Installation and Operating Guide | Warranty

Model Numbers | Z44SZ80/Z52SZ80 | DLP PROJECTION

zenith Z

zenith Z

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Warning/Caution

WARNING/CAUTION

**RISK OF ELECTRIC SHOCK
DO NOT OPEN**

WARNING/CAUTION:
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 PREVENT FIRE OR SHOCK HAZARDS, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE.

POWER CORD POLARIZATION:
CAUTION: TO PREVENT ELECTRIC SHOCK, MATCH WIDE BLADE OF PLUG TO WIDE SLOT, FULLY INSERT.

ATTENTION: POUR ÉVITER LES CHOCS ÉLECTRIQUES, INTRODUIRE LA LAME LA PLUS LARGE DE LA FICHE DANS LA BORNE CORRESPONDANTE DE LA PRISE ET POUSSER JUSQU'AU FOND.

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.

REGULATORY INFORMATION:
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 into 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.

COMPLIANCE:
The responsible party for this product's compliance is:
Zenith Electronics Corporation
1-201-816-2000
Marked and Distributed in the United States by LG Electronics U.S.A., Inc.
1000 Sylvan Avenue, Englewood Cliffs, NJ 07632
http://www.zenith.com

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 :

1. Read these instructions.

2. Keep these instructions.

3. Heed all warnings.

4. Follow all instructions.

5. Do not use this apparatus near water.

6. Clean only with dry cloth.

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

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

9. 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.

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

11. Only use attachments/accessories specified by the manufacturer.

12. 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.

PORTABLE CART WARNING

13. **Unplug this apparatus during lightning storms or when unused for long periods of time.**

14. **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.**

15. **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.

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

17. **Wet Location :**
    Apparatus shall not be exposed to dripping or splashing and no objects filled with liquids, such as vases, shall be placed on the apparatus.
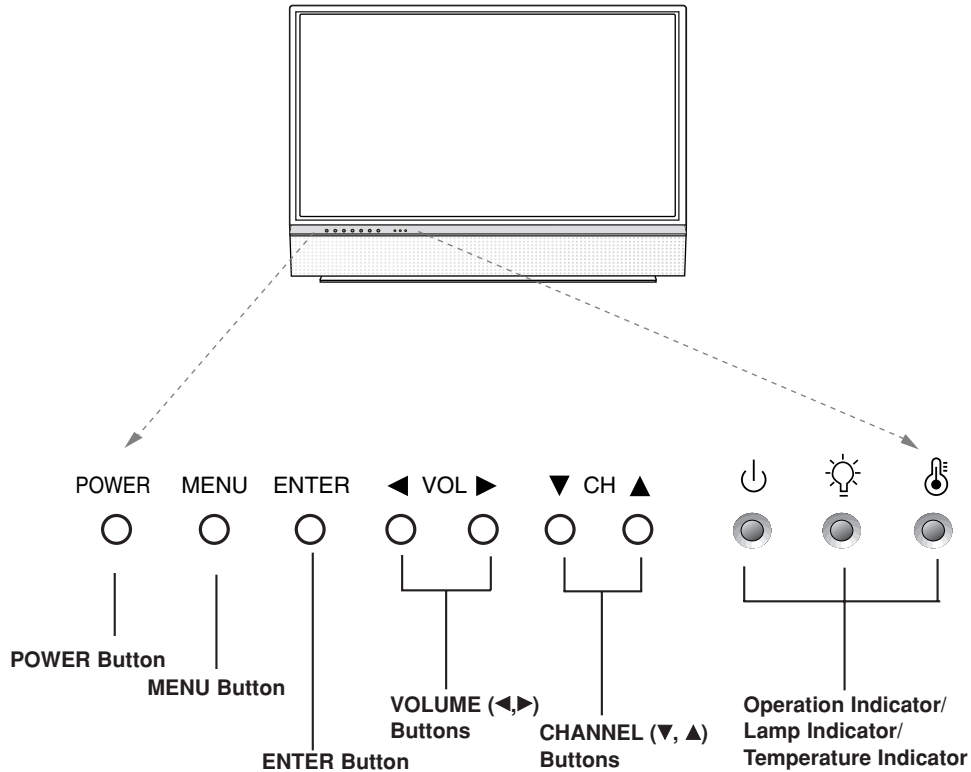
Contents

After reading this manual, keep it handy for future reference.

Introduction

Controls

- This is a simplified representation of a front panel.
- Image shown may be somewhat different from your TV.

Front Panel Controls

| POWER | MENU | ENTER | ◀ VOL ▶ | ▼ CH ▲ | ⏻ | 💡 | 🌡 |

POWER Button
MENU Button
ENTER Button
VOLUME (◀,▶) Buttons
CHANNEL (▼, ▲) Buttons
Operation Indicator/ Lamp Indicator/ Temperature Indicator

Function Status Indicators

- Lamp indicator, operation indicator, and temperature indicator located below the front panel controls, reveal the operating status of the DLP projection TV.

Operation Indicator	Off	Power cord is not connected.
	Red	Power Cord is connected, TV is in standby mode.
	Green	TV turns on.
	Orange (blinking)	Preparing operation in standby mode.
Lamp Indicator	Orange	Projection lamp is reaching the end of its life and needs to be replaced with a new lamp. Contact your service center.
	Red (blinking)	There is a problem with the lamp or around it. Contact an authorized service center.
	Green (blinking)	The lamp cover is not closed.
Temperature Indicator	Orange	The projection TV is overheating. Check for blocked vents on the projection TV.
	Red	The projection TV shut down due to overheating.
	Red (blinking)	The projection TV shut down, check the cooling fan. Contact your service center.

Connection Options

Back Connection Panel

DIGITAL AUDIO OPTICAL OUTPUT
Used to connect either an external amplifier, or add a sub-woofer to your surround sound system if it has a digital
audio optical input.
(Refer to ①)

DIGITAL AUDIO OPTICAL INPUT(COMPONENT2)
Connect digital audio from the equipment connected to COMPONENT 2.

DIGITAL AUDIO OPTICAL INPUT(DVI)
Connect digital audio from the equipment connected to HDMI/DVI(VIDEO).

HDMI1/DVI, HDMI 2
Connect a HDMI signal to HDMI1/DVI or HDMI2. Or connect a DVI(Video) signal to HDMI1/DVI.

CABLE Inputs
Connect cable signals to the TV, either directly or through your cable box.

ANTENNA Inputs
Connect antenna signals to the TV directly.

RGB Input
Connect the TV output connector from a PC/DTV to the appropriate input port.

S-VIDEO In
A connection available with some high-end equipment that provides even better picture quality for Video 2.

VIDEO 1 or 2
Connects the video signals from various types of equipment.

Left/Right AUDIO
Used for stereo sound from various types of equipment.

MONITOR OUT
Connect a second TV or Monitor.

COMPONENT INPUT 1-2
Connect a component video/audio device to these jacks. Refer to your DVD manual for further information.

RGB/DVI INPUT
Connect the monitor output connector from a PC to the appropriate input port.

VARIABLE AUDIO OUT
Used to connect either an external amplifier, or add a sub-woofer to your surround sound system.

Note: ① *In standby mode, these port will not work.*

Front Connection Panel

There are four jacks on the left side on your projection TV that make connecting Audio/Video devices like video games and camcorders very simple.

The jacks are like those found on the back jack connection panel. This means that most equipment that connects to those types of jacks on the rear jackpack, may be connected to the front connection panel.

To use the side jacks as the signal source, select them using Main Input menu as described on page 23. They will be named "Front Video" in the Main Input menu.
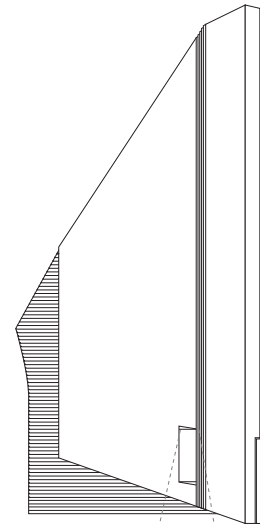
If you input both Front Video and S-Video, only the S-Video will work.

If you're connecting a video game device, make sure to change the picture settings with the EZ Picture option in the Video menu (see page 24).

Front A/V Panel
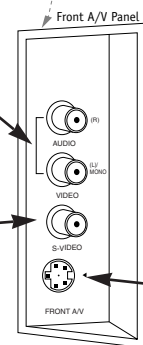
LEFT/RIGHT AUDIO
Used for stereo sound from various types of equipment.

VIDEO
Connects the video signals from any piece of equipment.

S-VIDEO
A connection available on some very high-end equipment that provides better picture quality than video input.

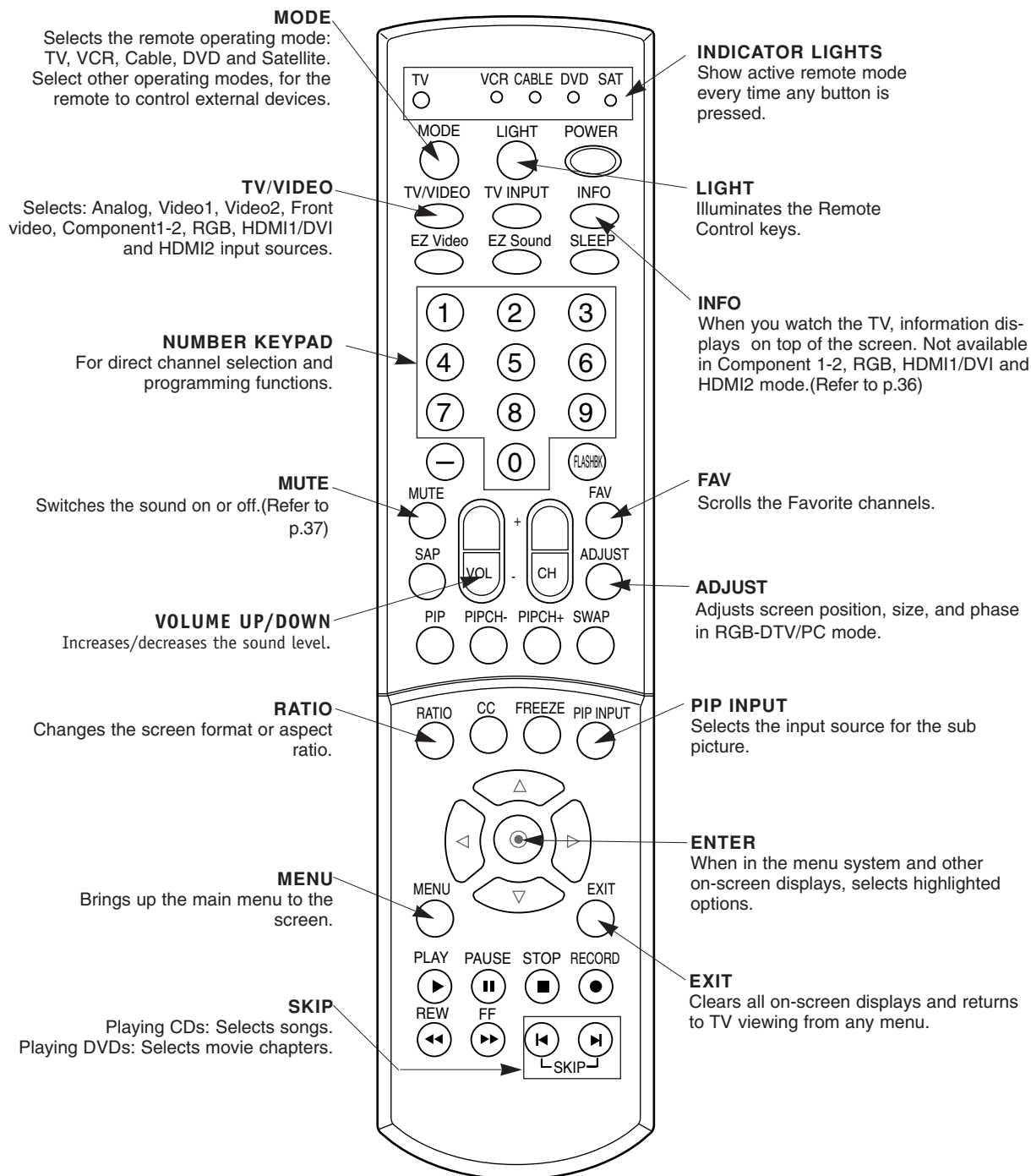(R)
AUDIO
(L)/MONO
VIDEO
S-VIDEO
FRONT A/V

Mini glossary

A/V CABLES Audio/Video cables. Three cable connector—Right audio (red), Left audio (white), and Video (yellow). A/V cables are used for stereo playback of videocassettes and for higher quality picture and sound from other A/V devices.

