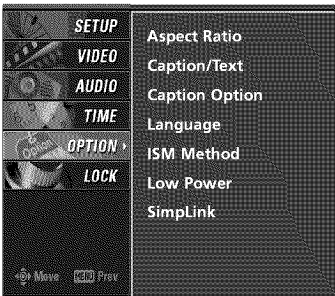
CAPTION OPTION

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

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

SETUP	Aspect Ratio
VIDEO	Caption/Text
AUDIO	Caption Option
TIME	Language
OPTION ▸	ISM Method
LOCK	Low Power
	SimpLink

◦ Move 🔲 Prev

1

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

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

4 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.

SETUP	Aspect Ratio	Style	Custom
VIDEO	Caption/Text	Size	A Standard
AUDIO	Caption Option ▶	Font	Font 0
TIME	Language	Text Color	■ White
OPTION	ISM Method	Text Opacity	Solid
LOCK	Low Power	Bg Color	■ Black
	SimpLink	Bg Opacity	Solid
		Edge Type	None
		Edge Color	■ Black

◦ Move 🔲 Prev

2 **3** **4**

- ▶ **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.

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

SOUND & LANGUAGE CONTROL
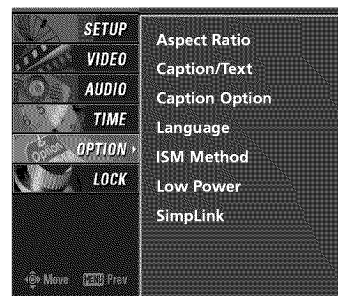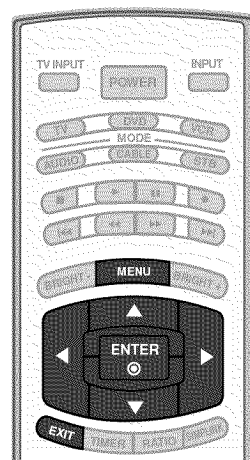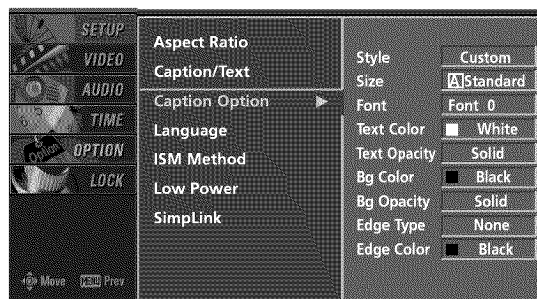
TIME SETTING

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.

The factory default value of the Auto Clock is Off, because a clock information sent each broadcasting station is different.
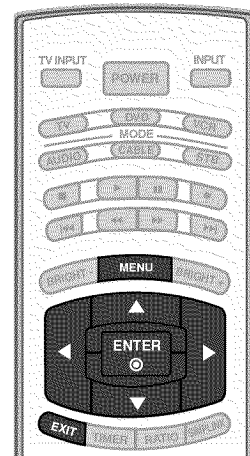
1 Press the **MENU** button and then use ▲ or ▼ button to select the **TIME** menu.

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

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

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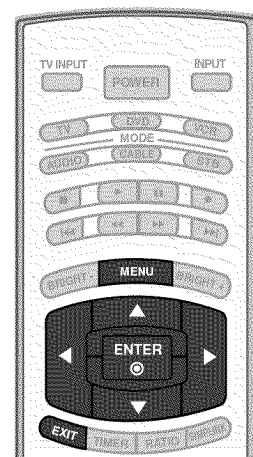
1 Press the **MENU** button and then use ▲ or ▼ button to select the **TIME** menu.

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

3 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.

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

TIME SETTING

AUTO ON/OFF TIMER SETTING

The timer function operates only if the current time has been set.

The Off-Timer function overrides the On-Timer function if they are both set to the same time.

The TV must be in standby mode for the On-Timer to work.

If you do not press any button within 2 hours after the TV turns on with the On Timer function, the TV will automatically revert to standby mode.
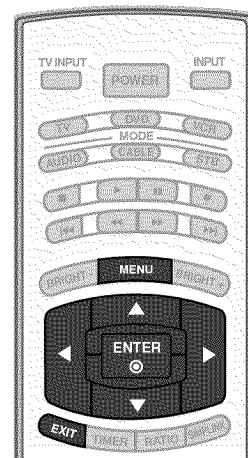
1 Press the **MENU** button and then use ▲ or ▼ button to select the **TIME** menu.

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

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

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

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

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

  Press the ► button and then use ▲ or ▼ button to set the sound level at turn-on.
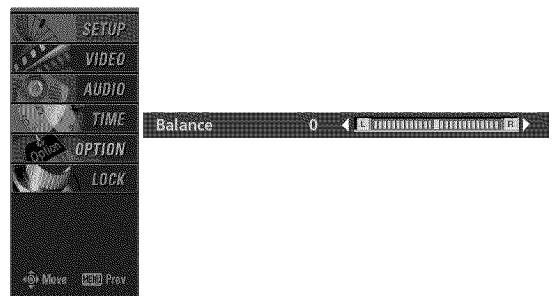
7 Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.
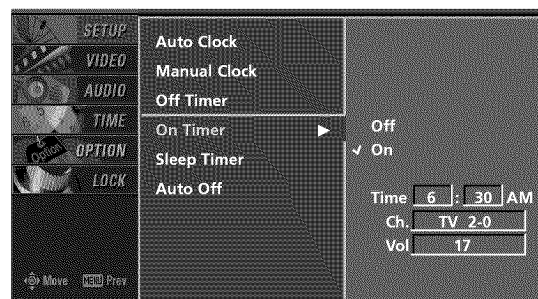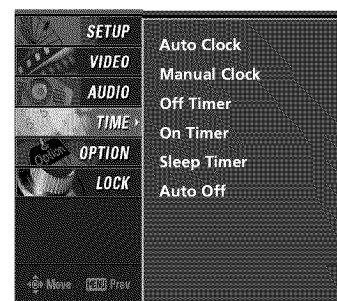
SLEEP TIMER SETTING

The Sleep Timer turns the TV off at the preset time.
Note that this setting is cleared when the TV is turned off.
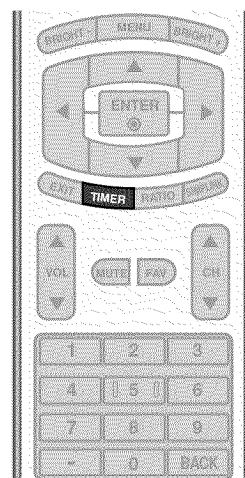
1 Press the **TIMER** button repeatedly to select the number of minutes. First the **Off** option appears on the screen, followed by the following sleep timer options : 10, 20, 30, 60, 90, 120, 180, and 240 minutes.

