



Order Number : GETEC-C1-08-162

Test Report Number : GETEC-E3-08-072

FCC Class B Certification

---

## APPENDIX H

### : USER'S MANUAL

---

**EUT Type: LCD TV/Monitor**

**FCC ID.: BEJ42LH40UA**



## LCD TV OWNER'S MANUAL

|        |        |        |
|--------|--------|--------|
| 32LH40 | 37LH55 | 32CL40 |
| 37LH40 | 42LH55 | 42CL40 |
| 42LH40 | 47LH55 | 47CL40 |
| 47LH40 | 55LH55 |        |
| 55LH40 |        |        |

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.



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

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

P/NO : SAC33601903 (0812-REV00)

# WARNING / CAUTION



## WARNING / CAUTION

RISK OF ELECTRIC SHOCK  
DO NOT OPEN



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



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



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

## WARNING/CAUTION

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

## NOTE TO CABLE/TV INSTALLER

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

# WARNING / CAUTION

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

## FCC NOTICE

### Class B digital device

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

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

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

## CAUTION

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

# SAFETY INSTRUCTIONS

## IMPORTANT SAFETY INSTRUCTIONS

**Read these instructions.**

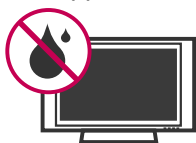
**Keep these instructions.**

**Heed all warnings.**

**Follow all instructions.**



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



- 2** Clean only with dry cloth.



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



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



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



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



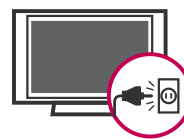
- 7** Only use attachments/accessories specified by the manufacturer.



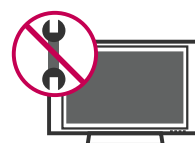
- 8** Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.



- 9** Unplug this apparatus during lighting storms or when unused for long periods of time.



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



# SAFETY INSTRUCTIONS

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

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

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

- 14** CAUTION concerning the Power Cord:

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

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

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

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



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



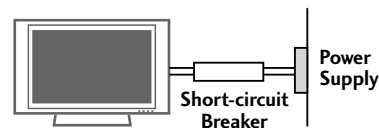
- 16** Do not expose to dripping or splashing and do not place objects filled with liquids, such as vases, cups, etc. on or over the apparatus (e.g. on shelves above the unit).



- 17** GROUNDING

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

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



- 18** DISCONNECTING DEVICE FROM MAINS

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

- 19** As long as this unit is connected to the AC wall outlet, it is not disconnected from the AC power source even if you turn off this unit by SWITCH.

## 20 ANTENNAS

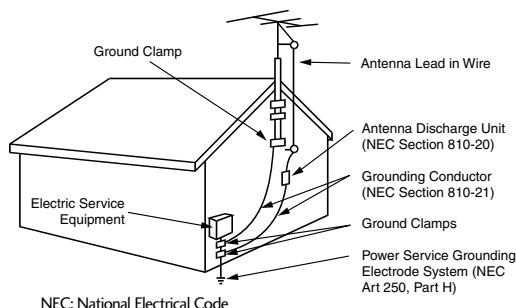
### Outdoor antenna grounding

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

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

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

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



## 21 Cleaning

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

## 22 Moving

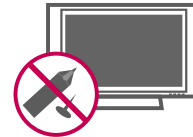
Make sure the product is turned off, unplugged and all cables have been removed. It may take 2 or more people to carry larger TVs. Do not press against or put stress on the front panel of the TV.

## 23 Ventilation

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

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

- 25 Do not press strongly upon the panel with hand or sharp object such as nail, pencil or pen, or make a scratch on it.



- 26 Keep the product away from direct sunlight.

## 27 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

#### (Only Hg lamp used LCD TV)

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

# CONTENTS

|                                  |   |
|----------------------------------|---|
| <b>WARNING / CAUTION</b> .....   | 2 |
| <b>SAFETY INSTRUCTIONS</b> ..... | 3 |
| <b>FEATURE OF THIS TV</b> .....  | 8 |

## PREPARATION

|   |    |
|---|----|
| Accessories .....   | 9  |
| Front Panel Information .....   | 10 |
| Back Panel Information .....  | 12 |
| Stand Instruction .....   | 14 |
| VESA Wall Mounting .....  | 18 |
| Cable Management .....  | 19 |
| Desktop Pedestal Installation .....   | 21 |
| Swivel Stand .....  | 21 |
| Attaching the TV to a Desk .....  | 22 |
| Kensington Security System .....  | 22 |
| Securing the TV to the wall to prevent falling when the TV is used on a stand ..... | 23 |
| Antenna or Cable Connection .....   | 24 |

## EXTERNAL EQUIPMENT SETUP

|                              |    |
|------------------------------|----|
| HD Receiver Setup .....      | 25 |
| DVD Setup .....              | 28 |
| VCR Setup .....              | 30 |
| Other A/V Source Setup ..... | 32 |
| PC Setup .....               | 33 |
| USB Connection .....         | 40 |
| Audio out Connection .....   | 41 |

## WATCHING TV / CHANNEL CONTROL

|                                 |    |
|---------------------------------|----|
| Remote Control Functions .....  | 42 |
| Turning On TV .....             | 44 |
| Channel Selection .....         | 44 |
| Volume Adjustment .....         | 44 |
| Initial Setting .....           | 45 |
| On-Screen Menus Selection ..... | 46 |
| Quick Menu .....                | 47 |

|   |    |
|---|----|
| Channel Setup                                     |    |
| - Auto Scan (Auto Tuning) .....                   | 48 |
| - Add / Delete Channel (Manual Tuning) .....      | 49 |
| - Channel Editing .....                           | 50 |
| Channel List .....                                | 51 |
| Favorite Channel Setup / Favorite Channel List .. | 52 |
| Brief Information .....                           | 53 |
| Input List .....                                  | 54 |
| Input Label .....                                 | 55 |
| AV Mode .....                                     | 56 |
| Simple Manual .....                               | 56 |
| Key Lock .....                                    | 57 |
| Simplink .....                                    | 58 |

## USB

|                   |    |
|-------------------|----|
| Entry Modes ..... | 60 |
| Photo List .....  | 61 |
| Music List .....  | 65 |

## PICTURE CONTROL

|   |    |
|---|----|
| Picture Size (Aspect Ratio) Control .....   | 68 |
| Picture Wizard .....                        | 70 |
| Preset Picture Settings (Sound Mode) .....  | 72 |
| Manual Picture Adjustment - User Mode ..... | 73 |
| Picture Improvement Technology .....        | 74 |
| Expert Picture Control .....                | 75 |
| Energy Saving .....                         | 78 |
| Picture Reset .....                         | 79 |
| Power Indicator .....                       | 80 |
| Demo Mode .....                             | 81 |

## **SOUND & LANGUAGE CONTROL**

|  |    |
|--|----|
| Auto Volume Leveler (Auto Volume) .....      | 82 |
| Clear Voice II .....                         | 83 |
| Preset Sound Setting (Sound Mode) .....      | 84 |
| Sound Setting Adjustment - User Mode .....   | 85 |
| Balance .....                                | 86 |
| TV Speakers On/Off Setup .....               | 87 |
| Audio Reset .....                            | 88 |
| Stereo/SAP Broadcasts Setup .....            | 89 |
| Audio Language .....                         | 90 |
| On-Screen Menus Language Selection .....     | 91 |
| Caption Mode                                 |    |
| - Analog Broadcasting System Captions .....  | 92 |
| - Digital Broadcasting System Captions ..... | 93 |
| - Caption Option .....                       | 94 |

## **TIME SETTING**

|                                |    |
|--------------------------------|----|
| Clock Setting                  |    |
| - Auto Clock Setup .....       | 95 |
| - Manual Clock Setup .....     | 96 |
| Auto On/Off Time Setting ..... | 97 |
| Sleep Timer Setting .....      | 98 |

## **PARENTAL CONTROL / RATINGS**

|                                  |     |
|----------------------------------|-----|
| Set Password & Lock System ..... | 99  |
| Channel Blocking .....           | 102 |
| Movie & TV Rating .....          | 103 |
| Downloadable Rating .....        | 108 |
| External Input Blocking .....    | 109 |

## **APPENDIX**

|  |     |
|--|-----|
| Troubleshooting .....                  | 110 |
| Maintenance .....                      | 112 |
| Product Specifications .....           | 113 |
| IR Code .....                          | 115 |
| External Control Through RS-232C ..... | 116 |
| Open Source License .....              | 122 |



# FEATURE OF THIS TV



**CALIBRATE LIKE A PRO:** Sophisticated and detailed calibrations can be made through the ISFccc mode. Detailed calibration requires a licensed technician. Please contact your local dealer to inquire about an ISF certified technician.



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



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.



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

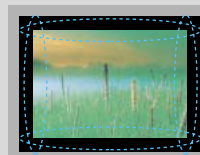
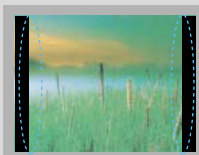


**SRS** is a trademark of SRS Labs, Inc.  
TruSurround XT technology is incorporated under license from SRS Labs, Inc.



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

- When a fixed image (e.g. logos, screen menus, video game, and computer display) is displayed on the TV for an extended period, it can become permanently imprinted on the screen. This phenomenon is known as "image burn" or "burn-in." Image burn is not covered under the manufacturer's warranty.
- In order to prevent image burn, avoid displaying a fixed image on your TV screen for a prolonged period (2 or more hours for LCD, 1 or more hours for Plasma).
- Image burn can also occur on the letterboxed areas of your TV if you use the 4:3 aspect ratio setting for an extended period.



# PREPARATION

## ACCESSORIES

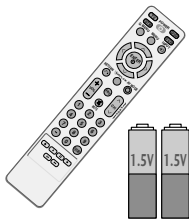
Ensure that the following accessories are included with your TV. If an accessory is missing, please contact the dealer where you purchased the TV.  
The accessories included may differ from the images below.



Owner's Manual



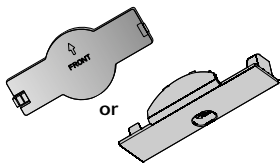
CD Manual



Remote Control,  
Batteries



Power Cord



Protection Cover

(Except 47CL70)



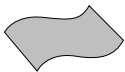
Bolts for stand assembly  
(Refer to P.14, 16)

(Except 47CL70)



Screw for stand fixing  
(Refer to P.22)

**This item is not included for all models.**



Polishing Cloth

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

Option Extras

**D-sub 15 pin Cable**

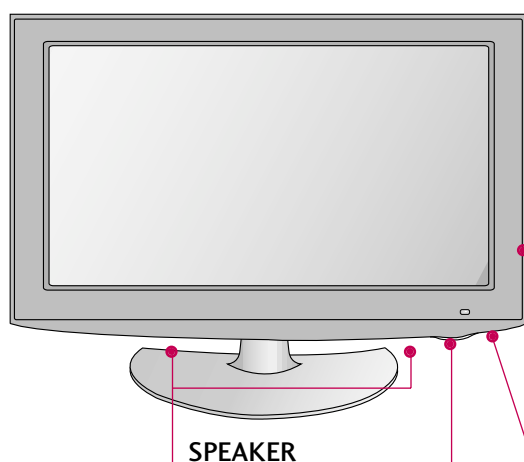
When using the VGA (D-sub 15 pin cable) PC connection, the user must use shielded signal interface cables with ferrite cores to maintain standards compliance.

# PREPARATION

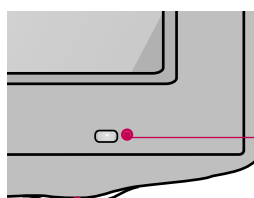
## FRONT PANEL INFORMATION

■ Image shown may differ from your TV.

32/37/42/47LH40, 37/42/47/55LH55



SPEAKER



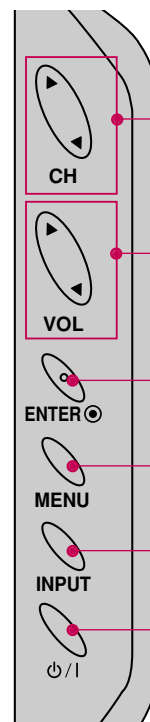
Remote Control  
Sensor,  
Intelligent Sensor  
Adjusts picture accord-  
ing to the surrounding  
conditions

### Power/Standby Indicator

Illuminates red in standby mode.

Illuminates blue when the TV is switched on.