A/V DEVICE Any device that produces video or sound (VCR, DVD, cable box, or television).

Remote Control Key Functions

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

MODE
Selects the remote operating mode: TV, VCR, Cable, DVD and Satellite. Select other operating modes, for the remote to control external devices.

TV/VIDEO
Selects: Analog, Video1, Video2, Front video, Component1-2, RGB, HDMI1/DVI and HDMI2 input sources.

NUMBER KEYPAD
For direct channel selection and programming functions.

MUTE
Switches the sound on or off.(Refer to p.37)

VOLUME UP/DOWN
Increases/decreases the sound level.

RATIO
Changes the screen format or aspect ratio.

MENU
Brings up the main menu to the screen.

SKIP
Playing CDs: Selects songs.
Playing DVDs: Selects movie chapters.

INDICATOR LIGHTS
Show active remote mode every time any button is pressed.

LIGHT
Illuminates the Remote Control keys.

INFO
When you watch the TV, information displays on top of the screen. Not available in Component 1-2, RGB, HDMI1/DVI and HDMI2 mode.(Refer to p.36)

FAV
Scrolls the Favorite channels.

ADJUST
Adjusts screen position, size, and phase in RGB-DTV/PC mode.

PIP INPUT
Selects the input source for the sub picture.

ENTER
When in the menu system and other on-screen displays, selects highlighted options.

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

Remote Control Key Functions

TV INPUT
• Rotates the input mode between Antenna and Cable.
• Video 1-2, Front Video, Component 1-2, RGB-DTV (or RGB-PC), HDMI1/DVI and HDMI2 input sources, TV will return to the last TV channel.

EZ Video
Adjusts the factory preset picture depending on the viewing environment.

EZ Sound
Selects the sound appropriate for the program's character.

SAP
Selects MTS sound: Mono, Stereo, and SAP in Analog mode. Change the audio language in DTV mode.

PIP
Toggles between PIP and Twin picture mode.

PIPCH-
Changes to next lower PIP channel

CC
Selects a closed caption mode for displaying captioning information if available on program.

THUMBSTICK
Allows you to navigate the on-screen menus and to adjust the system settings and preferences, by moving to an option with ◄ ♦ ► and selecting the highlighted option with ◎.

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

SLEEP

FLASHBK
Tunes to the last channel viewed.

CHANNEL UP/DOWN
Scrolls through available channels in EZ Scan memory.

SWAP
Exchanges the main/sub images in PIP/Twin picture mode.

PIPCH+
Changes to next higher PIP channel.

FREEZE
Freezes the currently-viewed picture. Main picture is frozen in PIP/Twin picture mode.

RECORD, PAUSE, REW, FFWD, PLAY, STOP
Control the functions on your VCR.

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.
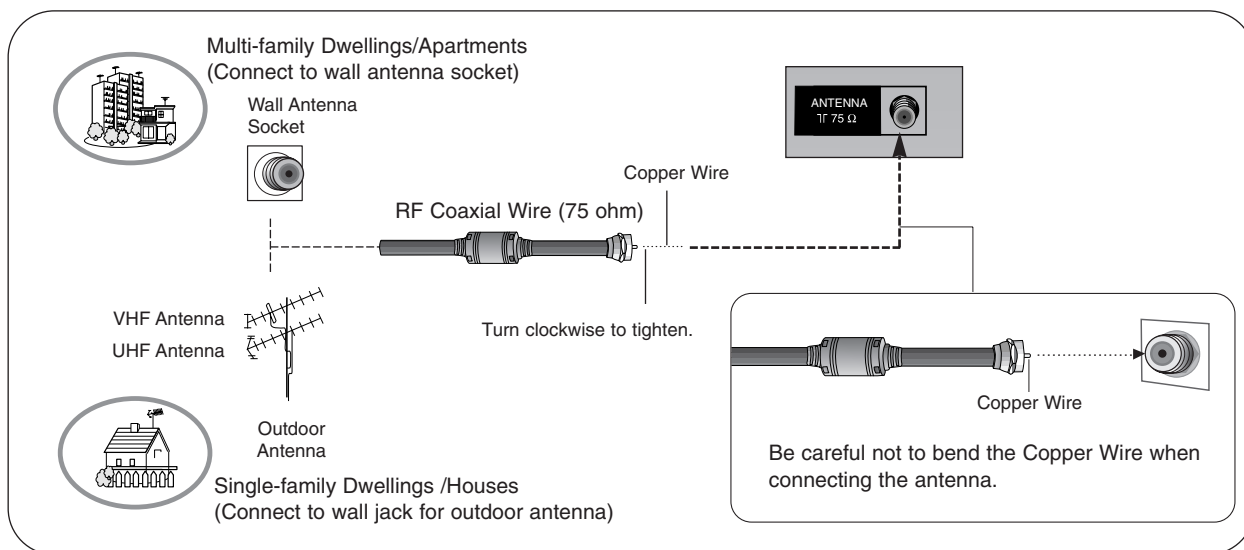
back of remote
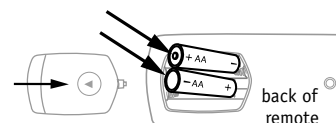
Installation
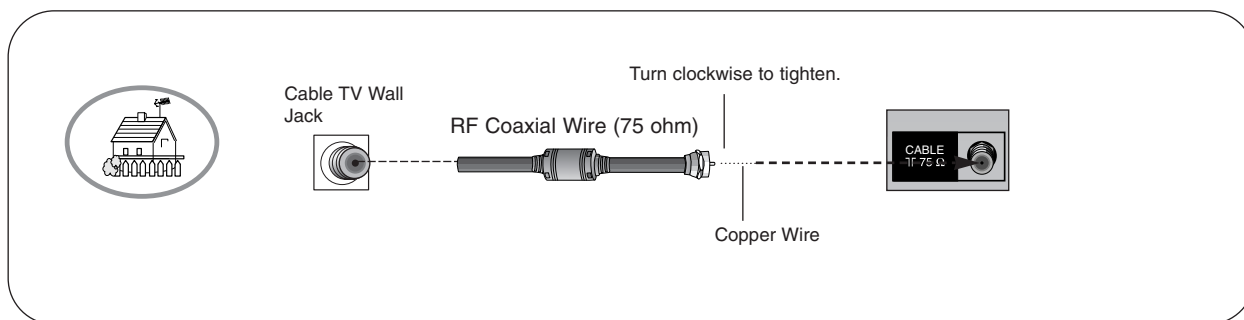
External Equipment Connections

Antenna or Cable Connection
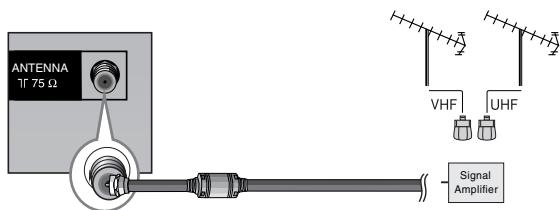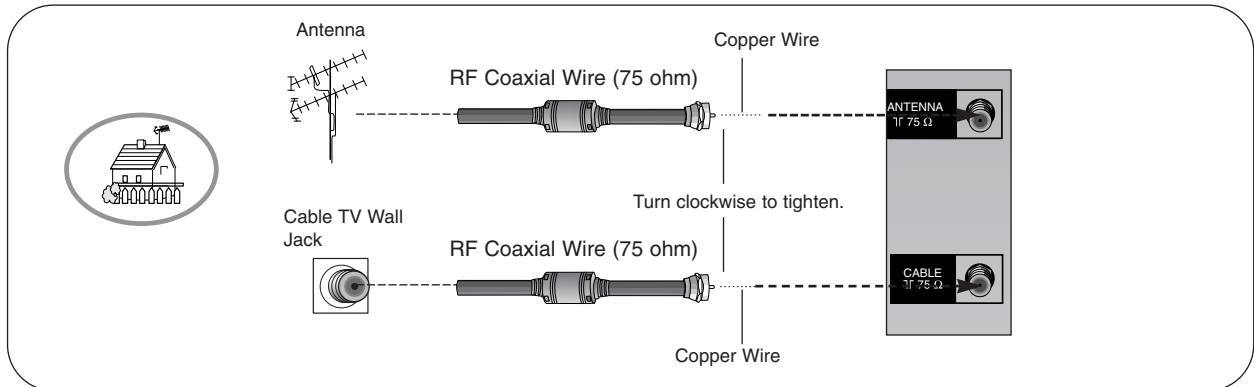
1. Analog and Digital TV signals provided on antenna

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

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

Wall Antenna Socket

ANTENNA
⊥ 75 Ω

Copper Wire

RF Coaxial Wire (75 ohm)

VHF Antenna
UHF Antenna

Turn clockwise to tighten.

Outdoor Antenna

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

Copper Wire

Be careful not to bend the Copper Wire when connecting the antenna.

2. Analog and Digital TV signals provided on cable

Cable TV Wall Jack

Turn clockwise to tighten.

RF Coaxial Wire (75 ohm)

CABLE
⊥ 75 Ω

Copper Wire

3. Analog and Digital TV signals provided on cable and antenna

Antenna   Copper Wire

RF Coaxial Wire (75 ohm)

ANTENNA 75 Ω

Turn clockwise to tighten.

Cable TV Wall Jack

RF Coaxial Wire (75 ohm)

CABLE 75 Ω

Copper Wire

ANTENNA 75 Ω

VHF   UHF

Signal Amplifier

- 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" in the connections.

- If the antenna is not installed properly, contact your dealer for assistance.

Note: *The TV will let you know when the TV(analog antenna), DTV(digital antenna), CATV(analog cable) and CADTV(digital cable) channel scans are complete.*

VCR Setup

Connection Option 1

Set VCR output switch to channel 3 or 4 and then tune the TV to the same channel number.

Connection Option 2

1. Connect the audio and video cables from the VCR's output jacks to the TV input jacks, as shown in the figure. When connecting the TV to VCR, match the jack colors (Video = yellow, Audio Left = white, and Audio Right = red). If you connect an S-VIDEO output from VCR to the S-VIDEO input, the picture quality is improved; compared to connecting only the Video input.
2. Insert a video tape into the VCR and press PLAY on the VCR. (Refer to the VCR owner's manual.)
3. Select the input source with using the **TV/VIDEO** button on the remote control. Note that this TV finds the connected input sources automatically for Video1-2, Front Video and Component 1-2. It is presumed that RGB, HDMI1/DVI and HDMI2 sources are connected.

⚠ Do not connect to both Video1,2 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.



VCR Rear
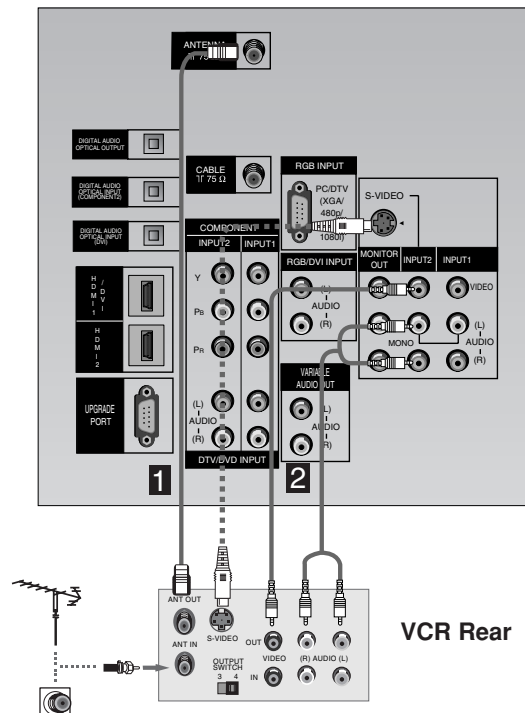
External A/V Source Setup

How to connect
Connect the audio and video cables from the external equipment's output jacks to the TV input jacks, as shown in the figure.
When connecting the TV to external equipment, match the jack colors (Video = yellow, Audio Left = white, and Audio Right = red).