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 Timer, press the **TIMER** button repeatedly to select **Off**.

▣ You can also set up the **Sleep Timer** in the TIME menu.

SETUP	Auto Clock
VIDEO	Manual Clock
AUDIO	Off Timer
TIME ‣	On Timer
OPTION	Sleep Timer
LOCK	Auto Off

➡

SETUP	Auto Clock	✓ Off
VIDEO	Manual Clock	10 min
AUDIO	Off Timer	20 min
TIME	On Timer	30 min
OPTION	Sleep Timer ▸	60 min
LOCK	Auto Off	90 min
		120 min
		180 min
		240 min
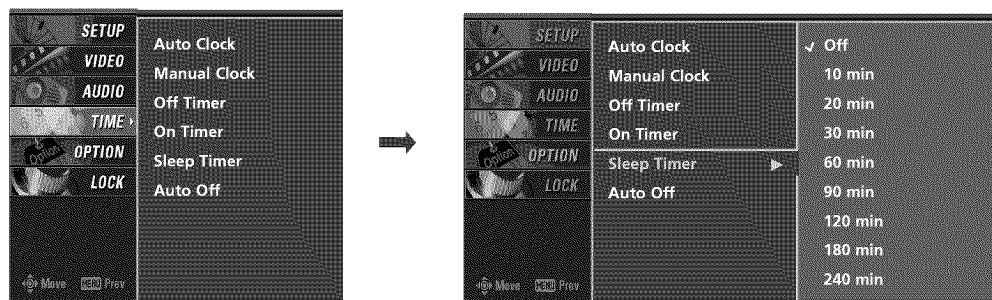
TIME SETTING

AUTO SHUT-OFF SETTING

If set to on and there is no input signal, the TV turns off automatically after 10 minutes.
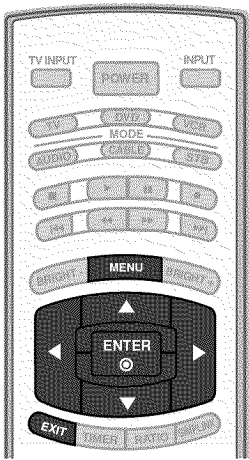
1 Press the **MENU** button and then use ▲ or ▼ button to select the **TIME** menu.

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

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.

SETUP	Auto Clock
VIDEO	Manual Clock
AUDIO	Off Timer
TIME ▸	On Timer
OPTION	Sleep Timer
LOCK	Auto Off

◆ Move 〔MENU〕 Prev

1

SETUP	Auto Clock	
VIDEO	Manual Clock	TV will be automatically
AUDIO	Off Timer	turned off, in case of No
TIME	On Timer	Signal for 10 minutes.
OPTION	Sleep Timer	
LOCK	Auto Off ▶	✓ Off
		On

◆ Move 〔MENU〕 Prev

2 **3**

68
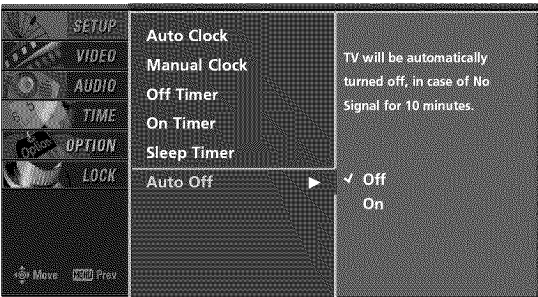
PARENTAL CONTROL / RATINGS

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

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

V-Chip rating and categories

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

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

- TV-G   (General audience)
- TV-PG (Parental guidance suggested)
- TV-14 (Parents strongly cautioned)

- TV-MA (Mature audience only)
- TV-Y   (All children)
- TV-Y7 (Children 7 years older)

SET PASSWORD & LOCK SYSTEM

Setting up Your Password

Set up blocking schemes to block specific channels, ratings, and external viewing sources.
A password is required to gain access to this menu.

For USA	For Canada
Lock System	Lock System
Set Password	Set Password
Block Channel	Block Channel
Movie Rating	TV Rating-English
TV Rating-Children	TV Rating-French
TV Rating-General	Downloadable Rating
Downloadable Rating	Input Block
Input Block	

SETUP / VIDEO / AUDIO / TIME / OPTION / LOCK

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".

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** to return to TV viewing or press **MENU** to return to the previous menu.

❶ NOTE

▶ If you ever forget your password, key in '7', '7', '7', '7' on the remote control.