(Can be adjusted **Power Indicator** in the  
OPTION menu. ► p.80)



CHANNEL (▲,▼)  
Buttons

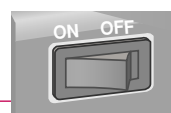
VOLUME (▲,▼)  
Buttons

ENTER Button

MENU Button

INPUT Button

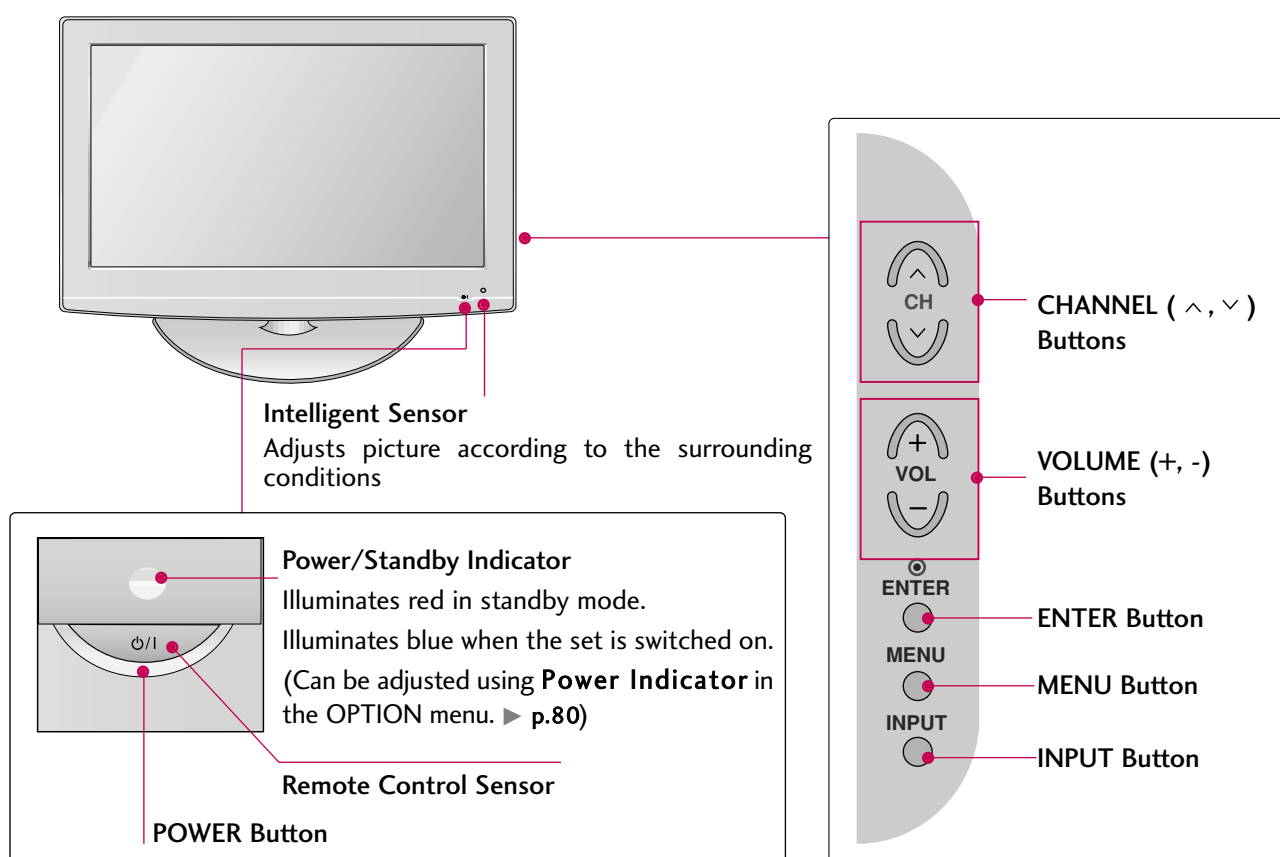
POWER Button



### Power Switch

"As long as this TV is connected to the  
AC wall outlet, it is not disconnected  
from the AC power source even if you  
turn off this TV by SWITCH".

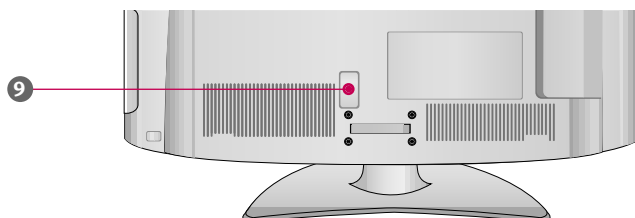
32/42/47CL40



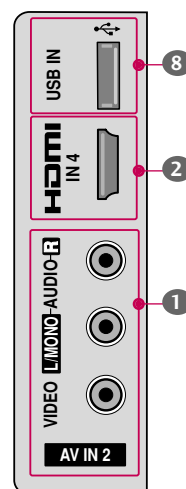
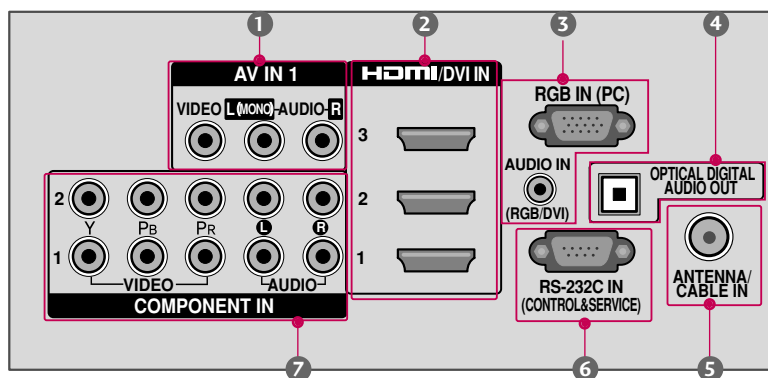
# PREPARATION

## BACK PANEL INFORMATION

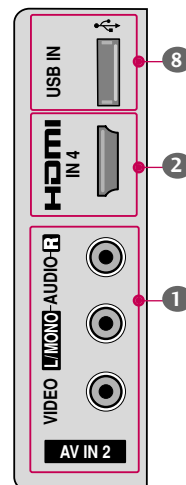
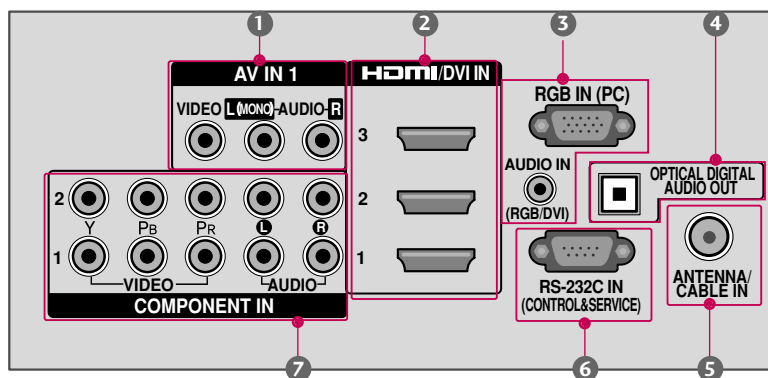
■ Image shown may differ from your TV.



32/37/42/47LH40, 32/42/47CL40



37/42/47/55LH55



**1 AV (Audio/Video) IN**

Analog composite connection. Supports standard definition video only (480i).

**2 HDMI/DVI IN**

Digital Connection.

Supports HD video and Digital audio. Doesn't support 480i.

Accepts DVI video using an adapter or HDMI to DVI cable (not included).

**3 RGB IN (PC)**

Analog PC Connection. Uses a D-sub 15 pin cable (VGA cable).

**AUDIO IN (RGB/DVI)**

1/8" headphone jack for analog PC audio input.

**4 OPTICAL DIGITAL AUDIO OUT**

Digital audio output for use with amps and home theater systems.

Includes an optical connection.

Note: In standby mode, these ports do not work.

**5 ANTENNA/CABLE IN**

Connect over-the air signals to this jack.

Connect cable signals to this jack.

**6 RS-232C IN (CONTROL & SERVICE) PORT**

Used by third party devices.

This port is used for Service or Hotel mode.

**7 COMPONENT IN**

Analog Connection.

Supports HD.

Uses a red, green, and blue cable for video & red and white for audio.

**8 USB INPUT**

Used for viewing photos and listening to MP3s.

**8 Power Cord Socket**

For operation with AC power.

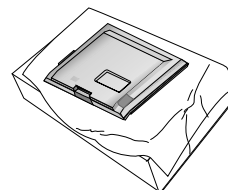
Caution: Never attempt to operate the TV on DC power.

# PREPARATION

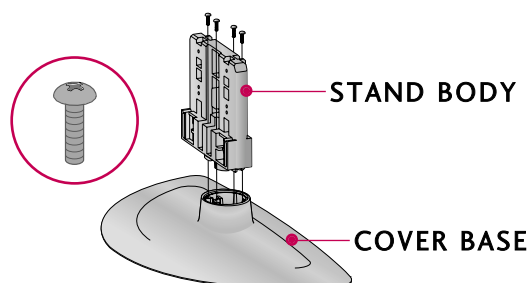
## STAND INSTRUCTION (For 32/42/47CL40)

### INSTALLATION (Only 32/42CL40)

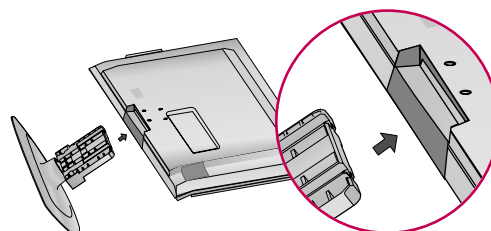
- 1 Carefully place the TV screen side down on a cushioned surface to protect the screen from damage.



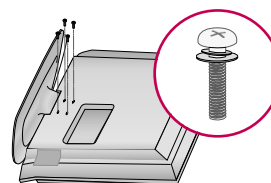
- 2 Assemble the parts of the **STAND BODY** with **COVER BASE** of the TV.



- 3 Assemble the TV as shown.



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

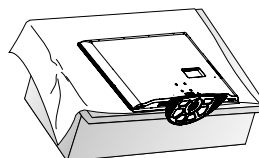


#### ! NOTE

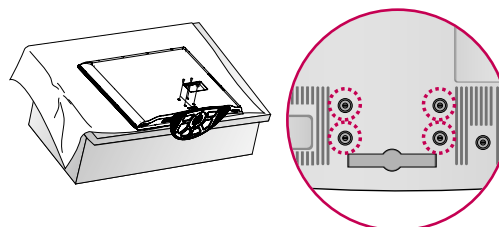
- When assembling the desk type stand, make sure the bolt is fully tightened (If not tightened fully, the TV can tilt forward after the product installation). Do not over tighten.

## DETACHMENT

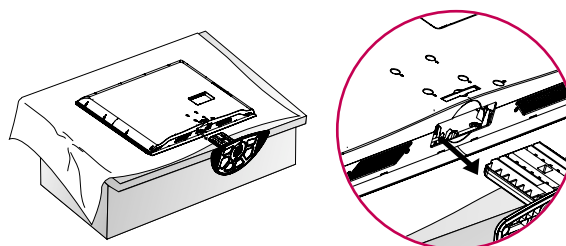
- 1 Carefully place the TV screen side down on a cushioned surface to protect the screen from damage.



- 2 Loosen the bolts from TV.

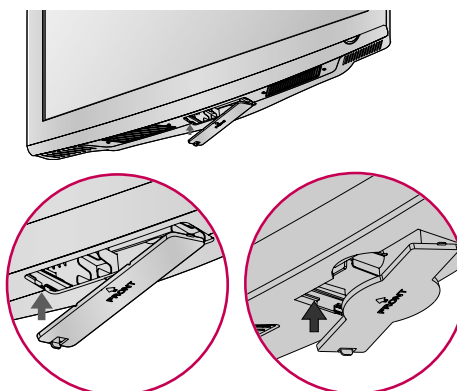


- 3 Detach the stand from TV.



## PROTECTION COVER

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





# PREPARATION

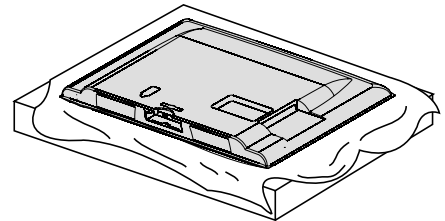
## STAND INSTRUCTION (For 32/37/42/47LH40, 37/42/47/55LH55)

■ Image shown may differ from your TV.

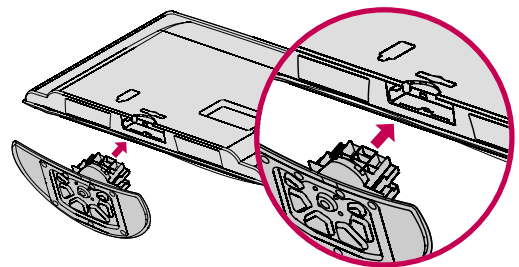
PREPARATION

### INSTALLATION

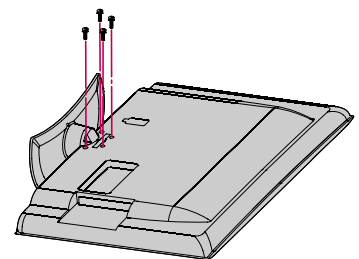
- 1 Carefully place the TV screen side down on a cushioned surface to protect the screen from damage.



- 2 Assemble the TV as shown.