How to use
1. Select the input source by using the **TV**/**VIDEO** button on the Remote Control. Note that this TV finds the connected input sources automatically for Video 1-2 and Component 1-2. It is presumed that RGB, HDMI1/DVI and HDMI2 sources are connected.
2. Operate the corresponding external equipment.
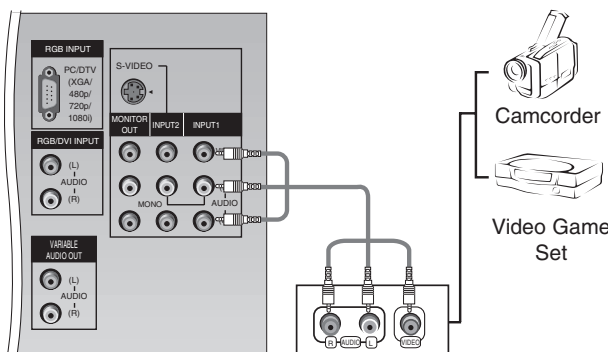
DVD Setup

How to connect
1. Connect the DVD video outputs (Y, P_B, P_R) to the COMPONENT (Y, P_B, P_R) INPUT jacks on the TV and connect the DVD audio outputs to the AUDIO INPUT jacks on the TV, as shown in the figure.
2. If your DVD only has an S-Video output jack, connect this to the S-VIDEO input on the TV and connect the DVD audio outputs to the AUDIO INPUT jacks on the TV, as shown in the figure.
Note: *If your DVD player does not have component video output, use S-Video.*

How to use
1. Turn on the DVD player, insert a DVD.
2. Use the **TV**/**VIDEO** button on the Remote Control to select **Component 1** or **Component 2**. (If connected to S-VIDEO, select the **Video2** or **Front Video** external input source.)
3. Refer to the DVD player's manual for operating instructions.

• **Component Input ports**
To get better picture quality, connect a DVD player to the component input ports as shown below.

Component ports on the TV	Y	P_B	P_R

Video output ports on DVD player	Y	Pb	Pr
	Y	B-Y	R-Y
	Y	Cb	Cr
	Y	P_B	P_R
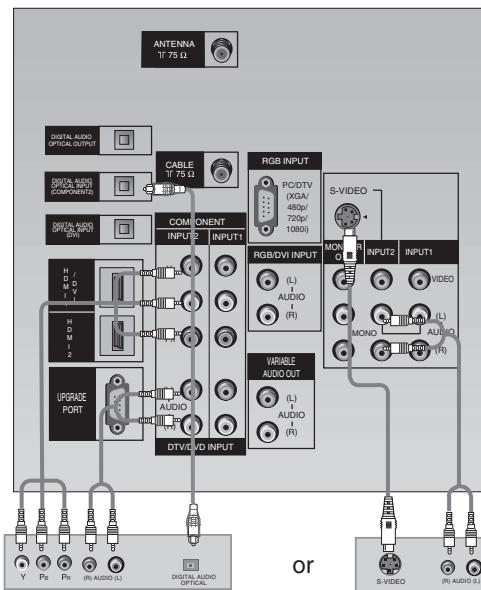
DVD

Notes:
• *Digital Audio will not work for Component 1 input source.*
• *Digital Audio operation has priority if Digital Audio and AUDIO L/R are connected at the same time.*

HDSTB 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.
- This TV supports HDCP (High-bandwidth Digital Contents Protection) protocol for Digital Contents (480p,720p,1080i).

How to connect

Use the TV's COMPONENT (Y, P$_B$, P$_R$) INPUT, RGB, HDMI1/DVI or HDMI2 jack for video connections, depending on your set-top box connector. Then, make the corresponding audio connections.

Note: *HDMI(High Definition Multimedia Interface): Input that accepts uncompressed digital signal and multi channel digital audio signal.*

How to use

1. Turn on the digital set-top box. (Refer to the owner's manual for the digital set-top box.)
2. Use **TV**/**VIDEO** on the Remote Control to select **Component 1**, **Component 2**, **RGB-DTV**, **HDMI1**/**DVI** or **HDMI2** source.

Signal	Component 1/2	RGB-DTV,HDMI1/DVI,HDMI2
480i	Yes	No
480p	Yes	Yes
720p	Yes	Yes
1080i	Yes	Yes

Monitor Out Setup

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

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

Note
• *Component, RGB-PC/RGB-DTV, HDMI1/DVI,HDMI2, DTV input sources cannot be used for Monitor out.*
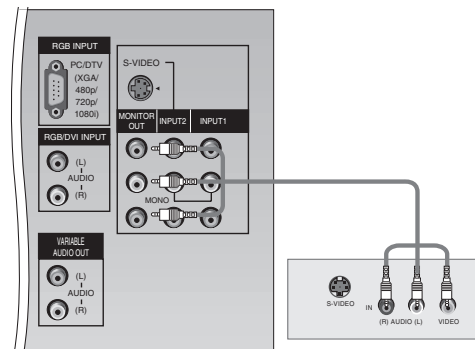
PC Setup

- This TV provides Plug and Play capability, meaning that the PC adjusts automatically to the TV's settings.
- The TV perceives 640x480, 60Hz as DTV 480p based on the PC graphic card, change the screen scanning rate for the graphic card accordingly.

<When the PC supports DVI>

How to connect

1. Connect the PC to HDMI1/DVI port of this TV with an HDMI-to-DVI cable(not supplied with this product).
   If you do not need to connect audio, HDMI2 port is also available for the DVI video connection.
2. If the PC(or the sound card of the PC) has a fiber optic digital audio output connector, connect the PC's audio output to DIGITAL AUDIO(OPTICAL) port for DVI INPUT.
3. If the PC(or the sound card of the PC) has an analog audio output connector, connect the PC's audio output to AUDIO INPUT port located on the right side of RGB INPUT port.

How To Use

1. To get the best picture quality, adjust the PC graphics card to 1024x768, 60Hz.
2. Select HDMI1/DVI input source in main input option of SETUP menu.(Refer to P.23)
   TV/**VIDEO** button is also available for this purpose.
3. Check the image on your TV. There may be noise associated with the resolution, vertical pattern, contrast or brightness in PC mode. If noise is present, change the PC output to another resolution, change the refresh rate to another rate or adjust the brightness and contrast on the VIDEO menu until the picture is clear. If the refresh rate of the PC graphic card can not be changed, change the PC graphic card or consult the manufacturer of the PC graphic card.

<When the PC supports RGB>

How to connect

1. Connect the PC to RGB INPUT port of this TV with a RGB cable.
2. If the PC(or the sound card of the PC) has an analog audio output connector, connect the PC's audio output to AUDIO INPUT port located on the right side of RGB INPUT port.

How To Use

1. To get the best picture quality, adjust the PC graphics card to 1024x768, 60 Hz.
2. Select **RGB-PC** input source in main input option of SETUP menu.(Refer to P.23)
   Once you select **RGB-PC** in main input option of SETUP menu, **TV**/**VIDEO** button is also available for this purpose.
3. Check the image on your TV. There may be noise associated with the resolution, vertical pattern, contrast or brightness in PC mode. If noise is present, change the PC output to another resolution, change the refresh rate to another rate or adjust the brightness and contrast on the VIDEO menu until the picture is clear. If the refresh rate of the PC graphic card can not be changed, change the PC graphic card or consult the manufacturer of the PC graphic card.

Monitor Display Specifications (RGB-PC or **HDMI1/DVI Mode)**

| Resolution	Horizontal Frequency(KHz)	Vertical Frequency(Hz)	
640x350	31.468	70.09	← RGB-PC Mode Only
640x480	31.469	59.94	
	37.861	72.80	
	37.500	75.00	
800x600	35.156	56.25	
	37.879	60.31	
	48.077	72.18	
	46.875	75.00	
1024x768	48.363	60.00	
	56.476	70.06	
	60.023	75.02	

Digital Audio Output

Send the TV's audio to external audio equipment (stereo system) via the Digital Audio Output (Optical) port.
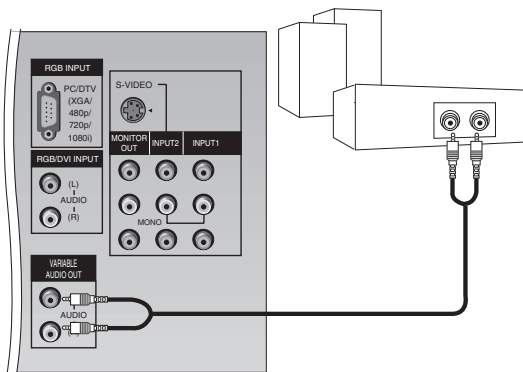
How to connect
1. Connect one end of an optical cable to the TV Digital Audio (Optical) Output port.
2. Connect the other end of the optical cable to the digital audio (optical) input on the audio equipment.
3. Set the " **TV Speaker** option - **Off** " in the AUDIO menu. Refer to page 26.
   See the external audio equipment instruction manual for operation.

⚠ **Caution**: Do not look into the optical output port. Looking at the light may damage your vision.
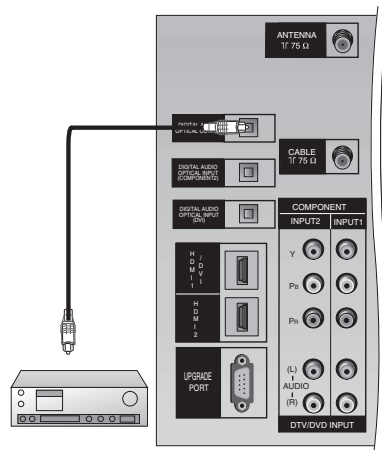
External Stereo

Hook up Variable Audio Output, L-Audio-R to Amplifier system for Left/Right front speaker sound.

How to connect
1. Locate the Variable Audio Out jacks on the back of your TV and the Input jacks on the back of your stereo's amplifier.
2. Connect the two jacks, making sure that the right and left channels are connected correctly.
3. Set up your speakers through your analog stereo amplifier, according to the instructions provided with the amplifier.

HDMI

HDMI™
HIGH DEFINITION MULTIMEDIA INTERFACE

- HDMI™, the HDMI logo and High-Definition Multimedia Interface is a trademark or registered trademark of HDMI Licensing.
- This TV can receive the High-Definition Multimedia Interface(HDMI) or the Digital Visual Interface(DVI).
- This TV supports HDCP(High-bandwidth Digital Contents Protection) Protocol for 720x480p, 1280x720p, and 1920x1080i resolutions.
- When you connect this TV with a source device(DVD player, Set Top Box or PC) supporting Auto HDMI/DVI function, the output resolution of the source device will be automatically set to 1280x720p.
- If the source device does not support Auto HDMI/DVI, you need to set the output resolution appropriately.
  To get the best picture quality, adjust the DVD Player or Set Top Box's output resolution to 1280x720p, and the PC graphics card's output resolution to 1024x768, 60Hz.
- If the source device has an HDMI output, no other audio connection is necessary because HDMI-to-HDMI connection includes both video and audio.
- If the source device has a DVI output and no HDMI output, a separated audio connection is necessary.

<When the source device(DVD player or Set Top Box) supports HDMI>

How To Connect
1. Connect the source device to HDMI1/DVI or HDMI2 port of this TV with an HDMI cable(not supplied with this product).
2. No separated audio connection is necessary.
How To Use
- If the source device supports Auto HDMI function, the output resolution of the source device will be automatically set to 1280x720p.
- If the source 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 source device to 1280x720p.
- Select HDMI1/DVI or HDMI2 input source in main input option on the SETUP menu.(Refer to P.23)
  TV/**VIDEO** button is also available for this purpose.