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

For USA	For Canada
Lock System	Lock System
Set Password	Set Password
Block Channel	Block Channel
Movie Rating	TV Rating-English
TV Rating-Children	TV Rating-French
TV Rating-General	Downloadable Rating
Downloadable Rating	Input Block
Input Block	

❶

Lock System	
Set Password ►	New
Block Channel	Confirm
Movie Rating	
TV Rating-Children	
TV Rating-General	
Downloadable Rating	
Input Block	

❷

For USA   For Canada

For USA	For Canada
Lock System	Lock System
Set Password	Set Password
Block Channel	Block Channel
Movie Rating	TV Rating-English
TV Rating-Children	TV Rating-French
TV Rating-General	Downloadable Rating
Downloadable Rating	Input Block
Input Block	

❶

Lock System ►	✓ Off
Set Password	On
Block Channel	
Movie Rating	
TV Rating-Children	
TV Rating-General	
Downloadable Rating	
Input Block	

❷

PARENTAL CONTROL / RATING

CHANNEL BLOCKING

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

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.

i.e) USA
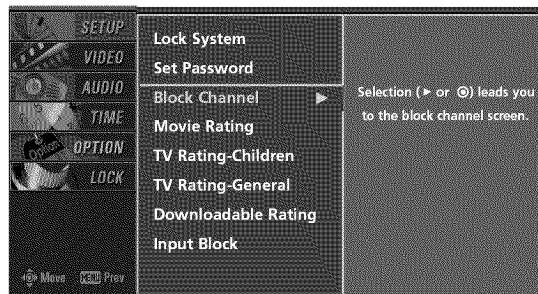
EXTERNAL INPUT BLOCKING

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 Press the ► button and then 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
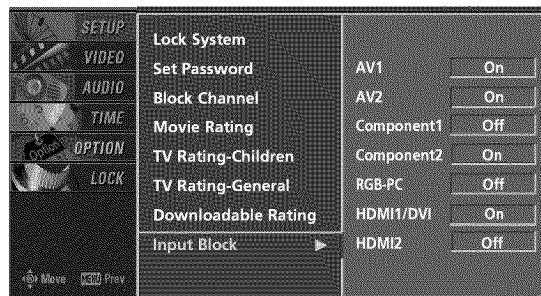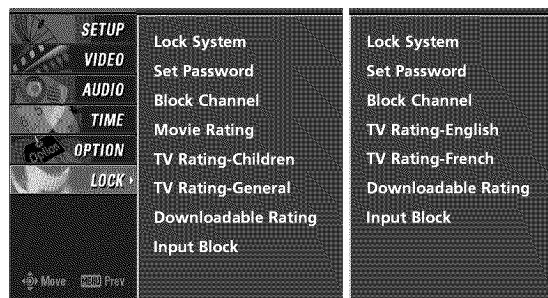
PARENTAL CONTROL /RATINGS

MOVIE & TV RATING

Movie Rating (MPAA) - *for USA only*

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

1 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.
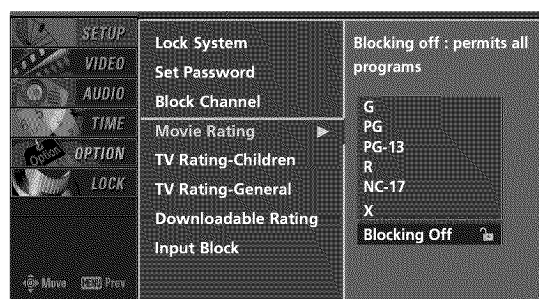
Downloadable Rating

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.

> **⊘ 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.

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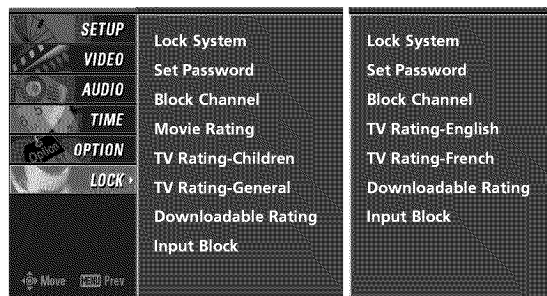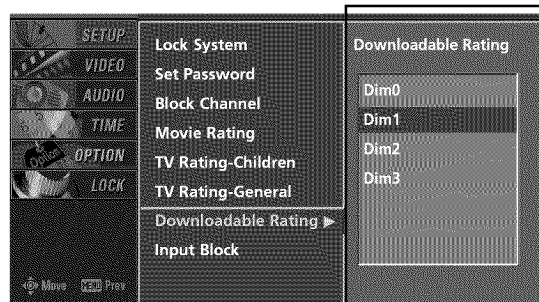
> ► Based on rating table, your TV's OSD (On Screen Display) may differ slightly from what is shown in this manual.

PARENTAL CONTROL / RATING

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.
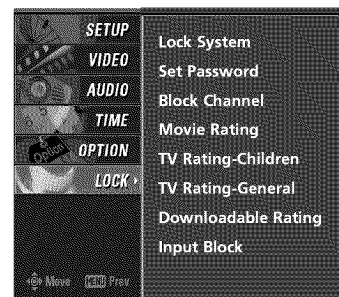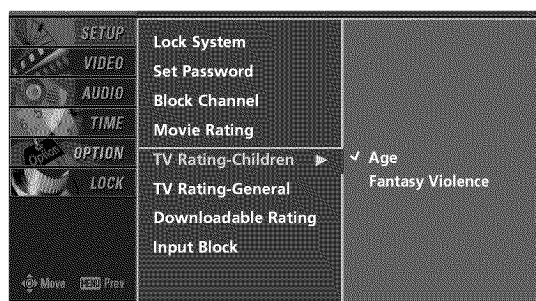
TV Rating General - *for USA only*

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.
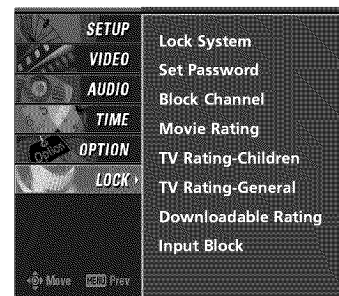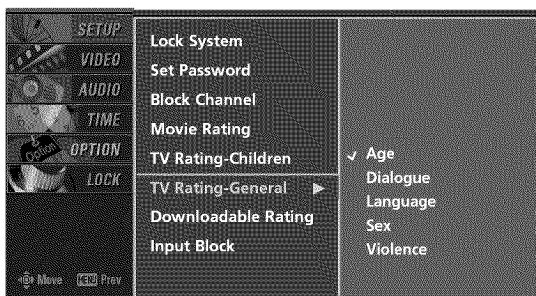
PARENTAL CONTROL /RATINGS