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

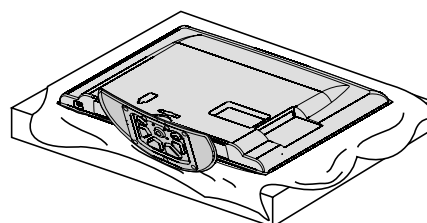


#### ! NOTE

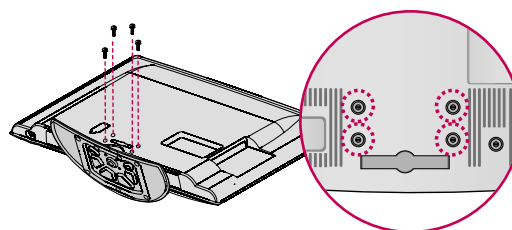
- When assembling the desk type stand, make sure the bolt is fully tightened (If not tightened fully, the TV can tilt forward after the product installation). Do not over tighten.

## DETACHMENT

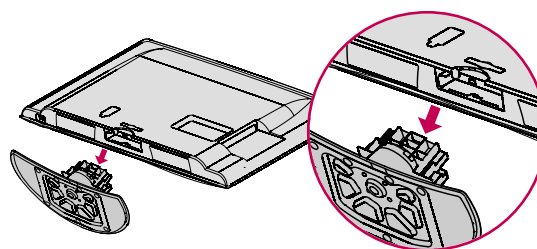
- 1 Carefully place the TV screen side down on a cushioned surface to protect the screen from damage.



- 2 Loosen the bolts from TV.

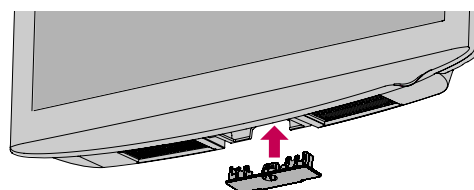


- 3 Detach the stand from TV.



## PROTECTION COVER

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



# PREPARATION

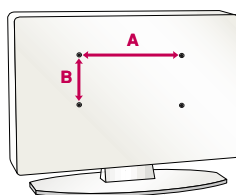
## VESA WALL MOUNTING

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

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

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

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



| Model  | VESA<br>(A * B) | Standard Screw | Quantity |
|--|-----------------|----------------|----------|
| 32LH40, 32CL40   | 200 * 100       | M4             | 4        |
| 37LH40, 37LH55<br>42LH40, 42LH55, 42CL40<br>47LH40, 47LH55, 47CL40 | 200 * 200       | M6             | 4        |
| 55LH40, 55LH55   | 600 * 400       | M8             | 4        |

### ! NOTE

- ▶ Screw length needed depends on the wall mount used. For further information, refer to the instructions included with the mount.
- ▶ Standard dimensions for wall mount kits are shown in the table.
- ▶ When purchasing our wall mount kit, a detailed installation manual and all parts necessary for assembly are provided.
- ▶ Do not use screws longer than the standard dimension, as they may cause damage to the inside to the TV.
- ▶ For wall mounts that do not comply with the VESA standard screw specifications, the length of the screws may differ depending on their specifications.
- ▶ Do not use screws that do not comply with the VESA standard screw specifications.  
Do not use fasten the screws too strongly, this may damage the TV or cause the TV to a fall, leading to personal injury. LG is not liable for these kinds of accidents.
- ▶ LG is not liable for TV damage or personal injury when a non-VESA or non specified wall mount is used or the consumer fails to follow the TV installation instructions.

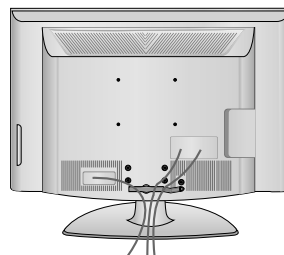
### ! CAUTION

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

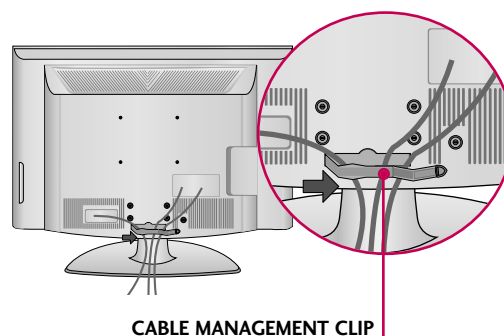
## CABLE MANAGEMENT

For 32/42/47CL40

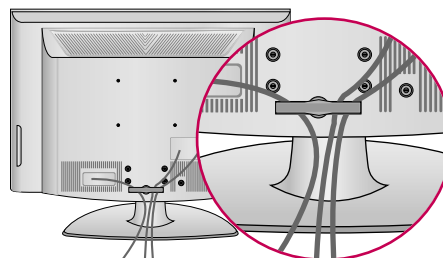
- 1 Connect the cables as necessary.  
To connect additional equipment, see the **EXTERNAL EQUIPMENT SETUP** section.



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



- 3 Put the cables inside the **CABLE MANAGEMENT CLIP** and snap it closed.

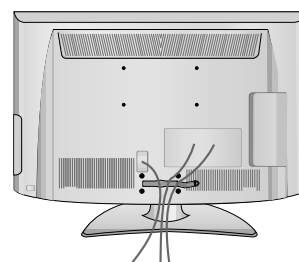


# PREPARATION

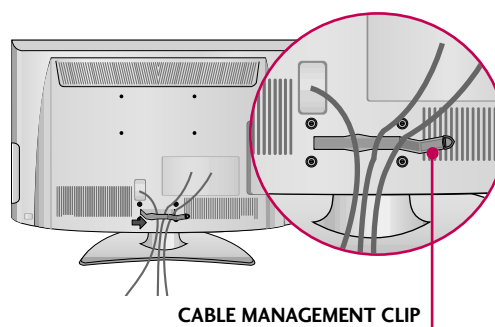
## CABLE MANAGEMENT

For 32/42/47/55LH40, 37/42/47/55LH55

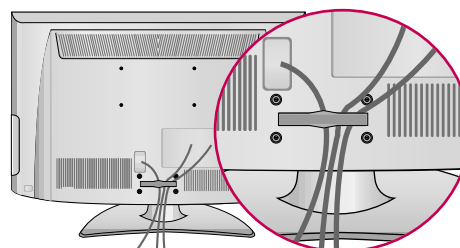
- 1 Connect the cables as necessary.  
To connect additional equipment, see the **EXTERNAL EQUIPMENT SETUP** section.



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



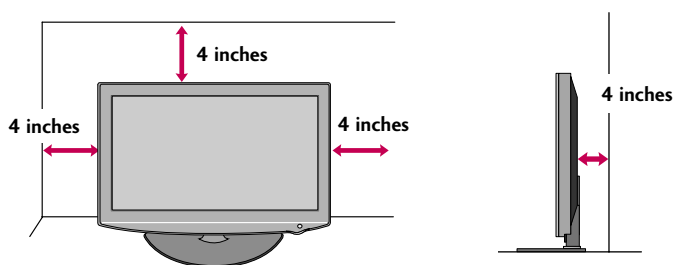
- 3 Put the cables inside the **CABLE MANAGEMENT CLIP** and snap it closed.



## DESKTOP PEDESTAL INSTALLATION

- Image shown may differ from your TV.

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

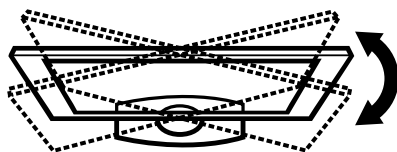


### CAUTION

- ▶ Ensure adequate ventilation by following the clearance recommendations.
- ▶ Do not mount near or above any type of heat source.

## SWIVEL STAND

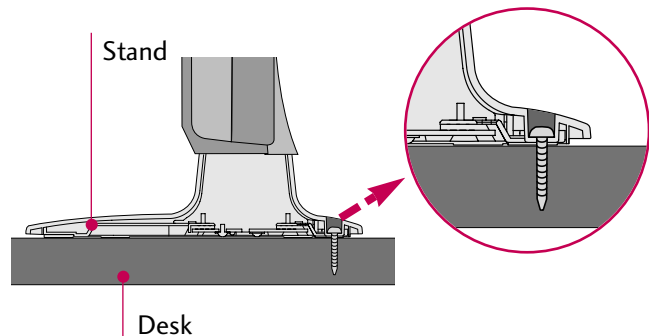
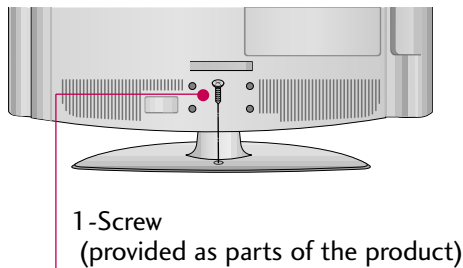
After installing the TV, you can adjust the TV set manually to the left or right direction by 20 degrees to suit your viewing position.



# PREPARATION

## ATTACHING THE TV TO A DESK

The TV must be attached to a desk so it cannot be pulled in a forward/backward direction, potentially causing injury or damaging the product.



### ⚠ WARNING

- ▶ To prevent TV from falling over, the TV should be securely attached to the floor/wall per installation instructions. Tipping, shaking, or rocking the machine may cause injury.

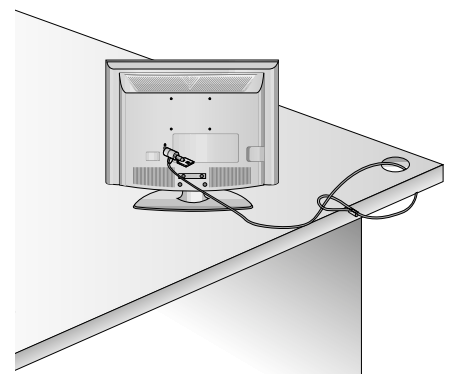
## KENSINGTON SECURITY SYSTEM

- This feature is not available for all models.

- The TV is equipped with a Kensington Security System connector on the back panel. Connect the Kensington Security System cable as shown below.
- For the detailed installation and use of the Kensington Security System, refer to the user's guide provided with the Kensington Security System.

For further information, contact <http://www.kensington.com>, the internet homepage of the Kensington company. Kensington sells security systems for expensive electronic equipment such as notebook PCs and LCD projectors.

NOTE: The Kensington Security System is an optional accessory.

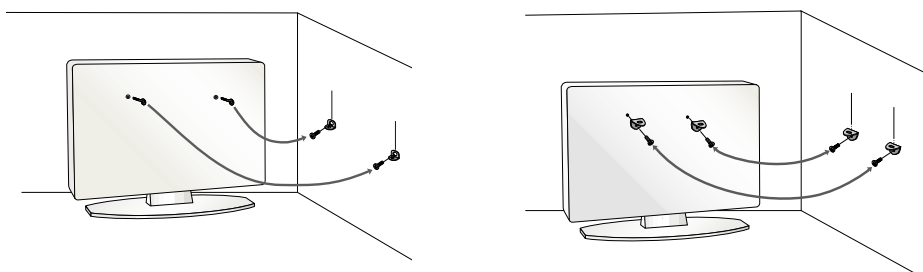


## SECURING THE TV TO THE WALL TO PREVENT FALLING WHEN THE TV IS USED ON A STAND

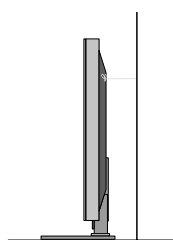
- You should purchase necessary components to prevent TV from falling off of the stand.
- Image shown may differ from your TV.

We recommend that you set up the TV close to a wall so it cannot fall over if pushed backwards. Additionally, we recommend that the TV be attached to a wall so it cannot be pulled in a forward direction, potentially causing injury or damaging the product.

Caution: Please make sure that children don't climb on or hang from the TV.



- Insert the eye-bolts (or TV brackets and bolts) to tighten the product to the wall as shown in the picture.
    - \* If your product has the bolts in the eye-bolts position before inserting the eye-bolts, loosen the bolts.
    - \* Insert the eye-bolts or TV brackets/bolts and tighten them securely in the upper holes.
- Secure the wall brackets with the bolts (sold separately) to the wall. Match the height of the bracket that is mounted on the wall to the holes in the product.
- Ensure the eye-bolts or brackets are tightened securely.



- Use a sturdy rope (sold separately) to tie the product. It is safer to tie the rope so it becomes horizontal between the wall and the product.