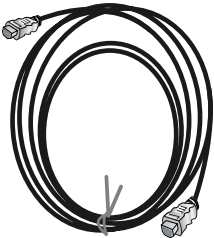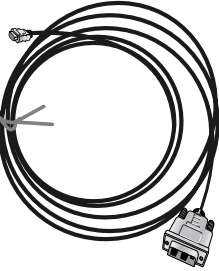### <When the source device(DVD player or Set Top Box) supports DVI>
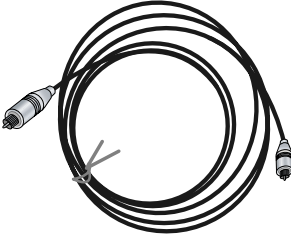
How To Connect
1. Connect the source device to HDMI1/DVI port of this TV with a HDMI-to-DVI cable(not supplied with this product).
   Do not use HDMI2 port for DVI connection if you want to connect audio.
2. A separated audio connection is necessary.
3. If the source device has a fiber optic digital audio output, connect the audio output to DIGITAL AUDIO(OPTICAL) port for DVI INPUT.
4. Connect the PC's audio output to AUDIO INPUT port located on the right side of RGB INPUT port.
How To Use
- If the source device supports Auto DVI function, the output resolution of the source device will be automatically set to 1280x720p.
- If the source device does not support Auto DVI, you need to set the output resolution appropriately.
  To get the best picture quality, adjust the output resolution of the source device to 1280x720p.
- Select HDMI1/DVI input source in main input option on the SETUP menu.(Refer to P.23)
  TV/**VIDEO** button is also available for this purpose.

Cable sample

	HDMI Cable (not supplied with the product)
	HDMI to DVI Cable (not supplied with the product)
	Fiber Optic Digital Audio Cable (not supplied with the product)
	Analog Audio Cable(RCA type) (not supplied with the product)
	Analog Audio Cable(Stereo to RCA type) (not supplied with the product)

How to use
1. Connect the HDMI1/DVI Source Devices(DVD Player or Set Top Box or PC) and the TV SET.
2. Turn on the display by pressing the POWER button on the TV SET and HDMI1/DVI Source Devices remote control.
3. Select HDMI1/DVI Input source in Main Input option on the SETUP menu.(Refer to P.23)
4. Check the image on your TV SET. There may be noise associated with the resolution, vertical pattern, contrast or brightness in HDMI1/DVI Source Devices. If noise is present, change the HDMI1/DVI Source Devices to another resolution, change the refresh rate or adjust the brightness and contrast on the menu until the picture is clear. If the refresh rate of the PC graphics card can not changed, change the PC graphics card or consult the manufacturer of the PC graphics card.

Notes:
- *Depending on the graphics card, DOS mode may not work if a HDMI to DVI Cable is in use.*
- *When Source Devices connected with HDMI1/DVI Input, output TV SET Resolution(480p, 720p, 1080i) and TV SET Display fit EIA/CEA-861-B Specification to Screen. If not, refer to the Manual of HDMI1/DVI Source Devices or contact your service center.*
- *In case HDMI1/DVI Source Devices is not connected Cable or poor cable connection, "NO SIGNAL" OSD display in HDMI1/DVI Input. In case that Video Resolution is not supported TV SET output in HDMI1/DVI Source Devices, "INVALID FORMAT" OSD display. Refer to the Manual of HDMI1/DVI Source Devices or contact your service center.*

In DTV Mode, the Supported TV Set Resolution Specification

- 1920 x 1080 I @ 59.94Hz / 60Hz, 16:9
- 1280 x 720 P @ 59.94Hz / 60Hz, 16:9(preferred format)
- 720 x 480 P @ 59.94Hz / 60Hz, 16:9
- 720 x 480 P @ 59.94Hz / 60Hz, 4:3

In PC Mode, the Supported PC Resolution Specification

- 640 x 480 @ 60Hz
- 640 x 480 @ 72Hz
- 640 x 480 @ 75Hz
- 800 x 600 @ 56Hz
- 800 x 600 @ 60Hz
- 800 x 600 @ 72Hz
- 800 x 600 @ 75Hz
- 1024 x 768 @ 60Hz(preferred format)
- 1024 x 768 @ 70Hz
- 1024 x 768 @ 75Hz

Operation

Turning the TV On

* In this manual, the OSD (On Screen Display) may be different from your TV's because it is just an example to help you with the TV operation.

Turning on the TV just after installation

1. Connect power cord correctly. At this moment, the TV is switched to standby mode.

2. Press the **POWER** or **CH (▲ / ▼)** buttons on the TV front panel or press the **POWER**, **TV/VIDEO**, **TV INPUT**, **CH (▲ / ▼)** or **Number (0 ~ 9)** buttons on the Remote Control to turn the TV on.

Turning on the TV (power cord is still connected)

1. If the TV is off without indicators on the TV

• Check the power cable.

2. If the TV was turned off with the remote control and the POWER button on the TV

• Press the **POWER** button on the TV or press the **POWER**, **TV/VIDEO**, **TV INPUT**, **CH (▲ / ▼)** or **Number (0 ~ 9)** button on the Remote Control to turn the TV on.

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

TV Setup

On-screen Menus Language Selection

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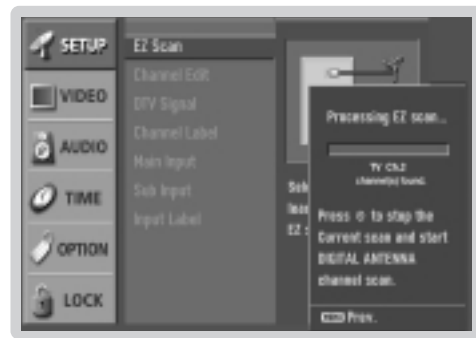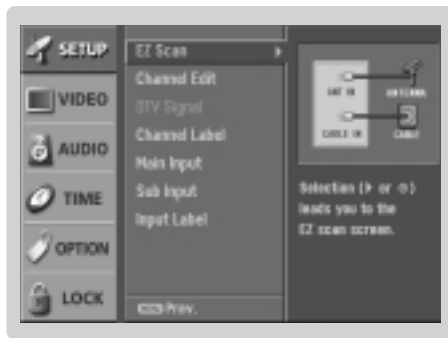
1. Press the **MENU** button and then use ▲ / ▼ button to select the **OPTION** menu.

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

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

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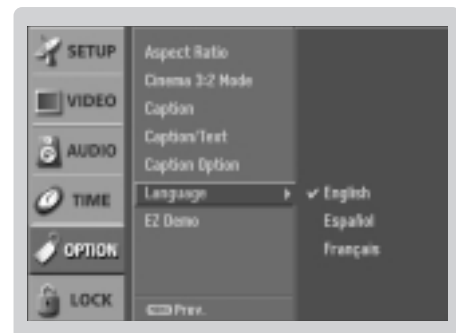
Setup Menu Options

EZ Scan (Channel Search)

- Automatically finds all channels available through antenna and cable inputs, and stores them in a channel list in the memory.
- Run EZ Scan again after any Antenna/Cable connection changes.

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

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

3. Press the ▶ button or **ENTER** button to begin the channel search.
   Allow EZ Scan to complete the channel search cycle for TV, DTV, CATV, and CADTV.

Channel Edit

- You can create two different types of channel lists in memory: "Custom List" and "Favorite List" from the default channel list created from the EZ Scan channel search.
- 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 color, and the channels deleted from the Custom List are displayed in gray color. 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 also create your own Favorite List.
  Use the **FAV** button on the Remote Control when a channel is highlighted and then you can add or delete the channel to/from the Favorite List.
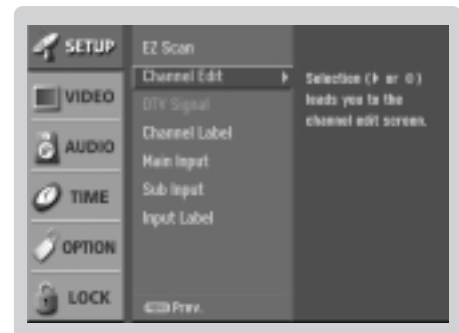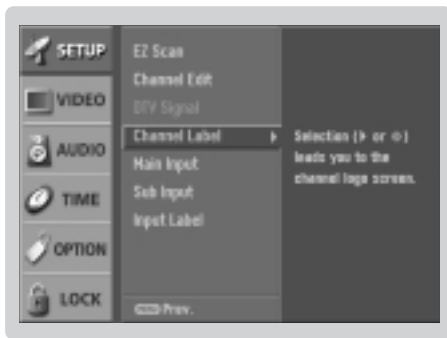

1. Press the **MENU** button and then use ▲ / ▼ button to select the **SETUP** menu.

2. Press the ▶ button and then use ▲ / ▼ 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** to add or delete the channel to the Favorite List.

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

Channel Label Setup

- Choose preset labels for your channels.
- If a channel label is provided on the signal from the broadcasting station, the TV displays a short name for a DTV channel - even if you didn't preset a label for the channel.

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

2. Press the ▶ button and then use ▲ / ▼ button to select **Channel Label**.

3. Press the ▶ button. You will now see a screen filled with Labels and a preview screen.

4. Use the **CH** ▲ / ▼ button to select a channel to Label.

5. Use ▲ / ▼ / ◀ / ▶ button to select the appropriate label for the channel, then press **ENTER** button to set the Label to the selected channel.

- If you press **ENTER** button in TV viewing mode, you will see the channel banner. - - - - ▶

> CADTV 27-1
> Dolby Digital   HD
> **CNN**

Main Picture 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 ▲ / ▼ button to select the **SETUP** menu.

2. Press the ▶ button and then use ▲ / ▼ button to select **Main Input**.

3. Press the ▶ button and then use ▲ / ▼ button to select the source: Antenna, Cable, Video1, Video2, Front Video, Component1, Component2, RGB-DTV (or 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.
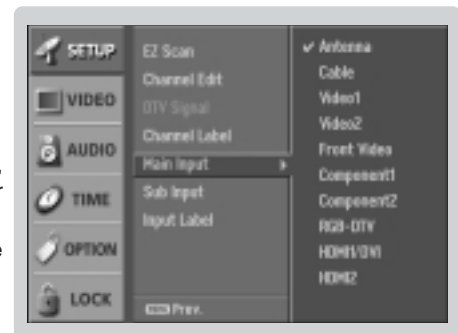
Input Label

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

2. Press the ▶ button and then use ▲ / ▼ button to select **Input Label**.

3. Press the ▶ button and then use ▲ / ▼ button to select the source: Video1, Video2, Front Video, Component1, Component2, RGB, HDMI1/DVI or HDMI2.

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

# Video Menu Options

EZ Picture

- EZ Picture adjusts the TV for the best picture appearance. Select the preset value in the EZ Picture menu based on the program category.
- When adjusting Video menu options (contrast, brightness, color, sharpness, tint, and color temperature) manually, EZ Picture automatically changes to **Custom**.
- **Daylight**, **Normal**, **Night Time**, **Movie**, **Video Game**, and **Sports** settings are preset for optimum picture quality at the factory and are not adjustable.

1. Press the **EZ Video** button repeatedly to select the picture appearance setup option as shown below:
   Custom (your own settings), **Daylight**, **Normal**, **Night Time**, **Movie**, **Video Game**, and **Sports**.
   • You can also use the **VIDEO** menu to adjust **EZ Picture**.
2. Press the **EXIT** button to save and return to TV viewing.

Manual Picture Control (**Custom** option)

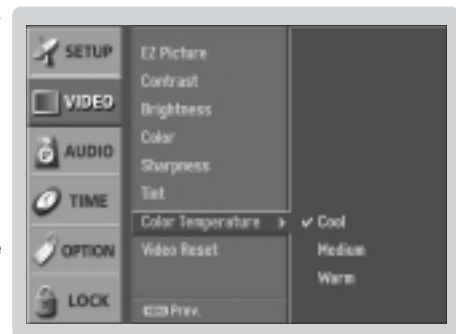- Adjust the picture appearance to suit your preference and viewing situations.