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.
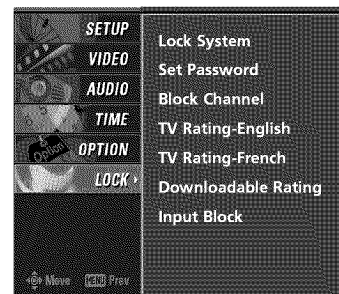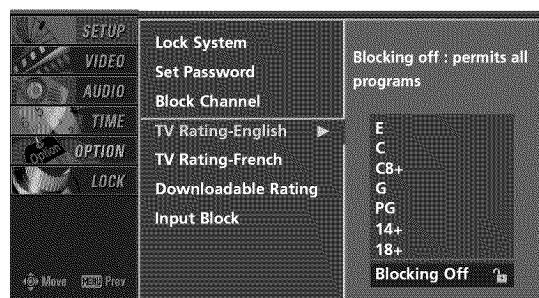
TV Rating French - *for CANADA only*

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.
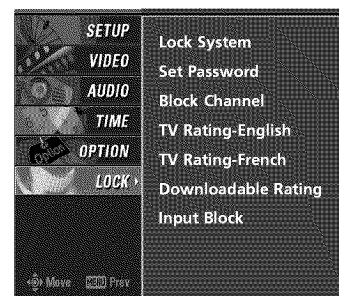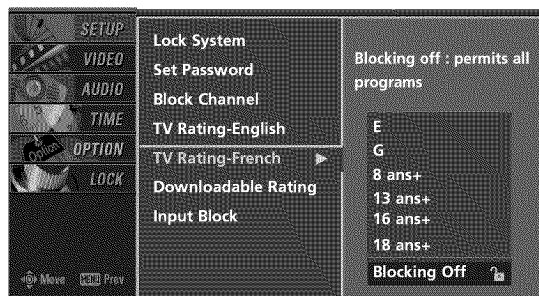
APPENDIX

TROUBLESHOOTING

The operation does not work normally.

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

The video function does not work.

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

APPENDIX

The audio function does not work.

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

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

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

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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.

APPENDIX

PRODUCT SPECIFICATIONS

MODELS		42PC5D (42PC5D-UC) 42PC5DC (42PC5DC-UC)	50PC5D (50PC5D-UC) 50PC5DC (50PC5DC-UC)
Dimensions (Width x Height x Depth)	Including stand	41.3 x 30.2 x 12.2 inches 1048.0 x 766.0 x 310.0 mm	48.9 x 34.9 x 14.6 inches 1242.0 x 887.6 x 370.0 mm
	Excluding stand	41.3 x 28.1 x 3.3 inches 1048.0 x 713.0 x 83.5 mm	48.9 x 32.6 x 3.5 inches 1242.0 x 827.2 x 88.0 mm
Weight	including stand	61.7 pounds / 28.0 kg	86.6 pounds / 39.3 kg
	excluding stand	54.2 pounds / 24.6 kg	76.3 pounds / 34.6 kg
Power requirement Television System Program Coverage External Antenna Impedance		AC100-240V ~ 50/60Hz NTSC-M, ATSC, 64 & 256 QAM VHF 2-13, UHF 14-69, CATV 1-135, DTV 2-69, CADTV 1-135 75 ohm	
Environment condition	Operating Temperature Operating Humidity	32 ~ 104°F (0 ~ 40°C) Less than 80%	
	Storage Temperature Storage Humidity	-4 ~ 140°F (-20 ~ 60°C) Less than 85%	

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

MODELS		32LC7D(32LC7D-UB) 32LC7DC(32LC7DC-UB)	37LC7D (37LC7D-UB)	42LC7D (42LC7D-UB)
Dimensions (Width x Height x Depth)	Including stand	31.8 x 23.9x 9.8 inches 806.6 x 606.5 x 249.0mm	36.5 x 27.3 x 11.0 inches 927.0 x 692.8 x 280.5 mm	40.7 x 29.5 x 11.3 inches 1033.4 x 750.0 x 287.6 mm
	Excluding stand	31.8 x 21.7 x 3.1 inches 806.6 x 552.3 x 79.0 mm	36.5 x24.8 x 3.5 inches 927.0 x 630.0 x 88.0 mm	40.7 x 27.0x 3.5 inches 1033.4 x 686.8 x 88.5 mm
Weight	including stand	30.2 pounds / 13.7 kg	44.1 pounds / 20.0 kg	54.9 pounds / 24.9 kg
	excluding stand	24.7 pounds / 11.2 kg	35.3 pounds / 16.0 kg	45.0 pounds / 20.4 kg
Power requirement Television System Program Coverage External Antenna Impedance		AC100-240V ~ 50/60Hz NTSC-M, ATSC, 64 & 256 QAM VHF 2-13, UHF 14-69, CATV 1-135, DTV 2-69, CADTV 1-135 75 ohm		
Environment condition	Operating Temperature	32 ~ 104°F (0 ~ 40°C)		
	Operating Humidity	Less than 80%		
	Storage Temperature	-4 ~ 140°F (-20 ~ 60°C)		
	Storage Humidity	Less than 85%		