### ! NOTE

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



# PREPARATION

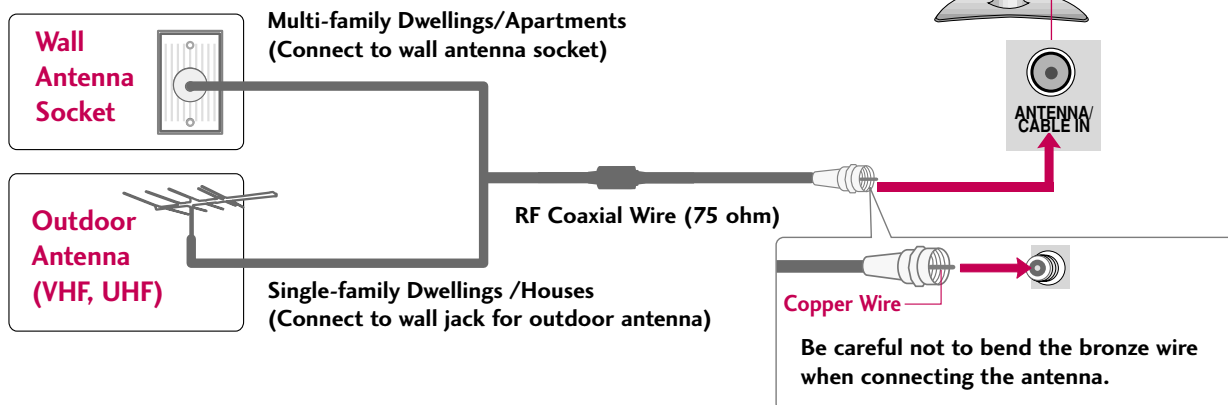
- To prevent damage do not connect to the power outlet until all connections are made between the devices.

## ANTENNA OR CABLE CONNECTION

### 1. Antenna (Analog or Digital)

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

For optimum picture quality, adjust antenna direction if needed.



### 2. Cable



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

# EXTERNAL EQUIPMENT SETUP

- To prevent the equipment damage, never plug in any power cords until you have finished connecting all equipment.
- Image shown may differ from your TV.

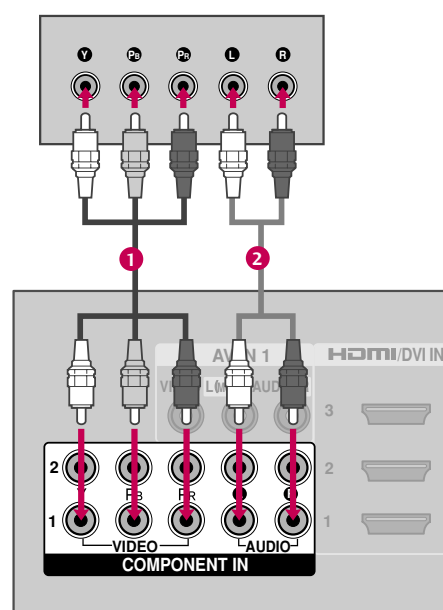
## HD RECEIVER SETUP

This TV can receive digital over-the-air/digital 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.

## Component Connection

### 1. How to connect

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



### 2. How to use

- Turn on the digital set-top box.  
(Refer to the owner's manual for the digital set-top box operation)
- Select the **Component1** input source on the TV using the **INPUT** button on the remote control.
- If connected to **COMPONENT IN 2** input, select the **Component2** input source on the TV.

### Supported Resolutions

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

### Y, CB/PB, CR/PR

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

# EXTERNAL EQUIPMENT SETUP

## HDMI Connection

### 1. How to connect

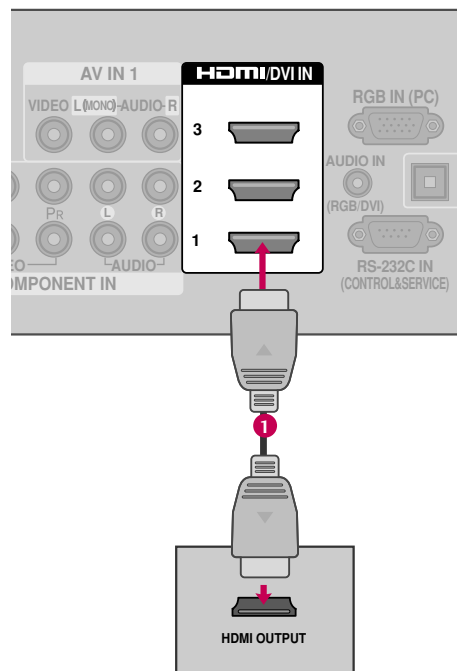
- 1 Connect the digital set-top box to **HDMI/DVI IN 1, 2, 3, or 4** jack on the TV.
- 2 No separate audio connection is necessary.  
HDMI supports both audio and video.

### 2. How to use

- Turn on the digital set-top box.  
(Refer to the owner's manual for the digital set-top box.)
- Select the **HDMI1**, **HDMI2**, **HDMI3**, or **HDMI4** input source on the TV using the **INPUT** button on the remote control.

#### ! NOTE

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



#### HDMI-DTV

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

## DVI to HDMI Connection

### 1. How to connect

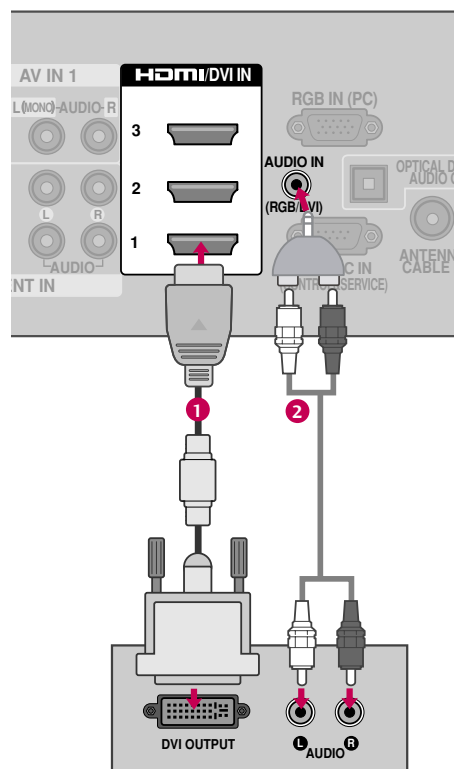
- 1 Connect the DVI output of the digital set-top box to the **HDMI/DVI IN 1, 2, 3, or 4** jack on the TV.
- 2 Connect the digital set-top box audio output to the **AUDIO (RGB/DVI)** jack on the TV.

### 2. How to use

- Turn on the digital set-top box.  
(Refer to the owner's manual for the digital set-top box.)
- Select the **HDMI1**, **HDMI2**, **HDMI3**, or **HDMI4** input source on the TV using the **INPUT** button on the remote control.

#### ! NOTE

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



# EXTERNAL EQUIPMENT SETUP

## DVD SETUP

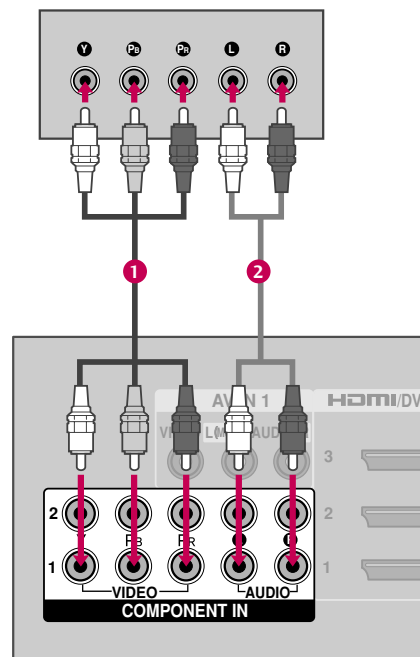
### Component Connection

#### 1. How to connect

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

#### 2. How to use

- Turn on the DVD player, insert a DVD.
- Select the **Component1** input source on the TV using the **INPUT** button on the remote control.
- If connected to **COMPONENT IN 2** input, select the **Component2** input source on the TV.
- Refer to the DVD player's manual for operating instructions.



#### Component Input ports

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

| Component ports on the TV           | Y | P <sub>B</sub> | P <sub>R</sub> |
|-------------------------------------|---|----------------|----------------|
| Video output ports<br>on DVD player | Y | P <sub>B</sub> | P <sub>R</sub> |
|                                     | Y | B-Y            | R-Y            |
|                                     | Y | Cb             | Cr             |
|                                     | Y | Pb             | Pr             |

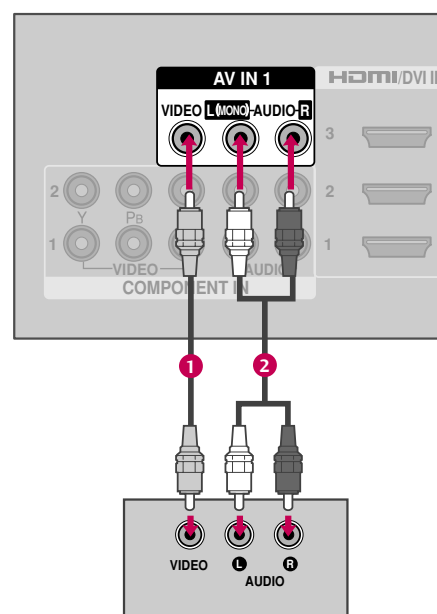
## Composite (RCA) Connection

### 1. How to connect

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

### 2. How to use

- Turn on the DVD player, insert a DVD.
- Select the **AV1** or **AV2** input source on the TV using the **INPUT** button on the remote control.
- Refer to the DVD player's manual for operating instructions.



## HDMI Connection

### 1. How to connect

- 1 Connect the HDMI output of the DVD to the **HDMI/DVI IN 1, 2, 3** or **4** jack on the TV.

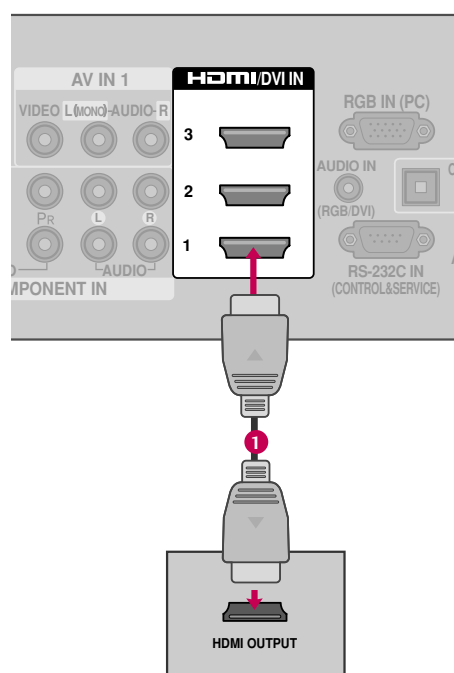
- 2 No separate audio connection is necessary. HDMI supports both audio and video.

### 2. How to use

- Select the **HDMI1**, **HDMI2**, **HDMI3**, or **HDMI4** input source on the TV using the **INPUT** button on the remote control.
- Refer to the DVD player's manual for operating instructions.

#### ! NOTE

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



# EXTERNAL EQUIPMENT SETUP

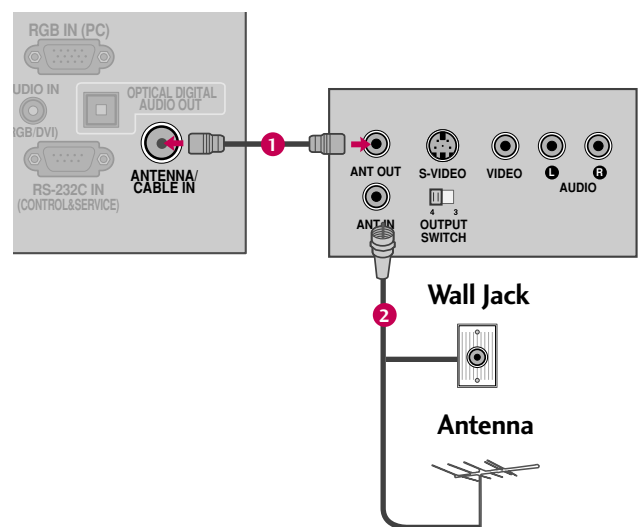
## VCR SETUP

- To avoid picture noise (interference), leave an adequate distance between the VCR and TV.