1. Press the **MENU** button and then use ▲ / ▼ button to select the **VIDEO** menu.
2. Press the ► button and then use ▲ / ▼ button to select the desired picture option (**Contrast**, **Brightness**, **Color**, **Sharpness**, or **Tint**).
3. Press the ► button and then use ◄ / ► button to make appropriate adjustments.
4. Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.
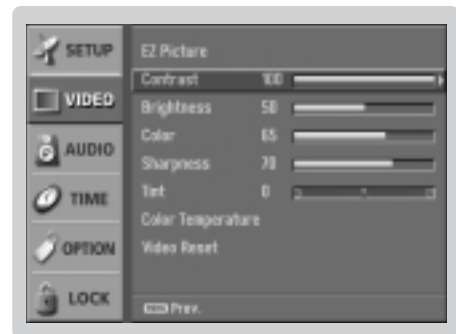
Color Temperature Control

- 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.
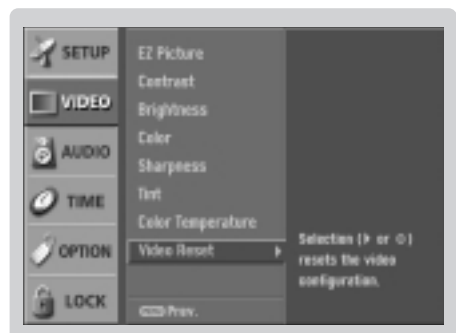
1. Press the **MENU** button and then use ▲ / ▼ button to select the **VIDEO** menu.
2. Press the ► button and then use ▲ / ▼ button to select **Color Temperature** .
3. Press the ► button and then use ▲ / ▼ button to select either **Cool**, **Medium**, or **Warm**.
4. Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.

Video Reset

- Use to quickly reset all the Video menu options to their original factory preset values.
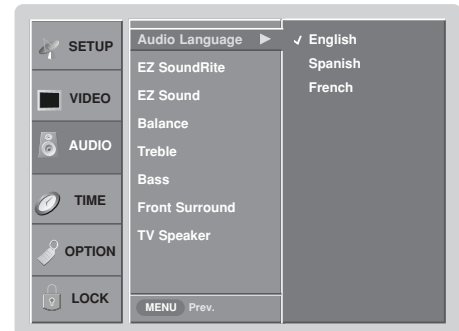
1. Press the **MENU** button and then use ▲ / ▼ button to select the **VIDEO** menu.
2. Press the ► button and then use ▲ / ▼ button to select **Video Reset** .
3. Press the ► button to reset the Video menu options to original values.

Audio Menu Options

Audio Language

- Other languages may be available if a digital signal is provided by the broadcasting station.

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

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

3. Press the ► button and then use ▲ / ▼ 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.

EZ SoundRite

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

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

2. Press the ► button and then use ▲ / ▼ button to select **EZ SoundRite**.

3. Press the ► button and then use ▲ / ▼ 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.
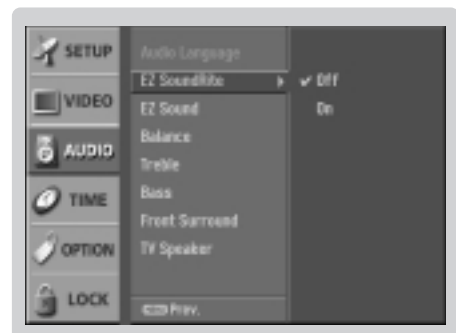
EZ Sound

- 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.
- When adjusting sound options (treble, bass, and front surround) manually, EZ Sound automatically switches **Custom**.
- **Normal**, **Stadium**, **News**, **Music** and **Theater** are preset for good sound quality at the factory and are not adjustable.

1. Press the **EZ Sound** button repeatedly to select the appropriate sound setup as shown below:
   Custom (your own settings), **Normal**, **Stadium**, **News**, **Music** and **Theater**.
   • You can also adjust **EZ Sound** in the **AUDIO** menu.

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

Manual Sound Control (**Custom** option)

- Adjust the sound to suit your taste and room situations.

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

2. Press the ► button and then use ▲ / ▼ button to select the desired sound option (**Balance**, **Treble**, or **Bass**).

3. Press the ► button and then use ◄ / ► button to make appropriate adjustments.

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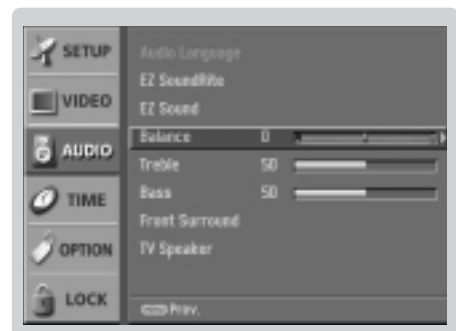
Audio Menu Options

Front Surround

- is a trademark of SRS Labs, Inc.
- TruSurround XT technology is incorporated under license from SRS Labs, Inc.
- Manufactured under license from Dolby Laboratories. "Dolby" and the double-D symbol are trademarks of Dolby Laboratories.
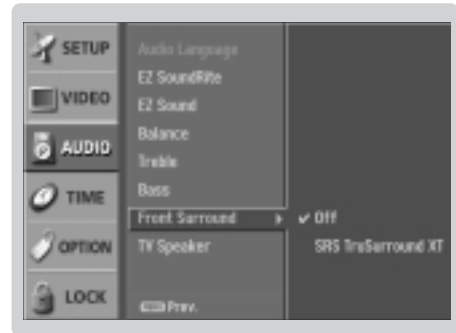
1. Press the **MENU** button and then use ▲ / ▼ button to select the **AUDIO** menu.

2. Press the ► button and then use ▲ / ▼ button to select **Front Surround**.

3. Press the ► button and then use ▲ / ▼ button to select **Off** sor **SRS** (Sound Retrieval System) **TruSurround XT**.

   • **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 that produces an immersive sound experience from standard stereo material.

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

TV Speaker On/Off Setup

- Turn 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 ▲ / ▼ button to select the **AUDIO** menu.

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

3. Press the ► button and then use ▲ / ▼ 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.
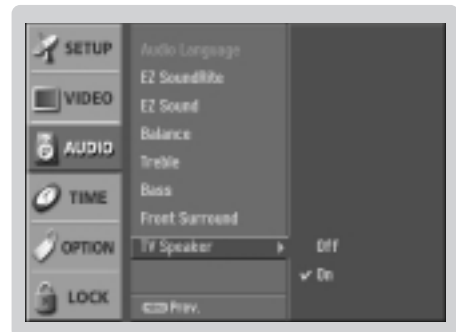
Stereo/SAP Broadcasts Setup

- This TV can receive MTS stereo programs and any SAP (Secondary Audio Program) that accompanies the stereo program; if the station transmits an additional sound signal as well as the original one.
- When having selected Stereo or SAP button on the Remote Control, this TV can only receive the signal when the TV station transmits the proper signals.
- 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 fringe areas during stereo/SAP broadcasting.
- Stereo or SAP can be received in Analog channel.

1. Use the **SAP** button to select your desired MTS mode in analog signal. Each time you press the **SAP** button, **Mono**, **Stereo**, or **SAP** appear in turn.
   • If other languages available on the digital signal, select them with the **SAP** button.

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

Time Menu Options

Auto Clock Setup

- The time is set automatically from a digital channel signal.
- The digital channel signal includes information for the current time provided by the broadcasting station.
- Set the clock manually, if the current time is set incorrectly by the auto clock function.
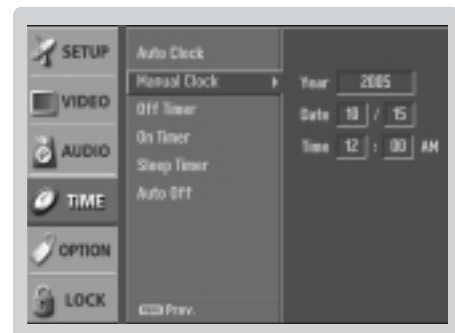
1. Press the **MENU** button and then use ▲ / ▼ button to select the **TIME** menu.

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

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

4. Press the ► button and then use ▲ / ▼ button to select your viewing area time zone: **Eastern**, **Central**, **Mountain**, **Pacific**, **Alaska**, or **Hawaii**.

5. Press the ► button and then use ▲ / ▼ button to set Daylight Saving **Auto**, **Off** or **On**, depending on whether or not your viewing area observes Daylight Savings Time.

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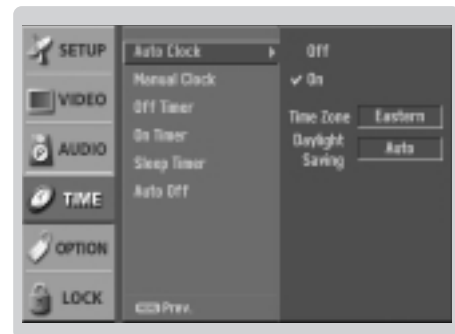
Manual Clock Setup

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

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

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

3. Press the ► button and then use ◄ / ► button to select either the year, date, or time option. Once selected, use the ▲ / ▼ 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.

On/Off Timer Setup

- Timer function operates only if current time has been set.
- Off-Timer function overrides 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 ▲ / ▼ button to select the **TIME** menu.

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

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

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

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

6. **For only On timer function**
   Press the ► button and then use ▲ / ▼ button to select the channel at turn-on.
   Press the ► button and then use ▲ / ▼ 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.
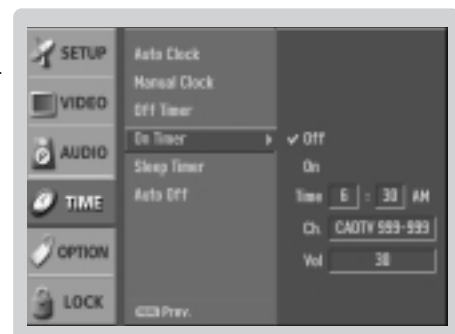
Time Menu Options

Sleep Timer

- The Sleep Timer turns the TV off after a preset amount of time. Note that this setting is cleared when the TV is turned off.
- You can also set up the **Sleep Timer** in the **TIME** menu.

1. Press the **SLEEP** 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 **SLEEP** button once.
4. To cancel the Sleep Timer, press the **SLEEP** button repeatedly to select **Off**.

Auto Off

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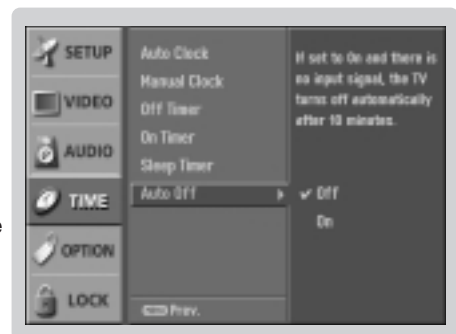4. Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.

Option Menu Options

Aspect Ratio Control

- Lets you choose the way an analog picture with a 4:3 aspect ratio is displayed on your TV with a 16:9 ratio picture format. 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.
- Horizon aspect ratio is not available for Component 1-2 (720p/1080i)/RGB-DTV (720p/1080i)/HDMI1/DVI-DTV(720p/1080i), HDMI2-DTV(720p/1080i)/ CADTV, DTV(720p/1080i) input source.
- RGB-PC/DVI-PC input source use 4:3 or 16:9 aspect ratio.

1. Press the **RATIO** button repeatedly to select the desired picture format.
   You can also adjust the **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, with black bars appearing at both the left and right sides.

   • 16:9
   Choose **16:9** when you want to adjust the picture horizontally, in a linear proportion to fill the entire screen.

   • Horizon
   Choose **Horizon** when you want to adjust the picture in a non-linear proportion, that 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 horizontally extended and vertically cropped. The picture taking a halfway trade off between alteration and screen coverage.

   • Cinema Zoom
   Choose **Cinema Zoom** when you want to enlarge the picture in correct proportion. Note: When enlarging or reducing the picture, the image may become distorted.
   You can adjust the enlarge proportion of Cinema Zoom using ▲ / ▼ button. The adjustment range is 1~16.

Cinema 3:2 Mode Setup

- Most movies are 24 frames/sec, but TV signal is 30 frames/sec.
  This option lets the TV do 3:2 pull-down operation for you to watch
  movies with the best motion appearance.