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

APPENDIX

PROGRAMMING THE REMOTE CONTROL

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

Programming a code into a remote mode

1 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		067	068				105	107	109	112
	125	146			MARANTZ	012	031	033	067		113	115	120	122
AMPRO	072					069					125			
ANAM	031	033	103		MARTA	101				SANSUI	022	043	048	135
AUDIO DYNAMICS	012	023	039	043	MATSUI	027	030			SANYO	003	007	010	014
BROKSONIC	035	037	129		MEI	031	033				102	134		
CANON	028	031	033		MEMOREX	003	010	014	031	SCOTT	017	037	112	129
CAPEHART	108					033	034	053	072		131			
CRAIG	003	040	135			101	102	134	139	SEARS	003	008	009	010
CURTIS MATHES	031	033	041		MGA	045	046	059			013	014	017	020
DAEWOO	005	007	010	064	MINOLTA	013	020				031	042	073	081
	065	108	110	111	MITSUBISHI	013	020	045	046		101			
	112	116	117	119		049	051	059	061	SHARP	031	054	149	
DAYTRON	108					151				SHINTOM	024			
DBX	012	023	039	043	MTC	034	040			SONY	003	009	031	052
DYNATECH	034	053			MULTITECH	024	034				056	057	058	076
ELECTROHOME	059				NEC	012	023	039	043		077	078	149	
EMERSON	006	017	025	027		048				SOUNDESIGN	034			
	029	031	034	035	NORDMENDE	043				STS	013			
	036	037	046	101	OPTONICA	053	054			SYLVANIA	031	033	034	059
	129	131	138	153	PANASONIC	066	070	074	083		067			
FISHER	003	008	009	010		133	140	145		SYMPHONIC	034			
FUNAI	034									TANDY	010	034		
GE	031	033	063	072	PENTAX	013	020	031	033	TATUNG	039	043		
	107	109	144	147		063				TEAC	034	039	043	
GO VIDEO	132	136			PHILCO	031	034	067		TECHNICS	031	033	070	
HARMAN KARDON		012	045		PHILIPS	031	033	034	054	TEKNIKA	019	031	033	034
HITACHI	004	018	026	034		067	071	101			101			
	043	063	137	150	PILOT	101				THOMAS	034			
INSTANTREPLAY	031	033			PIONEER	013	021	048		TMK	006			
JCL	031	033			PORTLAND	108				TOSHIBA	008	013	042	047
JCPENNY	012	013	015	033	PULSAR	072					059	082	112	131
	040	066	101		QUARTZ	011	014			TOTEVISION	040	101		
JENSEN	043				QUASAR	033	066	075	145	UNITECH	040			
JVC	012	031	033	043	RCA	013	020	033	034	VECTOR RESEARCH	012			
	048	050	055	060		040	041	062	063	VICTOR	048			
	130	150	152			107	109	140	144	VIDEO CONCEPTS	012	034	046	
KENWOOD	014	034	039	043		145	147			VIDEOSONIC	040			
	047	048			REALISTIC	003	008	010	014	WARDS	003	013	017	024
LG (GOLDSTAR)	001	012	013	020		031	033	034	040		031	033	034	040
	101	106	114	123		053	054	101			053	054	131	
LLOYD	034				RICO	058				YAMAHA	012	034	039	043
LXI	003	009	013	014	RUNCO	148				ZENITH	034	048	056	
	017	034	101	106	SALORA	014					058	072	080	101
MAGIN	040													

Cable Box

Brand	Codes	Brand	Codes	Brand	Codes
ABC	003 004 039 042 046 052 053		074	REMBRANT	025
AJIN	112	LG (GOLDSTAR)	001 106 101 005	SAMSUNG	102 107 030 068
ANTRONIK	014	M-NET	037	SCIENTIFIC ATLANTA	003 011 041 042
ARCHER	005 007 014 024	MACOM	033		043 045 046
CABLE STAR	026	MAGNAVOX	010 012 064 079	SHERITECH	022
CENTURION	092	MEMOREX	100	SIGNAL	030
CENTURY	007	MOVIE TIME	028 032	SIGNATURE	052
CITIZEN	007	NSC	015 028 038 071 073	SL MARX	030
COLOUR VOICE	065 090			SPRUCER	047 078
COMBANO	080 081	OAK	016 031 037 053	STARCOM	002 004 008 009
COMTRONICS	019 030	PANASONIC	044 047	STARGATE	008 030
DIAMOND	023	PARAGON	100	TADIRAN	030
EAGLE	020 030 040			TAEKWANG	110
EASTERN	057 062 066	PHILIPS	006 012 013 020 065 085 090	TAIHAN	105
ELECTRICORD	032	PIONEER	034 051 052 063	TANDY	017
GE	072		076	TEXSCAN	029
GEMINI	008 022 025 054	POST NEWS WEEK	016	TOCOM	039 040 056
GI	052 074	PRUCER	059	TOSHIBA	100
GOLDEN CHANNEL	030	PTS	011 048 071 072 073 074	UNIKA	007 014 024
HAMLIN	049 050 055			UNITED CABLE	004 053
HITACHI	052 055	PULSAR	100	UNIVERSAL	005 007 014 024
HOSPITALITY	070 077	RCA	047		026 027 032 035
JERROLD	002 003 004 008 009 010 052 069	REGAL	049 050	VIEWSTAR	012 015 018 086 087 088 089
		REGENCY	057	ZENITH	100 114 060 093

HDSTB

Brand	Codes	Brand	Codes	Brand	Codes
ALPHASTAR DSR	123	HOUSTON TRACKER	033 037 039 051 057 104	PROSAT	072
AMPLICA	050			RCA	066 106
BIRDVIEW	051 126 129	HUGHES	068	REALISTIC	043 074
CHANNEL MASTER	013 014 015 018 036 055	JANIEL	060 147	SAMSUNG	123
		JERROLD	061	SATELLITE SERVICE CO	028 035 047 057
CHAPARRAL	008 009 012 077	KATHREIN	108		085
CITOH	054	LEGEND	057	SCIENTIFIC ATLANTA	032 138
CURTIS MATHES	050 145	LG	001	SONY	103
DRAKE	005 006 007 010 011 052 112 116 141	LUTRON	132	STARCAST	041
		LUXOR	062 144	SUPER GUIDE	020 124 125
		MACOM	010 059 063 064	TEECOM	023 026 075 087
DX ANTENNA	024 046 056 076		065		088 090 107 130
ECHOSTAR	038 040 057 058	MEMOREX	057		137
	093 094 095 096	NEXTWAVE	028 124 125	TOSHIBA	002 127
	097 098 099 100	NORSAT	069 070	UNIDEN	016 025 042 043
	122	PACE SKY SATELLITE	143		044 045 048 049
ELECTRO HOME	089	PANASONIC	060 142		078 079 080 086
EUROPLUS	114	PANSAT	121		101 135 136
FUJITSU	017 021 022 027 133 134	PERSONAL CABLE	117	VIEWSTAR	115
		PHILIPS	071	WINEGARD	128 146
GENERAL INSTRUMENT	003 004 016 029 031 059 101	PICO	105	ZENITH	081 082 083 084
		PRESIDENT	019 102		091 120
HITACHI	139 140	PRIMESTAR	030 110 111		