### Antenna Connection

#### 1. How to connect

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



#### 2. How to use

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

## Composite (RCA) Connection

### 1. How to connect

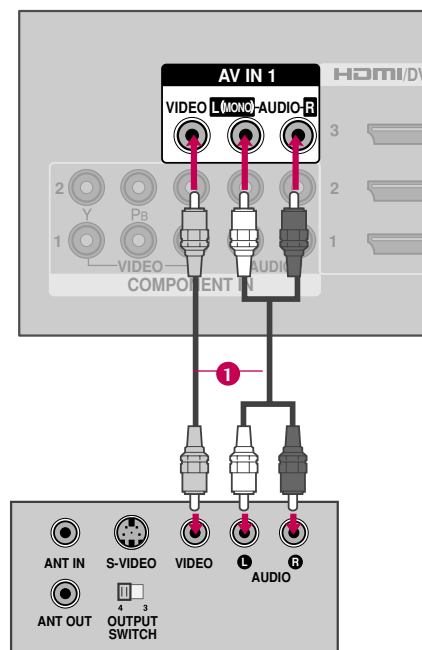
- 1 Connect the **AUDIO/VIDEO** jacks between TV and VCR. Match the jack colors (Video = yellow, Audio Left = white, and Audio Right = red)

### 2. How to use

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

#### ! NOTE

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





# EXTERNAL EQUIPMENT SETUP

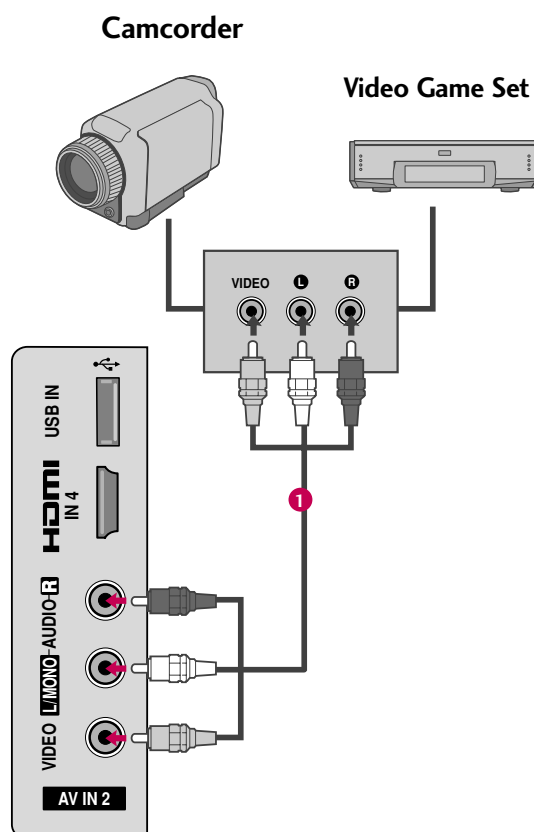
## OTHER A/V SOURCE SETUP

### 1. How to connect

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

### 2. How to use

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



## PC SETUP

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

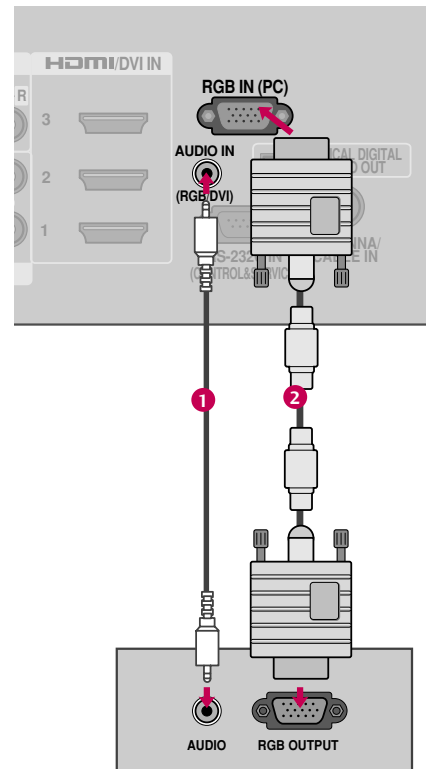
## VGA (D-Sub 15 pin) Connection

## 1. How to connect

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

## 2. How to use

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



## EXTERNAL EQUIPMENT SETUP

## DVI to HDMI Connection

## 1. How to connect

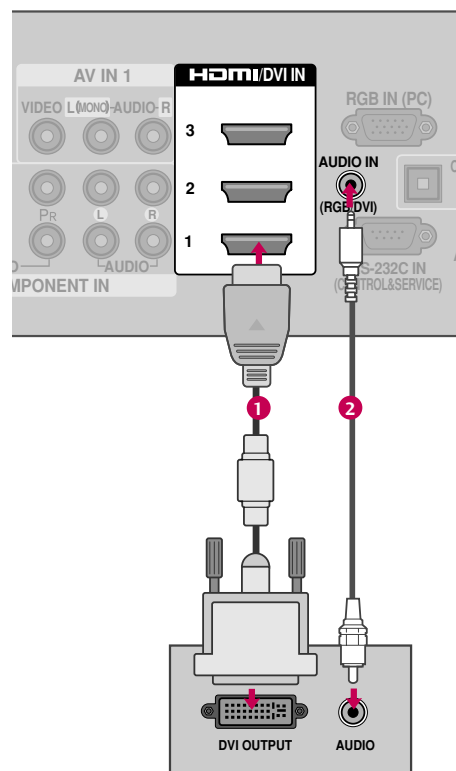
- 1 Connect the DVI output of the PC to the **HDMI/DVI IN 1, 2, 3, or 4** jack on the TV.
- 2 Connect the PC audio output to the **AUDIO IN (RGB/DVI)** jack on the TV.

## 2. How to use

- Turn on the PC and the TV.
- Select the **HDMI1**, **HDMI2**, **HDMI3**, or **HDMI4** input source on the TV using the **INPUT** button on the remote control.

**NOTE**

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



## ! NOTES

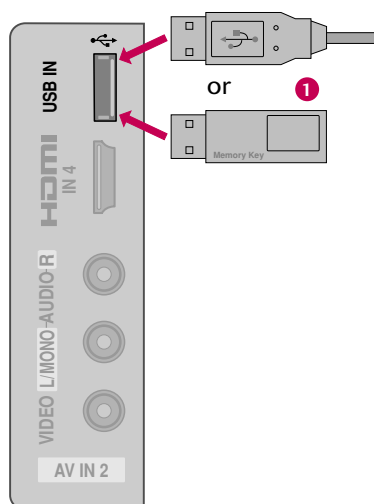
- ▶ To get the the best picture quality, adjust the PC graphics card to **1920x1080**.
- ▶ Depending on the graphics card, DOS mode may not work if a HDMI to DVI Cable is in use.
- ▶ In PC mode, there may be noise associated with the resolution, vertical pattern, contrast or brightness. If noise is present, change the PC output to another resolution, change the refresh rate to another rate or adjust the brightness and contrast on the PICTURE menu until the picture is clear.
- ▶ Avoid keeping a fixed image on the screen for a long period of time. The fixed image may become permanently imprinted on the screen.
- ▶ The synchronization input form for Horizontal and Vertical frequencies is separate.
- ▶ Depending on the graphics card, some resolution settings may not allow the image to be positioned on the screen properly.
- ▶ If there are overscan in HDMI-PC 1920x1080, change aspect ratio to **Just scan**.
- ▶ The TV provides EDID data to the PC system with a DDC protocol. DDC protocol is preset for RGB (Analog RGB), HDMI (Digital RGB) mode.

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

| Resolution           | Horizontal<br>Frequency(KHz) | Vertical<br>Frequency(Hz) |
|----------------------|------------------------------|---------------------------|
| 640x350              | 31.468                       | 70.09                     |
| 720x400              | 31.469                       | 70.08                     |
| 640x480              | 31.469                       | 59.94                     |
| 800x600              | 35.156<br>37.879             | 56.25<br>60.31            |
| 1024x768             | 48.363<br>56.476             | 60.00<br>70.06            |
| 1280x768             | 47.776                       | 59.87                     |
| 1280x1024            | 63.981                       | 60.02                     |
| 1360x768             | 47.712                       | 60.015                    |
| 1600x1200            | 75.00                        | 60.00                     |
| 1920x1080<br>RGB-PC  | 66.587                       | 59.934                    |
| 1920x1080<br>HDMI-PC | 67.5                         | 60.00                     |

# EXTERNAL EQUIPMENT SETUP

## USB CONNECTION



### 1. How to connect

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

### 2. How to use

- After connecting the **USB IN** jack, you use the USB function. (► p.60)

## AUDIO OUT CONNECTION

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

If you want to enjoy digital broadcasting through 5.1-channel speakers, connect the OPTICAL DIGITAL AUDIO OUT terminal on the back of TV to a Home Theater (or amp).

### 1. How to connect

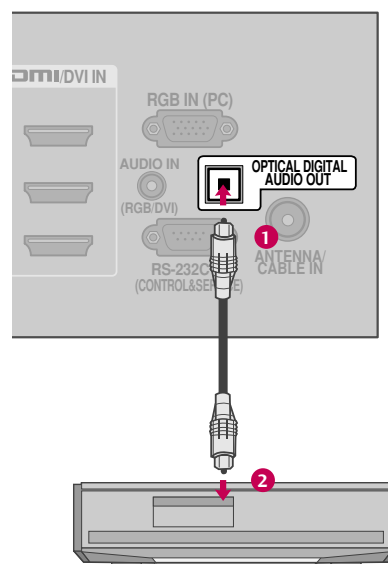
- 1 Connect one end of the optical or coaxial cable to the TV port of **OPTICAL DIGITAL AUDIO OUT**.
- 2 Connect the other end of the optical cable to the digital audio input on the audio equipment.
- 3 Set the "TV Speaker option - Off" in the AUDIO menu. (► p.87). See the external audio equipment instruction manual for operation.

#### ! NOTE

- When connecting with external audio equipments, such as amplifiers or speakers, you can turn the TV speakers off in the menu. (► p.87)

#### ! CAUTION

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

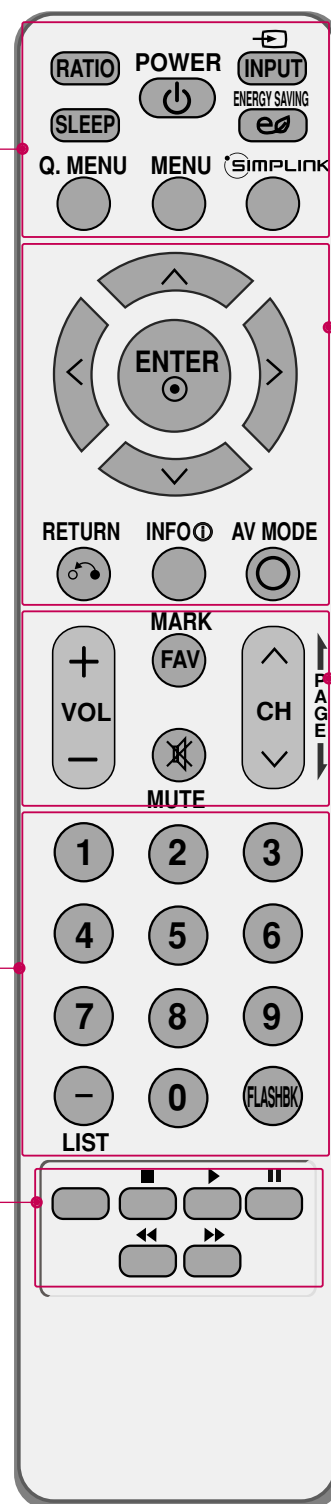


# WATCHING TV / CHANNEL CONTROL

## REMOTE CONTROL FUNCTIONS

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

|   |  |
|---|--|
| <b>RATIO</b>                              | Change the aspect ratio. ▶ p.68  |
| <b>SLEEP</b>                              | Select the amount of time before your TV turns off automatically. ▶ p.98   |
| <b>POWER</b>                              | Turns your TV on or off.   |
| <b>INPUT</b>                              | Rotates through inputs.<br>Also switches the TV on from standby. ▶ p.54  |
| <b>ENERGY SAVING</b>                      | Adjusts the Energy Saving. ▶ p.78  |
| <b>Q.MENU</b>                             | Opens the list of Quick Menu options. ▶ p.47   |
| <b>MENU</b>                               | Displays the main menu.<br>Clear all on-screen displays and return to TV viewing from any menu.  |
| <b>SIMPLINK</b>                           | See a list of AV devices connected to TV.<br>When you toggle this button, the SIMPLINK menu appears at the screen. ▶ p.58-59   |
| <b>NUMBER button</b>                      |  |
| <b>— (DASH)</b>                           | Used to enter a program number for multiple program channels such as 2-1, 2-2, etc.  |
| <b>LIST</b>                               | Displays the channle table. ▶ p.51   |
| <b>FLASHBK</b>                            | Tunes to the last channel viewed.  |
| <b>VCR, USB, SIMPLINK Control buttons</b> | <ul style="list-style-type: none"> <li>Controls video cassette recorders or DVD players.</li> <li>Controls USB menu (PHOTO LIST and MUSIC LIST.)</li> <li>Controls the SIMPLINK compatible devices.</li> </ul> |



**THUMBSTICK**  
(Up/Down/Left  
Right/ENTER)

Navigates the on-screen menus and adjusts the system settings to your preference.

**RETURN** Allows the user to move return one step in an interactive application or other user interaction function.

**INFO** Displays channel information at the top of the screen. ► p.53

**AV MODE** Toggles through preset Video and Audio modes. ► p.56

**VOLUME UP /DOWN** Increase/decrease the sound level.

**FAV** Scroll through the programmed Favorite channels. ► p.52

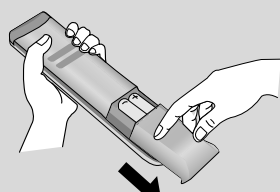
**MARK** Select the input to apply the Picture Wizard settings. ► p.71  
Use to mark or unmark a photo/music ► p.62, 66

**MUTE** Switchs the sound on or off. ► p.44

**CHANNEL UP/DOWN** Changes the channel.

**PAGE UP/DOWN** Moves from one full set of screen information to the next one.

## Installing Batteries



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



# WATCHING TV / CHANNEL CONTROL

## TURNING ON THE TV

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

### ! NOTE

- ▶ If you intend to be away on vacation, disconnect the power plug from the wall power outlet.
- ▶ If you do not complete the **Initial setting**, it will appear whenever the TV is switched on until the **Initial setting** procedure is completed.
- ▶ If this TV is unplugged once or turn off with the power switch on the TV, reset the Time function.