1. Press the **MENU** button and then use ▲ / ▼ button to select the **OPTION** menu.
2. Press the ▶ button and then use ▲ / ▼ button to select **Cinema 3:2 Mode**.
3. Press the ▶ button and then use ▲ / ▼ 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.

Note: This feature operates only in 480i mode.
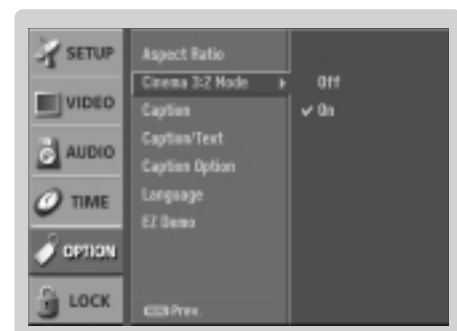
Option Menu Options

Caption

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

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

3. Press the ► button and then use ▲ / ▼ 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.

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 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.
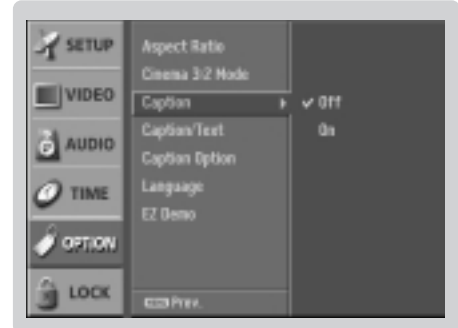- This TV is programmed to remember the caption/text mode it was last set to, when you turn the power off.

1. Use the **CC** button repeatedly to select Caption **CC1**, **CC2**, **CC3**, **CC4**, **Text1**, **Text2**, **Text3**, or **Text4**.
   • **EZ Mute** shows the selected captions option (if available on program) when the TV sound is muted
2. Press **EXIT** button to save and return to TV viewing.

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

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

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

3. Press the ► button and then use ▲ / ▼ button to select caption: **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.

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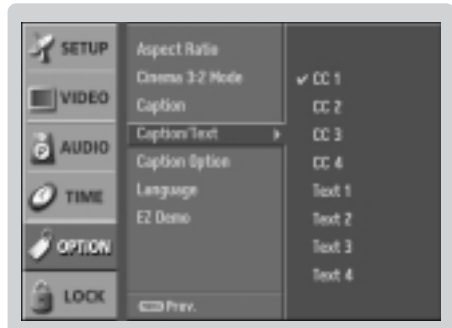
Digital Broadcasting System Captions

- Choose the language you want the DTV/CADTV Captions to appear in.
- Languages can be chosen for digital sources only if they are included on the program.

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

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

3. Press the ► button and then use ▲ / ▼ 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.
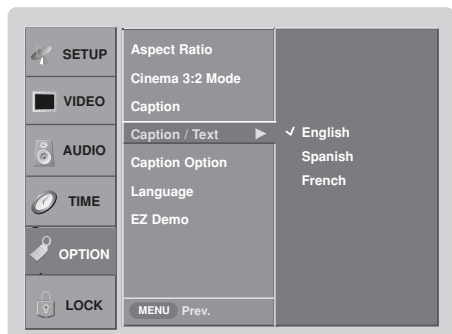
Caption Option

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

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

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

3. Press the ► button and then use ◄ / ► button to select **Custom**.

4. Use ▲ / ▼ button to customize the Style, Font, etc., to your preference. A preview icon is provided at the bottom of the screen, use it to see the caption language.

   • **Size**: Set the size the words will appear in.
   • **Font**: Select a typeface for the words.
   • **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.

EZ Demo

Shows you how to navigate the TV's on-screen menus.

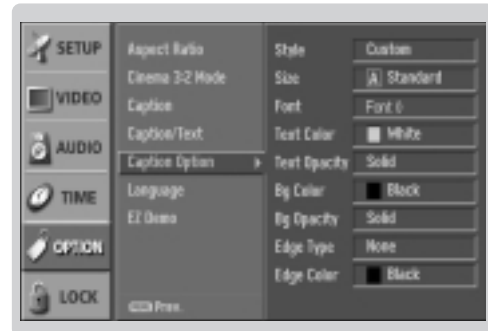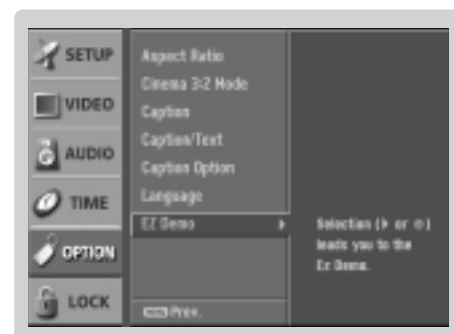**EZ Demo** Use to scan the features and menu options available on your TV.

1. Press the **MENU** button and then use ▲ / ▼ button to select the **OPTION** menu.
2. Press the ► button and then use ▲ / ▼ button to select **EZ Demo**, then use the ► button to start EZ Demo.
3. Press **EXIT** button to stop EZ Demo.
.

Lock Menu Options

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 the type of program and by the categories chosen to be blocked. 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 Movies previously shown in theaters:

Movie Ratings :
- Blocking Off   (Permits all programs)
- 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)

If you set PG-13 : G and PG movies will be available , PG-13, R, NC-17 and X will be blocked.

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)

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

TV Rating General:
- 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)

Input Block
- Video 1, 2, Front Video   (On, Off)
- Component 1, 2   (On, Off)
- RGB, HDMI1/DVI or HDMI2 (On, Off)

Parental Lock Setup

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

1. Press the **MENU** button and then use ▲ / ▼ 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".

2. Use the ▲ / ▼ button to choose from the following Lock Menu options. Once the option is selected, change the settings to your preference.

   • **Lock System:** Activates or disables the blocking scheme you set up previously.
   • **Set Password**: Change the password by inputting a new password twice.
   • **Block Channel:** Blocks any channels that you do not want to watch or that you do not want your children to watch.
   • **Movie Rating (MPAA):** 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.
   • **TV Rating-Children:** 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.
   • **TV Rating-General:** Based on the ratings, blocks certain TV programs that you and your family do not want to view.
   • **Input Block:** Enables you to select a source to block from the external source devices you have hooked up.

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

Note : *If you ever forget your password, key in '7', '7', '7', '7' on the Remote Control.*

SETUP	Lock System ► ✔ Off
	Set Password On
VIDEO	Block Channel
	Movie Rating
AUDIO	TV Rating-Children
	TV Rating-General
TIME	Input Block
OPTION	
LOCK	⊡ Prev.
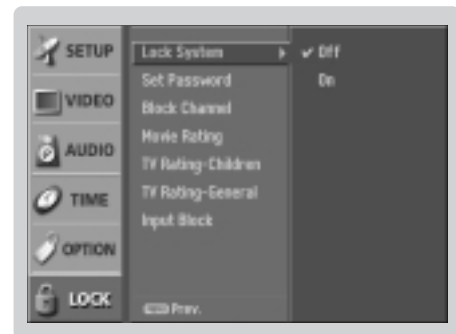
Remote Control

PIP (Picture-In-Picture) / Twin Picture

- PIP lets you view 2 different inputs (sources) on your TV screen at the same time. One source will be large, and the other source will show a smaller inset image.
- Twin Picture mode splits the screen into 2, allowing 2 picture sources to be shown on the TV screen at the same time. Each source is given half the screen.
- If you set the block/rating for Lock menu options in PIP/Twin Picture mode, "**Rating Blocked**" doesn't display on screen.

Watching PIP/Twin Picture

Press the PIP button to access the sub picture. Each press of PIP changes the PIP options as shown below.

PIP Mode

Twin Picture Mode

PIP Off
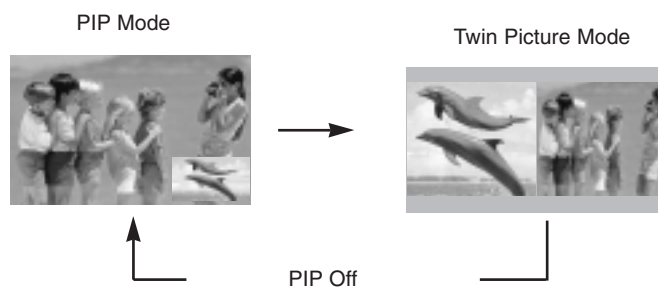
Selecting an Input Signal Source for PIP/Twin Picture

Use the **PIP INPUT** button to select the input source for the sub picture. Each press of **PIP INPUT** button changes the PIP source. You can also select sources for the **Sub Input** in the **SETUP** menu.

Main Picture Source	Available Sub Picture Sources
DTV, Analog	Video, and Front Video

Swapping the PIP/Twin Picture

Repeatedly, use the **SWAP** button to switch the main and sub pictures.
- Component 1, Component 2, RGB-PC (or RGB-DTV), HDMI1/DVI, HDMI2 input sources for the main picture can't be used to swap the main and sub pictures.

Main Picture   Sub Picture

Main Picture   Sub Picture
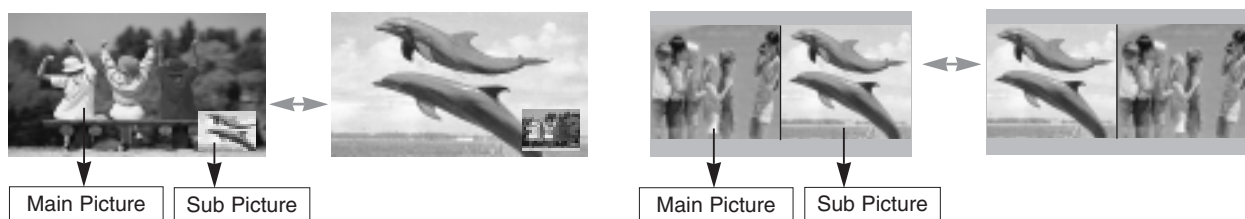
TV Program selection for PIP

1. Press the **PIP** button.

2. Select the Antenna or Cable option on the Sub input menu or with the **PIP INPUT** button. Use the **PIPCH+** / **PIPCH-** button to select a channel for the sub picture.
   (You can't select TV for main and sub picture simultaneously).

Moving the PIP sub picture

In PIP mode, press the ▲ / ▼ / ◄ / ► button to move the sub picture to a different location on the screen.

Adjusting Main and Sub Picture Sizes for Twin Picture

Use the ▲ / ▼ / ◄ / ► button to change main and sub picture sizes in Twin Picture mode.

i.e)   If screen is adjusted to the maximal size, the large screen appears the black part at both the up and down sides.

Brief Info.

Operation: • Watching TV/DTV/CATV/CADTV
        • Watching Video1, Video2, Video3
        • In Component1, Component2, RGB, HDMI1/DVI, HDMI2 modes, **INFO** button is not working.

Function: • Show the present screen information.
      • On Watching with the upper Input signal, press the **INFO** button.
      • Press the **INFO** button or **EXIT** button to exit.
   A: Banner information
   B: Program title
   C: Day, Month, Year
   D: Program start time
   E: Program finish time
   F: Show the prosessing rate
   G: Present time
   H: Added information. Refer to the icon explanation.

4:3	Screen Ratio of Input Signal 4:3
16:9	Screen Ratio of Input Signal 16:9
480i	Resolution of Input Signal 720x480i
480p	Resolution of Input Signal 720x480p
720p	Resolution of Input Signal 1280x720p
1080i	Resolution of Input Signal 1920x1080i

⚆ Multilingual : Input Signal have over two Audio information. Press the **SAP** button to select wanted Audio.

CC Caption: Input Signal have over one Close service. Press the **CC** button to select wanted Closed caption.