Audio

Brand	Codes				Brand	Codes				Brand	Codes			
AIWA	014	028	070	096		157	158	159	160	RCX	092			
	125	129	139	229		189	207	222	224	REALISTIC	103	106		
	230					225	226	227	243	SAMSUNG	124	145	146	182
AKAI	163					247					193	194	195	203
ANAM	003	014	017	023	LOTTE	014	016	036	098		204	244	245	246
	059	106	189	216		100	172	173	174	SANSUI	011	135	138	144
	217	235	236			175	176	177	178	SANYO	019	083	234	
BURMECTER	252					179	180	181	183	SCOTT	106	186		
CARVER	086					201	202	208	213	SHARP	031	032	051	052
CLARION	199					214	219	223	232		072	082	117	119
DAEWOO	027	053	060	084		238	240				156	184	199	200
	102	148	198	221	LXI	103					206	209		
DENON	015	075	130	143	MAGNAVOX	111				SHERWOOD	005	006	158	
FANTASIA	071				MARANTZ	002	018	020	025	SONY	044	045	109	114
FINEARTS	022					034	041	081	090		118	126	248	249
FISHER	089	099				097	112			TAEKWANG	012	020	073	074
LG (GOLDSTAR)	001	021	024	029	MCINTOSH	049					076	077	105	161
	087	107	108	110	MCS	104					162	163	164	165
	190	191	192	210	MEMOREX	107					166	167	168	169
	211	212	239		NAD	046					205	231	233	242
HAITAI	034	035	188	222	ONKYO	013	040	041	047					
HARMAN/KARDON	068					048	056	057	132	TEAC	010	085	106	136
JVC	004	013	141			133	140				185	187	237	
KEC	185	186	187		OPTIMUS	158				TECHNICS	101	113	128	134
KOHEL	030				PANASONIC	007	033	064	113		147	218		
NAD	045	046				142	220	241	251	TOSHIBA	137			
KENWOOD	038	050	067	089	PENNEY	104				THE	061			
	170	171	197	206	PHILIPS	026	112	143		VICTOR	088	131		
	215	222			PIONEER	039	042	043	063	WARDS	089			
INKEL	037	058	062	069		065	091	093	094	YAMAHA	054	055	066	092
	078	079	095	121		115	123	127	250		199			
	122	149	150	151	QUASAR	113								
	152	153	154	155	RCA	080								

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			

APPENDIX

IR CODES

1. How to Connect

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

2. Remote Control IR Codes

■ **Output waveform**

Single pulse, modulated with 37.917KHz signal at 455KHz
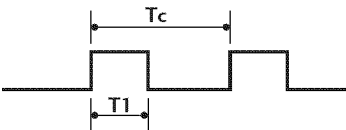
Carrier frequency

FCAR = 1/TC = fOSC/12

Duty ratio = T1/TC = 1/3

■ **Configuration of frame**

1st frame

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

Repeat frame

Repeat code

Tf

■ **Lead code**

9 ms

4.5 ms

■ **Repeat code**

0.55 ms

9 ms

2.25 ms

■ **Bit description**

Bit "0"

0.56 ms

1.12 ms

Bit "1"

0.56 ms

2.24 ms
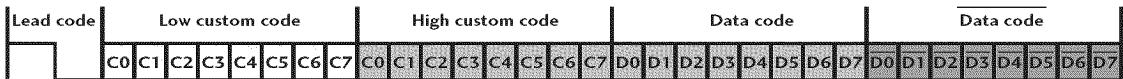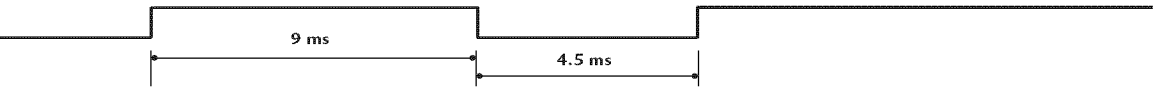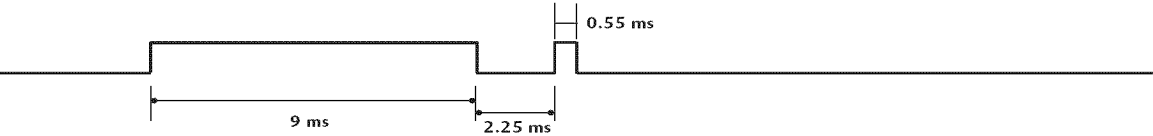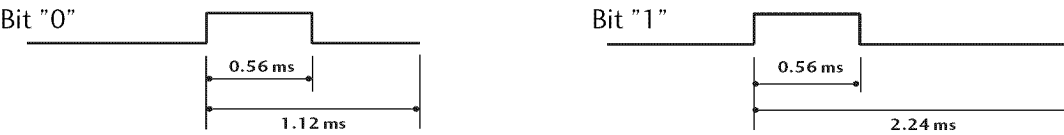
■ **Frame interval: Tf**

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

Tf

Tf

Tf=108ms @455KHz

Code (Hexa)	Function	Note	Code (Hexa)	Function	Note
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/DVI	Discrete IR Code (HDMI1/DVI 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	BRIGHT -	Remote control Button			
E0	BRIGHT +	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)			