## CHANNEL SELECTION

- 1 Press the **CH** ( $\wedge$  or  $\vee$  ) 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.

# USB

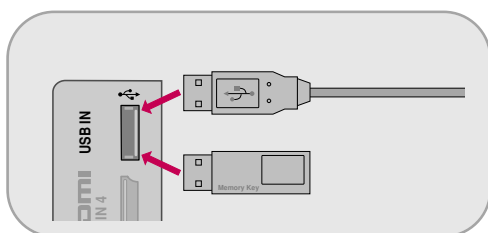
## ENTRY MODES

When you connect a USB device, this pop up menu is displayed automatically.

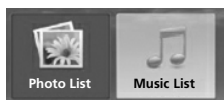
When the Pop Up menu does not appear, you can select Photo List or Music List in the USB menu.

In USB device, you can not add a new folder or delete the existing folder.

- 1 Connect the USB device to the **USB IN** jacks on the side of TV.



- 2 Select **Photo List** or **Music List**.



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

### When removing the USB device

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

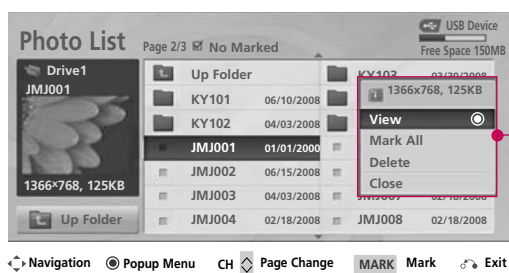
- 1 Q. MENU Select **USB Device**.

- 2 ENTER Select **Eject**.

### Precautions when using the USB device







- ▶ Only a USB storage device is recognizable.
- ▶ If the USB storage device is connected through a USB hub, the device is not recognizable.
- ▶ A USB storage device using an automatic recognition program may not be recognized.
- ▶ A USB storage device which uses its own driver may not be recognized.
- ▶ USB multi-card reader or USB hard drive may not operate smoothly or may not operate at all.
- ▶ The recognition speed of a USB storage device may depend on each device.
- ▶ Please do not turn off the TV or unplug the USB device when the connected USB storage device is working. When such device is suddenly separated or unplugged, the stored files or the USB storage device may be damaged.
- ▶ Only use a USB storage device which has normal music files or image files.
- ▶ Please use only a USB storage device which was formatted as a FAT or NTFS file system provided with the Windows operating system. In case of a storage device formatted as a different utility program which is not supported by Windows, it may not be recognized.
- ▶ Please connect power to a USB storage device which requires an external power supply. If not, the device may not be recognized.
- ▶ Please connect a USB storage device with cable is offered by USB maker. If connected with cable is not offered by USB maker or an excessively long cable, the device may not be recognized.
- ▶ Some USB storage devices may not be supported or operate properly.
- ▶ Please backup important files because data on USB device may be damaged. Data management is consumer's responsibility and as a result, the manufacturer does not cover data damage.



## Photo Selection and Popup Menu

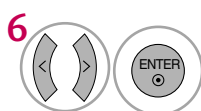
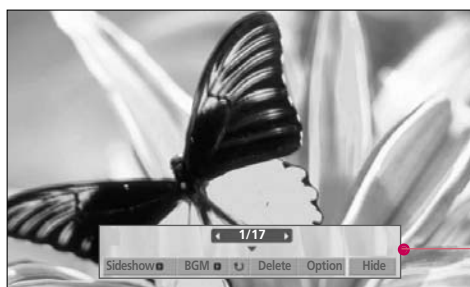



When you select a file (not folder), this PopUp menu is displayed.

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



- 1  Select the target folder or drive.
- 2   Select the desired photos.
- 3  Show the Popup menu.
- 4   Select the desired Popup menu.

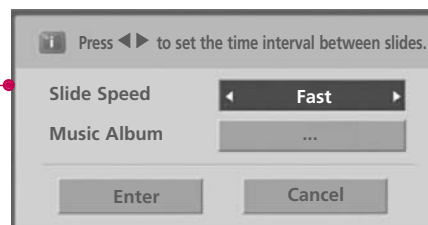
- Use the **CH**   button to navigation in the photo page.
- Use the **MARK** button to mark or unmark a photo. When one or more photos are marked, you can view individual photos or a slide show of the marked photos. If no photos are marked, you can view all photos individually or all photos in the folder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



6 Select the **Sideshow**, **BGM**,  (**Rotate**), **Delete**, **Option**, or **Hide**.

- Use < > button to select the previous or next photo.
- Use ^ v < > button to select and control the menu on the full-sized screen.

- ▶ **Slide Show**: Selected photos are displayed during the slide show. If no photo is selected, all photos in the current folder are displayed during slide show.
  - Set the time interval of the slide show in **Option**.
- ▶ **BGM**: Listen to music while viewing photos in full size.
  - Set the BGM device and album in **Option**.
- ▶  (**Rotate**): Rotate photos.
  - Rotates the photo 90°, 180°, 270°, 360° clockwise.
- ▶ **Delete**: Delete photos.
- ▶ **Option**: Set values for **Slide Speed** and **Music Album**.
  - Use < > button and **ENTER** button to set values. Then go to  and press **ENTER** to save the settings.
  - You cannot change **Music Album** while BGM is playing.
- ▶ **Hide** : Hide the menu on the full-sized screen.
  - To see the menu again on the full-sized screen, press **ENTER** button to display.

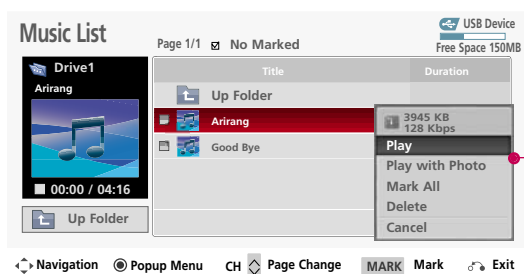
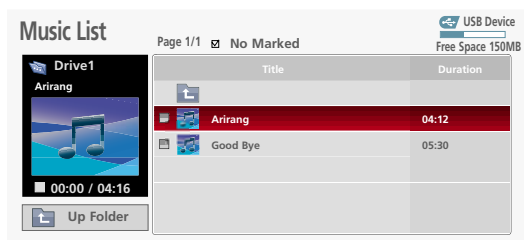


## ! NOTE

- ▶ This TV will not be able to decode most JPG images saved using the Progressive option.

## Music Selection and Popup Menu

Up to 6 music titles are listed per page.



- **Play** (During stop): Play the selected music. Once a song finishes playing, the next selected one will be played. When there are no selected musics to play, the next one in the current folder will be played. If you go to a different folder and press the **ENTER** button, the current music in playback will stop.
- **Play Marked**: Play the selected musics. Once a music finishes playing, the next selected one will be played automatically.
- **Stop Play** (During playback): Stop the playing musics.
- **Play with Photo**: Start playing the selected musics and then move to the Photo List.
- **Mark All**: Mark all musics in the folder.
- **Unmark All**: Deselect all marked music.
- **Delete**: Delete the selected music.
- **Close**: Close the pop-up menu.



- 1 Select the target folder or drive.
- 2 Select the desired musics.
- 3 Show the Popup menu.
- 4 Select the desired Popup menu.
- 5 Return to TV viewing

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

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



#### ! NOTE

- ▶ When music is playing,  is displayed in front of the music play time.
- ▶ A damaged or corrupted music file that does not play displays 00:00 as the play time.
- ▶ Music files with copy-protection will not play.
- ▶ Press **ENTER**, , or **RETURN** button to stop the screen saver.
- ▶ This TV can not play music files less than 16 Kbytes.

## 16:9

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



## Just Scan

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

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

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



## Set by program

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

(4:3 → 4:3)



(16:9 → 16:9)



## 4:3

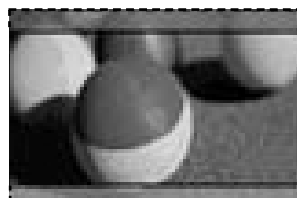
Choose 4:3 when you want to view a picture with an original 4:3 aspect ratio.



## Zoom

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

- When adjusting in Q.MENU menu,
  - a. ◀ or ▶ button: Adjust enlarge proportion of Zoom.
  - b. ▲ or ▼ button: Move the screen.



## 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.

- ◀ or ▶ button: Adjust enlarge proportion of Cinema Zoom. The adjustment range is 1-16.
- ▲ or ▼ button: Move the screen.



# PICTURE CONTROL

|                   |   |
|-------------------|---|
| Color Temperature | <ul style="list-style-type: none"> <li>■ Set to warm to enhance hotter colors such as red, or set to cool to see less intense colors with more blue.</li> </ul>   |
| Dynamic Contrast  | <ul style="list-style-type: none"> <li>■ Adjusts the contrast to keep it at the best level according to the brightness of the screen. The resolution of gradation is improved by making bright parts brighter and dark parts darker. This feature refers to dynamic contrast, and enhances the feeling of presence that contrast controls are intended to give by using dimming and other input signals.</li> </ul>   |
| Dynamic Color     | <ul style="list-style-type: none"> <li>■ Adjusts screen colours so that they look livelier, richer and clearer. This feature enhances hue, saturation and luminance so that red, blue, green and white look more vivid.</li> </ul>  |
| Noise Reduction   | <ul style="list-style-type: none"> <li>■ Reduces screen noise without compromising video quality. This feature is also used to reduce recursive noise.</li> </ul>   |
| Gamma             | <ul style="list-style-type: none"> <li>■ Set the gradient curve according to the relationship between input and output of the video signal. Calibrate the linear characteristics of the gradient curve between input signal voltage to output.</li> <li>■ You can adjust brightness of dark area and middle gray level area of the picture. <ul style="list-style-type: none"> <li>• Low : Make dark and middle gray level area of the picture brighter.</li> <li>• Medium: Express original picture gradation.</li> <li>• High: Make dark and middle gray level area of the picture darken.</li> </ul> </li> </ul> |
| Black Level       | <p><i>Low: The reflection of the screen gets darker.</i></p> <p><i>High: The reflection of the screen gets brighter.</i></p> <p><i>Auto: Realizing the black level of the screen and set it to High or Low automatically.</i></p> <ul style="list-style-type: none"> <li>■ Makes dark parts on the screen look darker.</li> <li>■ This feature is disable in DTV and RGB-PC mode.</li> </ul>  |
| Eye Care          | <ul style="list-style-type: none"> <li>■ Adjust the brightness of the screen to prevent the screen from being too bright. Dims extremely bright pictures.</li> <li>■ This feature is disable in “<b>Picture Mode-Vivid, Cinema</b>”.</li> </ul>   |
| Real Cinema       | <ul style="list-style-type: none"> <li>■ Makes video clips recorded in film look more natural.</li> <li>■ When you operate Real Cinema (3:2 Pull-Down Mode or Cinema Correction Mode), the TV will adjust 24 fps video from movies to 30 fps video for display.</li> <li>■ This feature operates only in TV (Analog TV/CATV, Digital DTV/CADTV), AV, Component 480i/1080i, and HDMI 1080i mode.</li> </ul>  |
| Color Gamut       | <p><i>Standard: Mode to realize original color irrelevant from the display characteristics of the color space according to the standard of input signal.</i></p> <p><i>Wide: Mode to use and set the rich color area of the display.</i></p> <ul style="list-style-type: none"> <li>■ Maximize the utilization for color area that can be expressed.</li> <li>■ This feature is disabled in “<b>Picture Mode-Vivid, Sport</b>”.</li> </ul>  |
| Edge Enhancer     | <ul style="list-style-type: none"> <li>■ Show clearer and distinctive yet natural corners of the video. Emphasizes the frames of the video without over peaking.</li> </ul>   |