🔒 Input Signal has rating information . Refer to the <Lock Menu>.
D (Dialogue), L (Language), S (Sex), V (Violence), FV (Fantasy Violence)
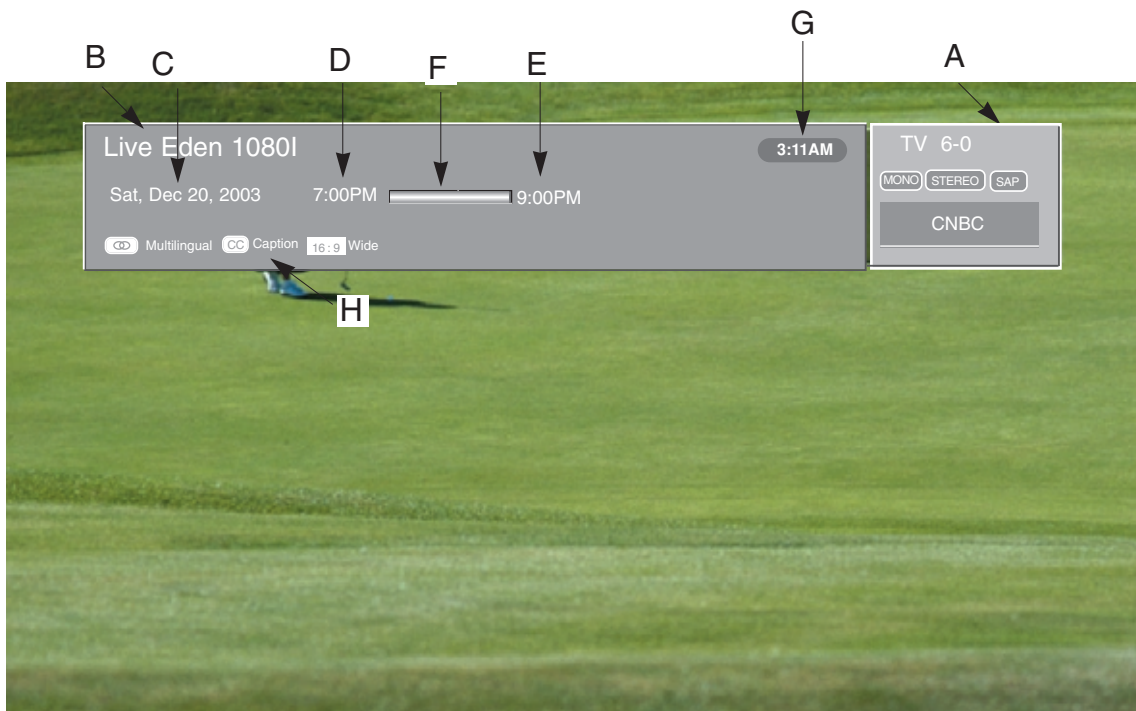
EZ Mute

- If you set the Caption on, nothing to do with the **MUTE** button, Caption function operates as Caption on or off.
- When you repeatedly press the **MUTE** button, the screen is displayed in turn. (Refer to the lower picture)

◁– Mute	◁– EZ Mute
Mute : Sound is muted.	**EZ Mute** : a special mute mode to activate the closed caption, automatically.

◀)) 24

Mute Off : Sound is enabled.
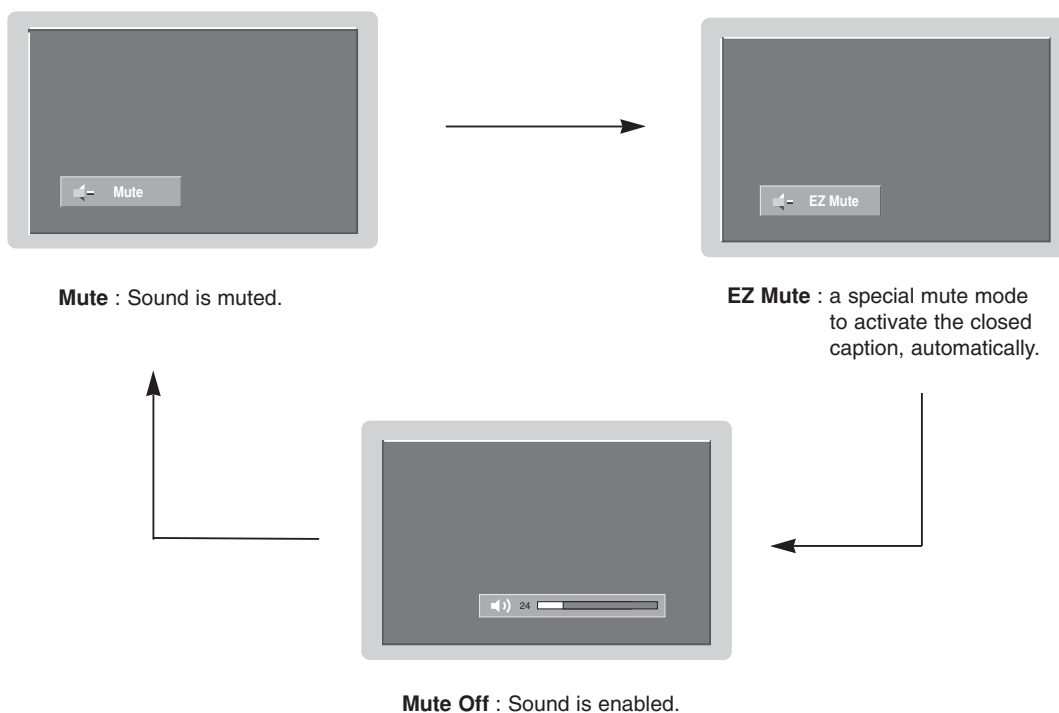
Note: *EZ Mute only operates in DTV/Analog/Video/Front Video.*

Split Zoom (DTV 720p, or 1080i mode only)

- Enlarges the picture with correct proportions.
- When enlarging the picture, the image may become distorted.

1. Press the **FREEZE** button in DTV 720p, or 1080i modes.

2. Use the ▲ / ▼ / ◀ / ▶ buttons to select the screen split zoom section.

3. To return to normal viewing, press the **FREEZE** button again.

Screen Setup for PC mode

Operation

• When RGB connect to PC input and select the RGB-PC in Main Input, this function is used.
• In RGB-DTV mode, SIZE is not available.

Adjustment for screen Position, Size, Phase, Reset

•After connecting RGB-PC to PC input and checking the screen quality.

- Display PC Adjust Menu using **ADJUST** button.

- Position : Adjust the screen position. After displaying the Adjust, select the screen position.

- Size   : Adjust the screen size.
                   (Only available in RGB-PC mode)

- Phase   : Adjust the phase of Pixel clock.

- Reset   : Initializating Size, Position, Phase adjustment .
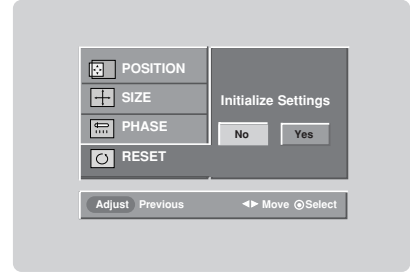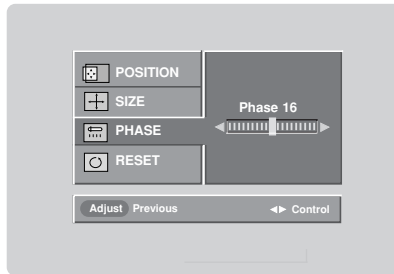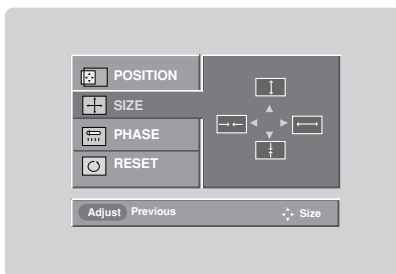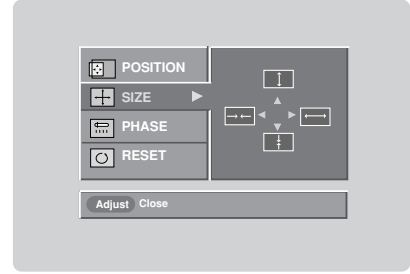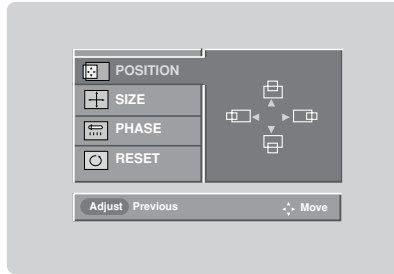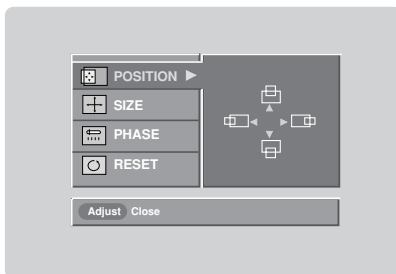
Programming the Remote

The Remote Control for your HD receiver is a multi-brand or universal Remote Control that can be programmed to operate most remote-controllable devices of other manufacturers.

Note: The Remote Control may not be able to control all models of other brands.

1. Test your Remote Control.
   To find out whether your remote control can operate the device with out programming, turn on the device such as a the VCR and press the corresponding mode button (VCR) on the remote control while pointing at the device.   Test the **POWER** and **CH +/-** buttons to see if the device responds properly. If not, the remote requires programming to operate the device.

2. Turn on the device to be programmed. Then press the cor responding mode button on the Remote Control.

3. Press the POWER button and the MUTE button simulta neously. Now the Remote Control is ready to program the code for the corresponding device.

4. There are two ways to find the right code for the device.

A. If you press the **CH +/-** buttons repeatedly, the codes will change one at a time. Press the POWER button after each code change. If the right code is found, the device will turn off.

B. Enter a code number using the number buttons on the Remote Control. The right code numbers for the corresponding compo- nent can be found on the following pages.
   Again, if the code is correct, the device will turn off.

5. Press the EXIT button to store the program.

6. Test the Remote Control functions to see if the device responds properly. If not, repeat from step 2.
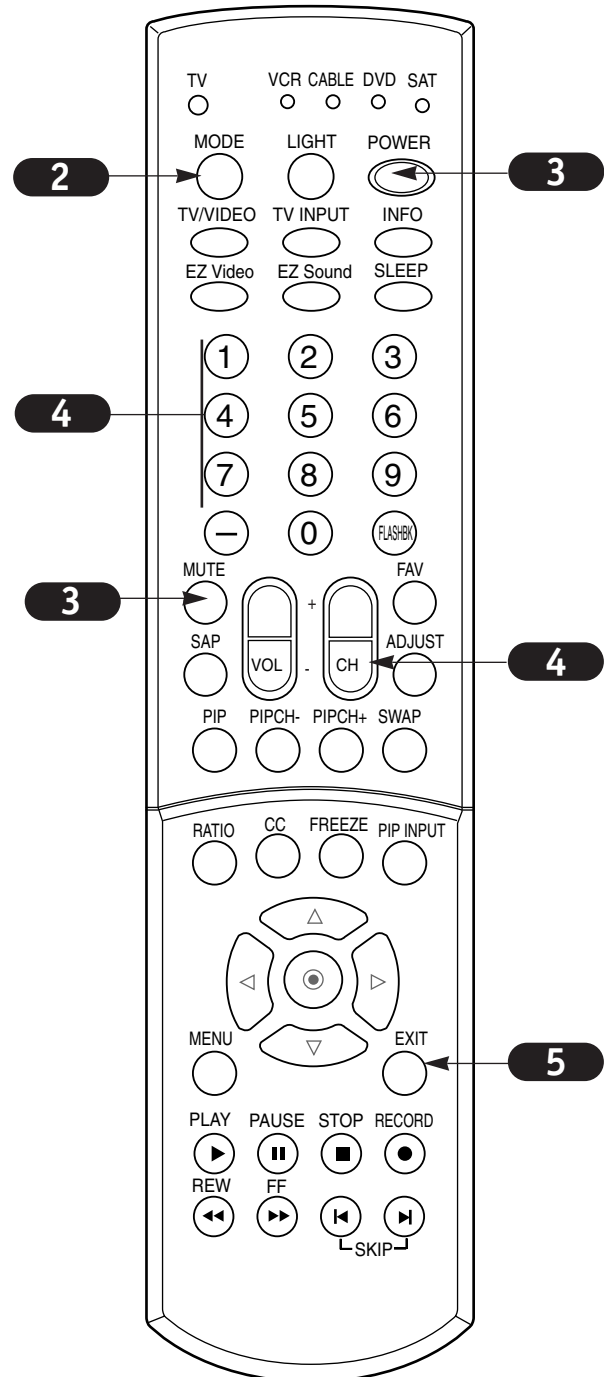
Programming Codes