APPENDIX

EXTERNAL CONTROL THROUGH RS-232C

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

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

RS-232C Setup

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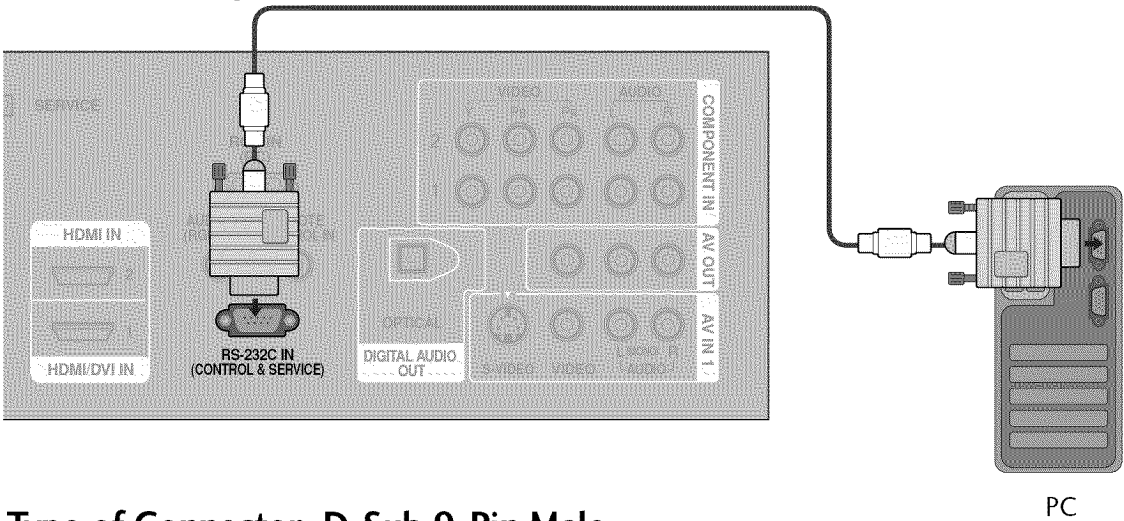
Type of Connector; D-Sub 9-Pin Male

No.	Pin Name
1	No connection
2	RXD (Receive data)
3	TXD (Transmit data)
4	DTR (DTE side ready)
5	GND
6	DSR (DCE side ready)
7	RTS (Ready to send)
8	CTS (Clear to send)
9	No Connection
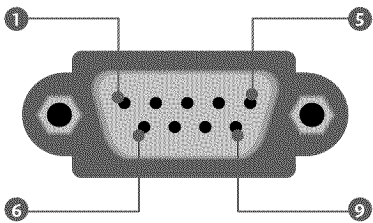
RS-232C Configurations

Either cable below can be used.

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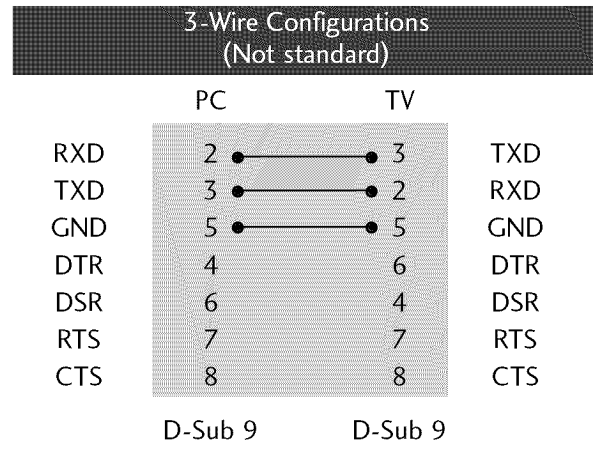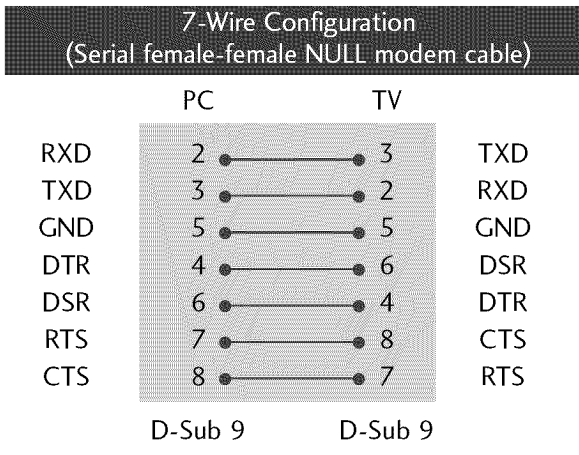
Set ID

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

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 **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.

```
SETUP ▶      EZ Scan
VIDEO        Manual Scan
AUDIO        Channel Edit
TIME         DTV Signal
OPTION       Input Source
LOCK         Input Label
             Set ID
  Move   Prev
```
1
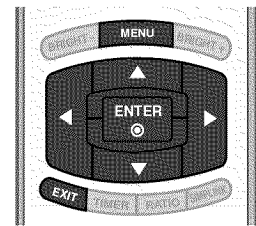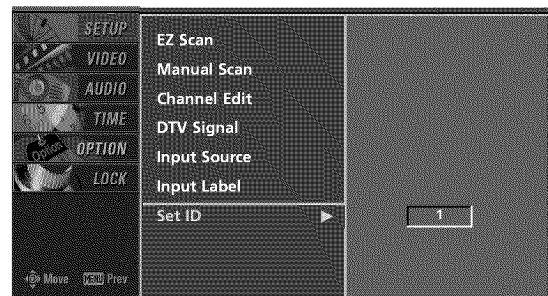
```
SETUP        EZ Scan
VIDEO        Manual Scan
AUDIO        Channel Edit
TIME         DTV Signal
OPTION       Input Source
LOCK         Input Label
             Set ID        ▶     1
  Move   Prev
```
2 3

Communication Parameters

- Baud rate : 9600 bps (UART)
- Data length : 8 bits
- Parity : None

- Stop bit : 1 bit
- Communication code : ASCII code
- Use a crossed (reverse) cable.