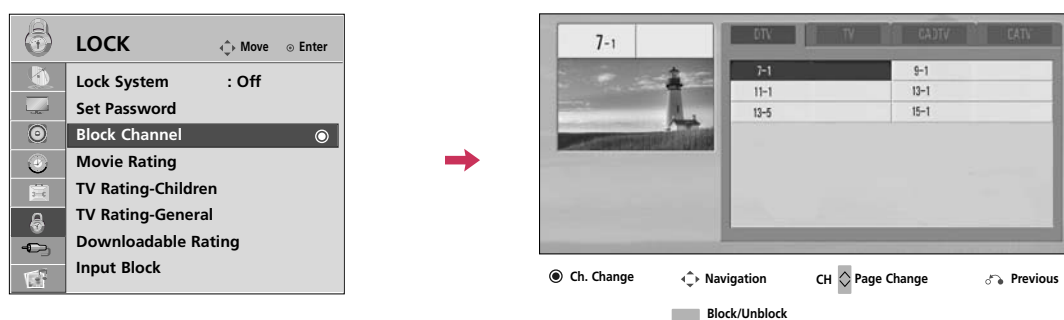


|                       |  |
|-----------------------|--|
| TruMotion 120Hz/240Hz | <ul style="list-style-type: none"> <li>■ TruMotion120Hz provides even better quality for movies than 3:2 Pull-Down conversions.</li> <li>■ TruMotion120Hz means the panel supports faster frame rates than normal panels which makes for smoother motion in video. TruMotion LCD models support 120Hz instead of 60Hz. This means twice the information on the screen in the same amount of time and easier film conversions (120 is equally divisible by 24, so no interpretations or double frames are needed).</li> <li>■ TruMotion120Hz works with all inputs except PC mode.</li> <li>• If you enable "TruMotion 100HZ", noise may appear on the screen.</li> <li>• If this occurs, set "TruMotion 100HZ" to "Off".</li> </ul>  |
| Color Standard        | <ul style="list-style-type: none"> <li>■ Convert the color of a different video to HD color. This function is set for SD video (BT-601) and HD video (BT-709) color format.</li> </ul>   |
| Color Filter          | <ul style="list-style-type: none"> <li>■ This is the function to filter only the specific color area of the video by adjusting the RGB LUT of the output terminal.</li> </ul> <p>You can use the RGB filter to accurately set the color concentration and color</p>  |
| xvYCC                 | <ul style="list-style-type: none"> <li>■ This is the function to express richer color.</li> </ul>  |
| Expert Pattern        | <ul style="list-style-type: none"> <li>■ This is the pattern necessary for expert adjustment.</li> </ul>   |
| White Balance         | <ul style="list-style-type: none"> <li>■ This is the function to adjust the overall color of the screen to the feeling you want.</li> </ul> <p>a. Method : 2 Points</p> <ul style="list-style-type: none"> <li>- Pattern: Inner, Outer</li> <li>- Red/Green/Blue Contrast, Red/Green/Blue Brightness:<br/>The adjustment range is -50 - +50.</li> </ul> <p>b. Method : 10 Point IRE</p> <ul style="list-style-type: none"> <li>- Pattern: Inner, Outer</li> <li>- IRE (Institute of Radio Engineers) is the unit to display the size of the video signal and can be set among 10, 20, 30 - 100. You can adjust Red, Green or Blue according to each setting.</li> <li>- Luminance: Automatically adjusted depending on IRE value.</li> <li>- Red/Green/Blue: The adjustment range is -50 - +50.</li> </ul> |
| Color Management      | <ul style="list-style-type: none"> <li>■ As the tool used by the experts to make adjustments by using the test patterns, this does not affect other colors but can be used to selectively adjust the 6 color areas (Red/Green/Blue/Cyan/Mgt/Yellow).</li> </ul> <p>Color difference may not be distinctive even when you make the adjustments for the general video.</p> <p>Adjusts Red/Green/Blue/Yellow/Cyan, Magenta.</p> <ul style="list-style-type: none"> <li>- Red/Green/Blue/Yellow/Cyan, Magenta Color: The adjustment range is -50 - +50.</li> <li>- Red/Green/Blue/Yellow/Cyan, Magenta Tint: The adjustment range is -50 - +50.</li> <li>- This feature is disable in RGB-PC and HDMI (PC) mode.</li> </ul>  |
| OPC                   | <p><i>*This feature is not available for all models.</i></p> <ul style="list-style-type: none"> <li>■ As the technology to reduce the power consumption while keeping the same brightness, this has the effect of reducing power consumption, improvement in contrast and light source etc.</li> </ul>   |

# PARENTAL CONTROL / RATINGS

## CHANNEL BLOCKING

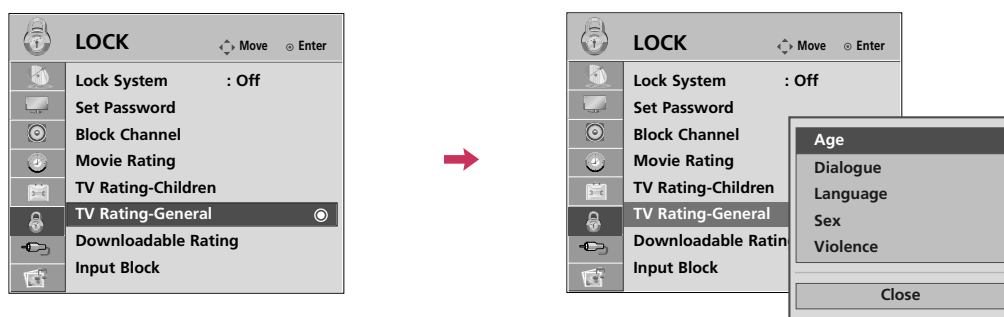
Blocks any channels that you do not want to watch or that you do not want your children to watch.














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

## TV Rating General - For USA only

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



- 1    Select **LOCK**.
- 2  Input the password.
- 3  Select **TV Rating-General**.
- 4   Select **Age, Dialogue, Language, Sex or Violence**.
- 5   Select block options.
- 6  Return to the previous menu.
-  Return to TV viewing.

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

# APPENDIX

## TROUBLESHOOTING

### The TV does not turn on.

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.

### The video does not work.

No picture & No sound

- Check whether the product is turned on.
- Try another channel. The problem may be with the broadcast.
- Is the power cord inserted into wall power outlet?
- Check your antenna direction and/or location.
- Test the wall power outlet, plug another product's power cord into the outlet where the product's power cord was plugged in.

Picture appears slowly after switching on

- This is normal, the image is muted during the product startup process. Please contact your service center, if the picture has not appeared after five minutes.

No or poor color or poor picture

- Adjust Color in menu option.
- Keep a sufficient distance between the product and the VCR.
- Try another channel. The problem may be with the broadcast.
- Are the video cables installed properly?
- Activate any function to restore the brightness of the picture.

Horizontal/vertical bars or picture shaking

- Check for local interference such as an electrical appliance or power tool.

Poor reception on some channels

- Station or cable product experiencing problems, tune to another station.
- Station signal is weak, reorient antenna to receive weaker station.
- Check for sources of possible interference.

Lines or streaks in pictures

- Check antenna (Change the direction of the antenna).

No picture when connecting HDMI

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

### The audio does not work.

|                                       |   |
|---------------------------------------|---|
| Picture OK & No sound                 | <ul style="list-style-type: none"> <li>■ Press the VOL or VOLUME button.</li> <li>■ Sound muted? Press MUTE button.</li> <li>■ Try another channel. The problem may be with the broadcast.</li> <li>■ Are the audio cables installed properly?</li> </ul> |
| No output from one of the speakers    | <ul style="list-style-type: none"> <li>■ Adjust Balance in menu option.</li> </ul>  |
| Unusual sound from inside the product | <ul style="list-style-type: none"> <li>■ 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.</li> </ul>                                       |
| No sound when connecting HDMI/USB     | <ul style="list-style-type: none"> <li>■ Check HDMI cable over version 1.3.</li> <li>■ Check USB cable over version 2.0.</li> <li>■ Use normal MP3 file.</li> </ul> <p style="text-align: right;">*This feature is not available for all models.</p>      |

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

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

# MAINTENANCE

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

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

## Cleaning the Screen

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

## Cleaning the Cabinet

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

## Extended Absence

### CAUTION

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

## PRODUCT SPECIFICATIONS

| MODELS   |   | 32LH40<br>(32LH40-UA)  | 37LH40<br>(37LH40-UA)                                  | 42LH40<br>(42LH40-UA)                                  |
|--|---|--|--|--|
| Dimensions<br>(Width x Height<br>x Depth)  | With stand                                  | 31.6 x 23.0 x 8.8 inches<br>804.4 x 586.3 x 223.8 mm   | 36.6x 27.8 x 14.8 inches<br>929 x 706.9x 374.7mm       | 40.7 x 23.8 x 11.6 inches<br>1036.0 x 721.3 x 296.2 mm |
|  | Without stand                               | 31.6 x 20.8 x 3.1 inches<br>804.4 x 529.2 x 81.0 mm  | 36.6x 26.1 x 3.9 inches<br>929 x 665x 98.7mm           | 40.7 x 25.8 x 3.5 inches<br>1036.0 x 655.4 x 89.8 mm   |
| Weight   | With stand                                  | 26.8 pounds / 12.2 kg  | 46.3 pounds / 21.2 kg                                  | 40.3 pounds / 18.3 kg                                  |
|  | Without stand                               | 24.0 pounds / 10.9 kg  | 39.9 pounds / 18.1 kg                                  | 36.3 pounds / 16.5 kg                                  |
| MODELS   |   | 47LH40<br>(47LH40-UA)  | 55LH40<br>(55LH40-UA)                                  |  |
| Dimensions<br>(Width x Height<br>x Depth)  | With stand                                  | 1156.2 x 813.1 x 342.9 mm<br>45.6 x 32.0 x 13.5 inches   | 63.4 x 37.1 x 12.5 inches<br>1612.0 x 944.2 x 320.0 mm |  |
|  | Without stand                               | 1156.2 x 739.2 x 103.0 mm<br>45.6 x 29.1 x 4.1 inches  | 63.4 x 34.5 x 5.6 inches<br>1612.0 x 878.0 x 143.0 mm  |  |
| Weight   | With stand                                  | 64.4 pounds / 29.2 kg  | 160.7 pounds / 72.9 kg                                 |  |
|  | Without stand                               | 54.3 pounds / 24.6 kg  | 130.9 pounds / 59.4 kg                                 |  |
| MODELS   |   | 32CL40<br>(32CL40-UA)  | 42CL40<br>(42CL40-UA)                                  | 47CL40<br>(47CL40-UA)                                  |
| Dimensions<br>(Width x Height<br>x Depth)  | With stand                                  | 32.0 x 23.5 x 91. inches<br>813.8 x 598.8 x 231.9 mm   | 40.7 x 28.9 x 11.5 inches<br>1034.0 x 735.0 x 294.0 mm | 45.5 x 32.0 x 13.5 inches<br>1156.2 x 813.1 x 342.9 mm |
|  | Without stand                               | 32.0 x 21.2 x 3.1 inches<br>813.8 x 540.4 x 78.9 mm  | 40.7 x 26.1 x 3.5 inches<br>1034.0 x 663.0 x 91.0 mm   | 45.5 x 29.1 x 4.0 inches<br>1156.2 x 739.2 x 103.0 mm  |
| Weight   | With stand                                  | 28.4 pounds / 12.9 kg  | 54.0 pounds / 24.5 kg                                  | 64.3 pounds / 29.2 kg                                  |
|  | Without stand                               | 25.1 pounds / 11.4 kg  | 48.5 pounds / 22.0 kg                                  | 54.2 pounds / 24.6 kg                                  |
| Power requirement<br>Television System<br>Program Coverage<br>External Antenna Impedance |   | AC100-240V ~ 50/60Hz<br>NTSC-M, ATSC, 64 & 256 QAM<br>VHF 2-13, UHF 14-69, CATV 1-135, DTV 2-69, CADTV 1-135<br>75 ohm |  |  |
| Environment<br>condition   | Operating Temperature<br>Operating Humidity | 32 ~ 104°F (0 ~ 40°C)<br>Less than 80%   |  |  |
|  | Storage Temperature<br>Storage Humidity     | -4 ~ 140°F (-20 ~ 60°C)<br>Less than 85%   |  |  |

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

# APPENDIX

| MODELS   |   | 37LH55<br>(37LH55-UA)  | 42LH55<br>(42LH55-UA)                                  |
|--|---|--|--|
| Dimensions<br>(Width x Height<br>x Depth)  | With stand                                  | 36.6x 27.8 x 14.8 inches<br>929 x 706.9x 374.7mm   | 41.5x 28.3 x 11.7 inches<br>1052.2 x 719.1 x 296.2mm   |
|  | Without stand                               | 36.6x 26.1 x 3.9 inches<br>929 x 665x 98.7mm   | 41.5 x 25.9 x 3.6 inches<br>1052.2 x 657.4 x 90.8mm    |
| Weight   | With stand                                  | 46.3 pound / 21.2 kg   | 40.4 pound / 18.3 kg                                   |
|  | Without stand                               | 39.9 pound / 18.1 kg   | 36.4 pound / 16.5 kg                                   |
| MODELS   |   | 47LH55<br>(47LH55-UA)  | 55LH55<br>(55LH55-UA)                                  |
| Dimensions<br>(Width x Height<br>x Depth)  | With stand                                  | 45.6 x 32.0 x 13.5 inches<br>1156.2 x 813.1 x 342.9 mm   | 63.4 x 37.1 x 12.5 inches<br>1612.0 x 944.2 x 320.0 mm |
|  | Without stand                               | 45.6 x 29.1 x 4.1 inches<br>1156.2 x 739.2 x 103.0 mm  | 63.4 x 34.5 x 5.6 inches<br>1612.0 x 878.0 x 143.0 mm  |
| Weight   | With stand                                  | 64.4 pounds / 29.2 kg  | 160.7 pounds / 72.9 kg                                 |
|  | Without stand                               | 54.3 pounds / 24.6 kg  | 130.9 pounds / 59.4 kg                                 |
| Power requirement<br>Television System<br>Program Coverage<br>External Antenna Impedance |   | AC100-240V ~ 50/60Hz<br>NTSC-M, ATSC, 64 & 256 QAM<br>VHF 2-13, UHF 14-69, CATV 1-135, DTV 2-69, CADTV 1-135<br>75 ohm |  |
| Environment<br>condition   | Operating Temperature<br>Operating Humidity | 32 ~ 104°F (0 ~ 40°C)<br>Less than 80%   |  |
|  | Storage Temperature<br>Storage Humidity     | -4 ~ 140°F (-20 ~ 60°C)<br>Less than 85%   |  |