TVs

Brand	Codes	Brand	Codes	Brand	Codes	Brand	Codes
A MARK	112 143	GOLDSTAR	004 102 106		019 024 040	Sharp	004 014 019
ADMIRAL	072 081 161		110 112 113		056 130 132		022 028 029
AKAI	006 146		116 119 122		134		081 143 170
AMPRO	073 167		127 137 143	NIKEI	043		175
AMSTRAD	052	HALL MARK	004 116	ONKING	043	SIEMENS	088
ANAM	043 054 056	HITACHI	004 006 009	ONWA	043	SIGNATURE	072
	080 104 108		010 011 012	OPTONICA	019 081	SONY	041 070 079
	112 115 118		023 041 075	PANASONIC	034 056 080		085 126 139
	121 131		143 158 163		092 164		147 185
AOC	004 006 058		166	PHILCO	003 004 006	SOUNDESIGN	003 004 028
	112	INFINITY	164		024 043 056		043 116
BLAUPUNKT 088		INKEL	129		059 060 063	SPECTRICON 112	
CANDLE	002 003 004	JBL	164		064 127 143	SSS	004 043
	006	JCPENNY	004 006 008		164	SUPRE MACY	002
CAPEHART	058		009 024 030	PHILIPS	003 004 005	SYLVANIA	003 004 006
CETRONIC	043		065 101 143		006 038 059		044 059 060
CITIZEN	002 003 004		156 160		070 093 143		063 064 116
	006 043 101	JENSEN	013		160 164		127 140 160
	103 143	JVC	034 038 070	PIONEER	006 018 023		164
CLASSIC	043		083 145		025 027 116	TANDY	081
CONCERTO	004	KEC	043		135 176	TATUNG	056 062
CONTEC	039 043 050	KENWOOD	006 070	PORTLAND	004 143	TECHNICS	034 080 084
	051	KLOSS	002 059	PROSCAN	144 160 161	TECHWOOD	004
CORONADO	143	KMC	143		165 167	TEKNIKA	002 003 004
CRAIG	043 054	KTV	006 043 143	PROTON	004 058 116		006 024 028
CROWN	043 143		154		131 143 171		031 043 072
CURTIS MATHES	004 006 101	LG	255		173		077 101 103
	116 143	LODGENET	072	QUASAR	034 056 092		143
CXC	043	LOGIK	072	RADIO SHACK	019 043 047	TELEFUNKEN037 046 086
DAEWOO	004 016 017	LUXMAN	004		116 127 143	087
	043 044 055	LXI	007 015 052	RCA	004 006 023	TELERENT	072
	071 076 103		081 160 164		024 056 065	TERA	172
	107 111 114		166		074 144 152	TMK	004 116
	117 120 123	MAGNAVOX	003 004 006		156 160 161	TOSHIBA	007 015 030
	125 127 128		022 059 060		165		040 051 062
	136 143		061 063 064	REALISTIC	007 019 043		101 138
DAYTRON	004 116 143		127 143 160		047	TOTEVISION	143
DYNASTY	043		164	ROCTEC	186	UNIVERSAL	008 009
DYNATECH	062	MARANTZ	006 077 164	RUNCO	168 169	VIDEO CONCEPTS	146
ELECTROHOME	024 077 143	MATSUI	164	SAMPO	004 006 058	VIDIKRON	174
EMERSON	004 005 006	MEMOREX	004 007 072		116	VIDTECH	004 116
	028 043 047		116	SAMSUNG	004 050 089	WARDS	004 008 009
	048 050 051	METZ	088		101 105 113		019 028 060
	096 116 143	MGA	004 006 024		116 127 133		061 063 064
	151 153 154		028 042 049		137 143 160		072 074 116
	155		077 116	SANYO	007 020 021		143 164
FISHER	007 057	MINERVA	088		033 039 053	YAMAHA	004 006
FUNAI	028 043	MITSUBISHI 004 006 024			057 082 166	YORK	004 116
FUTURETECH	043		028 040 042	SCOTT	004 028 043	YUPITERU	043
GE	004 006 008		109 116 124		048 116 143	ZENITH	001 072 073
	009 034 056		146	SEARS	004 007 015		095 103 157
	073 074 091	MTC	004 006 062		028 030 057	ZONDA	112
	116 130 144		101		082 094 101		
	155 160 161	NAD	015 025		116 143 160		
	165	NEC	006 007 016				

SAT

Brand	Codes	Brand	Codes	Brand	Codes	Brand	Codes
ALPHASTAR DSR	123	GENERAL INSTRUMENT	003 004 016	PERSONAL CABLE	117	VIEWSTAR	115
AMPLICA	050		029 031 059	PHILIPS	071	WINEGARD	128 146
BIRDVIEW	051 126 129		101	PICO	105	ZENITH	001 081 082
BSR	053	HITACHI	139 140	PRESIDENT	019 102		083 084 091
CAPETRONICS	053	HOUSTON TRACKER	033 037 039	PRIMESTAR	030 110 111		120
CHANNEL MASTER	013 014 015		051 057 104	PROSAT	072		
	018 036 055	HUGHES	068	RCA	066 106		
CHAPARRAL	008 009 012	HYTEK	053	REALISTIC	043 074		
	077	JANIEL	060 147	SAMSUNG	123		
CITOH	054	JERROLD	061	SATELLITE SERVICE CO	028 035 047		
CURTIS MATHES	050 145	KATHREIN	108		057 085		
DRAKE	005 006 007	LEGEND	057	SCIENTIFIC ATLANTA	032 138		
	010 011 052	LG	255	SONY	103		
	112 116 141	LUTRON	132	STARCAST	041		
DX ANTENNA	024 046 056	LUXOR	062 144	SUPER GUIDE	020 124 125		
	076	MACOM	010 059 063	TEECOM	023 026 075		
ECHOSTAR	038 040 057		064 065		087 088 090		
	058 093 094	MEMOREX	057		107 130 137		
	095 096 097	NEXTWAVE	028 124 125	TOSHIBA	002 127		
	098 099 100	NORSAT	069 070	UNIDEN	016 025 042		
	122	PACE SKY SATELLITE	143		043 044 045		
ELECTRO HOME	089	PANASONIC	060 142		048 049 078		
EUROPLUS	114	PANSAT	121		079 080 086		
FUJITSU	017 021 022				101 135 136		
	027 133 134						

Audio

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

Programming Codes

DVD

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

Troubleshooting Checklist

No picture & No sound	• Check whether the TV is turned on. • Is the power cord inserted into wall power outlet? • Test the wall power outlet, plug another product's power cord into the outlet where the TV's power cord was plugged in.

Picture OK & No sound	• Press the **VOLUME** (▶) button. • Sound muted? Press **MUTE** button.

The Remote Control doesn't work	• Check to see if there is any object between the TV and the Remote Control causing obstruction. • Are batteries installed with correct polarity (+ to +, - to -)? (Refer to p.10) • Correct remote operating mode set: TV, VCR etc.? • Install new batteries. (Refer to p.10)

Picture appears slowly after switching on	• This is normal, the image is muted during the TV startup process. Please contact your service center, if the picture has not appeared after five minutes.

No or poor color or poor picture	• Select **Color** in the **Picture** menu and press the ▶ button. (Refer to p.24) • Keep a sufficient distance between the TV and the VCR. • Activate any function to restore the brightness of the picture. (If still picture is on the screen for more than 5 minutes, the screen gets dark.)

Horizontal/vertical bars or picture shaking	• Check for local interference such as an electrical appliance or power tool.

Troubleshooting Checklist

No output from one of the speakers	• Adjust **Balance** in the **AUDIO** menu. (Refer to p.25)

Unusual sound from inside the TV	• A change in ambient humidity or temperature may result in the unit turning off and does not indicate a fault with the TV.

Poor TV input signal	• Check ANTENNA and CABLE connection.

Poor Video signal	• Check ANTENNA and CABLE connection.

No channel or a few channel	• Start EZ Scan.

Unsuitable Aspect Ratio	• You can adjust the **RATIO** button or **Aspect Ratio** in the **OPTION** menu.

Maintenance

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

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

Product Specifications

MODEL	Z44SZ80	Z52SZ80
Horizontal Size (inches)	39.9	47.5
Height (inches)	29.2	33.8
Depth (inches)	14.4	16.1
Weight (lbs.)	57.3	83.6
Power requirement	AC120V ~ 60Hz	
Television System	NTSC-M, ATSC, 64 & 256 QAM	
Program Coverage	VHF 2 ~ 13, UHF 14 ~ 69, CATV 1 ~ 135, CADTV 1 ~ 135. DTV 2 ~ 69	
Power Consumption (W)	210W	
Antenna	75 ohm External Terminal for VHF/UHF	
Audio Output (W)	20Wx2	
Supplied Accessories	Remote Control, 2 size AA batteries, D-sub 15 pin Cable	

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

Notes

ZENITH ELECTRONICS CORPORATION
DLP Projection TV Limited Warranty - USA

zenith **Z**

Zenith will repair or replace your product, at Zenith's option, if it proves to be defective in material or workmanship under normal use, during the warranty period ("Warranty Period") listed below, effective from the date ("Date of Purchase") of original consumer purchase of the product. This warranty is good only to the original purchaser of the product and effective only when used in the United States, excluding U.S. Territories.

WARRANTY PERIOD:	HOW SERVICE IS HANDLED:
LABOR: One Year from the Date of Purchase. **Parts: One Year** from the Date of Purchase. **Halogen Bulb: One Year** from the Date of Purchase. ∗ Parts replaced are warranted for the remaining portion of the original warranty period.	**In-Home Service:** Please retain dealer's dated bill of sale or delivery ticket as evidence of the Date of Purchase for proof of warranty, and submit a copy of the bill of sale to the service person at the time warranty service is provided. **Please call 1-877-9Zenith (1-877-993-6484) to locate your nearest Zenith Authorized Service Center.** Replacement parts may be new or factory remanufactured.

THIS WARRANTY IS IN LIEU OF ANY OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION, ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. TO THE EXTENT ANY IMPLIED WARRANTY IS REQUIRED BY LAW, IT IS LIMITED IN DURATION TO THE EXPRESSED WARRANTY PERIOD ABOVE. ZENITH WILL NOT BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL, INDIRECT, SPECIAL OR PUNITIVE DAMAGES OF ANY NATURE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGES, INCLUDING WITHOUT LIMITATION, LOST REVENUES OR PROFITS, LOST OR CORRUPTED PROGRAMMING OR DATA, OR ANY OTHER DAMAGE WHETHER BASED IN CONTRACT, TORT, OR OTHERWISE. Some states do not allow the exclusion or limitation of incidental or consequential damages or limitation on how long an implied warranty lasts, so the above exclusion or limitation may not apply to you. This warranty gives you specific legal rights and you may also have other rights that may vary from state to state.

THIS LIMITED WARRANTY DOES NOT APPLY TO:

1. Damages or operating problems that result from shipping, installation, adjustment of user controls, calibration, maintenance or failure to maintain, or separate system components; and

2. Damages or operating problems that result from normal wear and tear, misuse, abuse, operation outside environmental specifications or contrary to the requirements or precautions in the Operating Guide, accident, lightning strikes or other natural causes, unauthorized modification or alteration, incorrect electrical current or voltage, reception problem caused by inadequate home antenna or faulty antenna connections, computer software, institutional or commercial use, or other causes not arising out of defect in material or workmanship.

3. **Therefore, the cost of repair or replacement of such a defective product shall be borne by the consumer.**

CUSTOMER INTER-ACTIVE CENTER NUMBERS:

For nearest Authorized Service Center, Where to buy, Product Assistance, or Customer Assistance	Call 1-877-9Zenith (1-877-993-6484) (24 hours a day, 365 days per year) and select an appropriate option from the menu. **Or visit our website at http://www.zenithservice.com**

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Huntsville, Alabama 35824
http://www.zenithservice.com

P/N: 3828VA0540C ⓐ

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