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

APPENDIX

Command Reference List

	COMMAND1	COMMAND2	DATA (Hexadecimal)		COMMAND1	COMMAND2	DATA (Hexadecimal)
01. Power	k	a	0 ~ 1	11. Sharpness	k	k	0 ~ 64
02. Input Select	k	b	0 ~ 9	12. OSD Select	k	l	0 ~ 1
03. Aspect Ratio	k	c	(▶ p.89)	13. Remote Control Lock Mode	k	m	0 ~ 1
04. Screen Mute	k	d	0 ~ 1				
05. Volume Mute	k	e	0 ~ 1	14. Treble	k	r	0 ~ 64
06. Volume Control	k	f	0 ~ 64	15. Bass	k	s	0 ~ 64
07. Contrast	k	g	0 ~ 64	16. Balance	k	t	0 ~ 64
08. Brightness	k	h	0 ~ 64	17. Color Temperature	k	u	0 ~ 3
09. Color	k	i	0 ~ 64	18. ISM Method	j	p	(▶ p.90)
10. Tint	k	j	0 ~ 64	19. Low Power	j	q	0 ~ 1

Plasma TV Model Only

	COMMAND1	COMMAND2	DATA0 (Hexadecimal)	DATA1 (Hexadecimal)	DATA2 (Hexadecimal)	DATA3 (Hexadecimal)	DATA4 (Hexadecimal)	DATA5 (Hexadecimal)
20. Channel Tuning	m	a	physical program high	major program low	major low	minor high	minor low	attribute
21. Channel Add/Del	m	b	0 ~ 1					
22. Key	m	c	(▶ p.91)					
23. Input Select	x	b	(▶ p.91)					
24. Back Light	m	g	0 ~ 64					

Some LCD TV Model Only

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 command data.
    Transmit 'FF' data to read status of command.
* In this model, TV will not send the status during the standby mode.
[Cr] : Carriage Return
    ASCII code '0x0D'
[ ] : ASCII code 'space (0x20)'

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.
* In this model, TV will send the echo, CR, LF with acknowledgement message.
* When it send the power on acknowledgement message, it will be like below.
ex) ka 01 01 (CR) (LF) a 01 OK 01 x (CR) (LF)

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
* In this model, TV will send the echo, CR, LF with acknowledgement message.
* When it send the power on acknowledgement message, it will be like below.
ex) ka 01 01 (CR) (LF) a 01 NG 01 x (CR) (LF)

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.
* In this model, TV will send the Acknowledge after power on processing completion.
* There might be a time delay between command and acknowledgement.

02. Input Select (Command: k b)

To select input source for the TV.

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

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

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

03. Aspect Ratio (Command: k c)

To adjust the screen format.

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

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

Date 1: 4:3   5: Zoom 2
     2: 16:9   6: Set by program
     3: Horizon
     4: Zoom 1

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

04. Screen Mute (Command: k d)

To select screen mute on/off.

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

Data 0 : Screen mute off (Picture on)
Data 1 : Screen mute on (Picture off)

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

05. Volume Mute (Command: k e)

To control volume mute on/off.

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

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

Data 0 : Volume mute on (Volume off)
Data 1 : Volume mute off (Volume on)

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

06. Volume Control (Command: k f)

To adjust volume.

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

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

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

Refer to 'Real data mapping' as shown below.

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

07. Contrast (Command: k g)

To adjust screen contrast.

You can also adjust contrast in the Video menu.

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

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

Refer to 'Real data mapping' as shown below.

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

08. Brightness (Command: k h)

To adjust screen brightness.

You can also adjust brightness in the Video menu.

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

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

Refer to 'Real data mapping' as shown below.

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

09. Color (Command: k i)

To adjust the screen color.

You can also adjust color in the Video menu.

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

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

Refer to 'Real data mapping' as shown below.

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

*Real data mapping
 0 : Step 0
 ⋮
 A : Step 10 (SET ID 10)
 ⋮
 F : Step 15 (SET ID 15)
 10 : Step 16 (SET ID 16)
 ⋮
 63 : Step 99 (SET ID 99)
 64 : Step 100
 * Tint : R50 ~ G50
 * Balance : L50 ~ R50

10. Tint (Command: k j)

To adjust the screen tint.

You can also adjust tint in the Video menu.

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

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

*Refer to 'Real data mapping'. ▶ p.89.

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

11. Sharpness (Command: k k)

To adjust the screen sharpness.

You can also adjust sharpness in the Video menu.

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

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

*Refer to 'Real data mapping'. ▶ p.89.

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

12. OSD Select (Command: k l)

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

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

Data 0: OSD off   Data 1: OSD on

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

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

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

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

Data 0: Lock off   Data 1: Lock on

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

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

14. Treble (Command: k r)

To adjust treble.

You can also adjust treble in the Audio menu.

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

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

*Refer to 'Real data mapping'. ▶ p.89.

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

15. Bass (Command: k s)

To adjust bass.

You can also adjust bass in the Audio menu.

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

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

*Refer to 'Real data mapping'. ▶ p.89.

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

16. Balance (Command: k t)

To adjust balance.

You can also adjust balance in the Audio menu.

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

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

*Refer to 'Real data mapping'. ▶ p.89.

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

17. Color Temperature (Command: k u)

To adjust color temperature.

You can also adjust color temperature in the Video 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]

18. ISM Method (Command: j p)

To avoid having a fixed image remain on screen.

(This feature is not available for all models.)

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

Data 1: Inversion   2: Orbiter

          4: White Wash   8: Normal

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

19. Low Power (Command: j q)

To control the low power function on/off.

(This feature is not available for all models.)

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

Data 0: Low power off   1: Low power on

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

20. 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	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]

21. 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]

22. Key (Command: m c)

To send IR remote key code.

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

Data Key code: Refer to page 85.

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

23. Input select (Command: x b)

To select input source for TV.

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

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

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

24. Back Light (Command: m g)

To adjust screen back light.
(This feature is not available for all models.)

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

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

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

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