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



## IR CODES

| Code (Hexa) | Function       | Note                                 | Code (Hexa) | Function   | Note  |
|-------------|----------------|--------------------------------------|-------------|------------|---|
| 08          | POWER          | Remote control Button (Power On/Off) | D6          | TV         | Discrete IR Code (TV Input Selection)         |
| 45          | Q.MENU         | Remote control Button                | C4          | POWER ON   | Discrete IR Code (Only Power On)              |
| 43          | MENU           | Remote control Button                | C5          | POWER OFF  | Discrete IR Code (Only Power Off)             |
| 0B          | INPUT          | Remote control Button                | 5A          | AV1        | Discrete IR Code (AV1 Input Selection)        |
| 10-19       | Number Key 0-9 | Remote control Button                | D0          | AV2        | Discrete IR Code (AV2 Input Selection)        |
| 4C          | - (Dash)       | Remote control Button                | BF          | COMPONENT1 | Discrete IR Code (Component1 Input Selection) |
| 1A          | FLASHBK        | Remote control Button                | D4          | COMPONENT2 | Discrete IR Code (Component2 Input Selection) |
| 09          | MUTE           | Remote control Button                | D5          | RGB-PC     | Discrete IR Code (RGB-PC Input Selection)     |
| 02          | VOL +          | Remote control Button                | CE          | HDMI1      | Discrete IR Code (HDMI1 Input Selection)      |
| 03          | VOL -          | Remote control Button                | CC          | HDMI2      | Discrete IR Code (HDMI2 Input Selection)      |
| 00          | CH ^           | Remote control Button                | E9          | HDMI3      | Discrete IR Code (HDMI3 Input Selection)      |
| 01          | CH v           | Remote control Button                | DA          | HDMI4      | Discrete IR Code (HDMI4 Input Selection)      |
| 1E          | FAV            | Remote control Button                | 76          | Ratio 4:3  | Discrete IR Code (Only 4:3 Mode)              |
| 40          | ^              | Remote control Button                | 77          | Ratio 16:9 | Discrete IR Code (Only 16:9 Mode)             |
| 41          | v              | Remote control Button                | AF          | Ratio Zoom | Discrete IR Code (Only Zoom1 Mode)            |
| 07          | <              | Remote control Button                |             |            |   |
| 06          | >              | Remote control Button                |             |            |   |
| 44          | ENTER          | Remote control Button                |             |            |   |
| 28          | RETURN         | Remote control Button                |             |            |   |
| 7E          | SIMPLINK       | Remote control Button                |             |            |   |
| 30          | AV MODE        | Remote control Button                |             |            |   |
| B0          | PLAY           | Remote control Button                |             |            |   |
| BA          | PAUSE          | Remote control Button                |             |            |   |
| B1          | STOP           | Remote control Button                |             |            |   |
| BD          | REC            | Remote control Button                |             |            |   |
| 8F          | REW            | Remote control Button                |             |            |   |
| 8E          | FF             | Remote control Button                |             |            |   |

APPENDIX

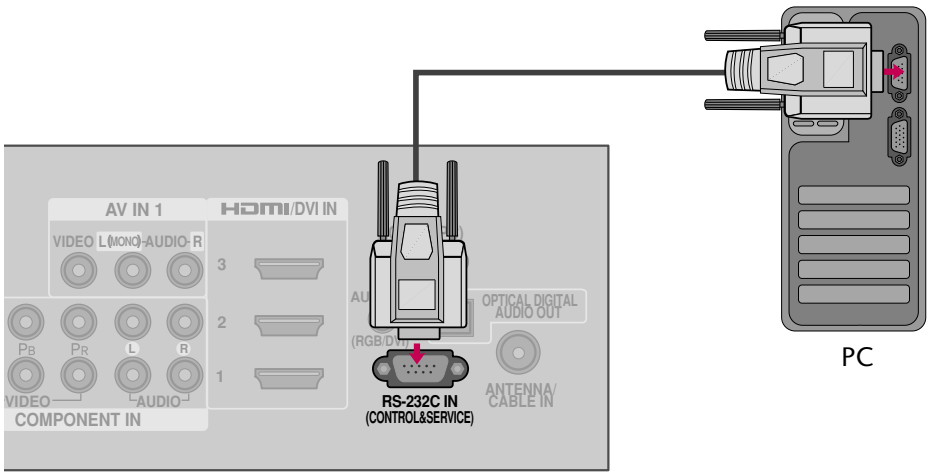
EXTERNAL CONTROL THROUGH RS-232C

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-232C control hardware and software. The instructions below are provided to help with programming software or to test functionality using telenet software.

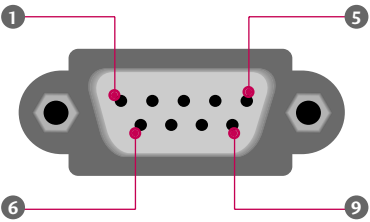
RS-232C Setup

i.e)



Type of Connector; D-Sub 9-Pin Male

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



Communication Parameters

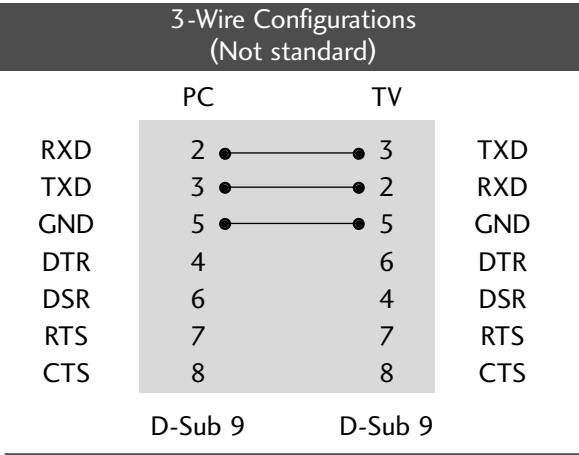
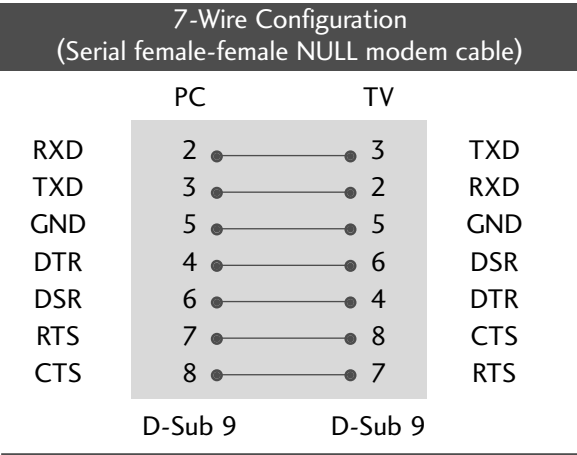
- Baud rate : 9600 bps (UART)
- Data length : 8 bits
- Parity : None
- Stop bit : 1 bit
- Communication code : ASCII code
- Use a crossed (reverse) cable.

! NOTE

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

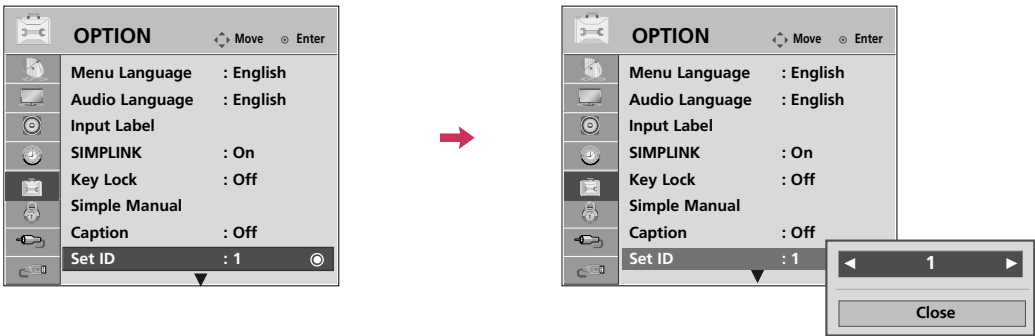
# RS-232C Configurations

Either cable below can be used.



## Set ID

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



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

- 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

**01. Power (Command: k a)**

To control Power On/Off of the TV.

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

Data 00: Power Off      Data 01: Power On

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

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

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

There might be a time delay between command and acknowledge.

**02. Input Select (Command: x b)**

To select input source for TV.

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

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

Data 10: Analog (Antenna)      Data 11: Analog (Cable)

Data 20: AV/AV1      Data 21: AV2

Data 40: Component/ Component1      Data 41: Component 2

Data 60: RGB-PC      Data 90: HDMI/HDMI1

Data 91: HDMI2      Data 92: HDMI3

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

\* Data21, 41, 91, 92 : Except 22LH20DC

**03. Aspect Ratio (Command: k c)**

To adjust the screen format.

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

Data 01: 4:3      06: Set by program

02: 16:9      08: Full (Only 22LH20DC)

04: Zoom 1      09: Just scan

05: Zoom 2      ⋮

Reserved

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

**04. Screen Mute (Command: k d)**

To select screen mute on/off.

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

Data 00: Screen mute off (Picture on)

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

Data 01: Volume mute off (Volume on)

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

**06. Volume Control (Command: k f)**

To adjust volume.

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

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

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

\*Refer to 'Real data mapping'.

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

**07. Contrast (Command: k g)**

To adjust screen contrast.

You can also adjust contrast in the PICTURE menu.

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

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

\*Refer to 'Real data mapping'.

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

**08. Brightness (Command: k h)**

To adjust screen brightness.

You can also adjust brightness in the PICTURE menu.

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

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

\*Refer to 'Real data mapping'.

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

**09. Color (Command: k i)**

To adjust screen color.

You can also adjust color in the PICTURE menu.

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

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

\*Refer to 'Real data mapping'.

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

**10. Tint (Command: k j)**

To adjust screen tint.

You can also adjust tint in the PICTURE menu.

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

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

\*Refer to 'Real data mapping'.

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

**11. Sharpness (Command: k k)**

To adjust screen sharpness.

You can also adjust sharpness in the PICTURE menu.

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

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

\*Refer to 'Real data mapping'.

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

## 12. OSD Select (Command: k l)

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

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

Data 00: OSD off      Data 01: OSD on

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

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

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

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

Data 00: Lock off      Data 01: Lock on

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

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

## 14. Treble (Command: k r)

To adjust treble.

You can also adjust treble in the AUDIO menu.

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

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

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

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

## 15. Bass (Command: k s)

To adjust bass.

You can also adjust bass in the AUDIO menu.

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

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

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

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

## 16. Balance (Command: k t)

To adjust balance.

You can also adjust balance in the AUDIO menu.

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

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

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

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

## 17. Color Temperature (Command: k u)

To adjust color temperature.

You can also adjust color temperature in the PICTURE menu.

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

Data 00: Medium    01: Cool    02: Warm

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

## 18. Auto Configuration (Command: j u)

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

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

Data 01: To set

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

## 19. Channel Tuning (Command: m a)

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

**Transmission** [m][a][ ][Set ID][ ][Data00][ ][Data01][ ][Data02][ ][Data03][ ][Data04][ ][Data05][Cr]

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

Data 00: Physical Channel Number

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

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

Data 01 & 02: Major Channel Number

Data 01: High byte

Data 02: Low byte

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

Data 03 & 04: Minor Channel Number

Not needed for NTSC.

Data5:

| 7 | Main/Sub Picture | 6 | Two/One Part Channel | 5 | Using Physical Channel | 4 | Reserved | 3 | 2 | 1 | 0 | Step            |
|---|------------------|---|----------------------|---|------------------------|---|----------|---|---|---|---|-----------------|
| 0 | Main             | 0 | Two                  | 0 | Use                    | x |          | 0 | 0 | 0 | 0 | NTSC Air        |
| 1 | Sub              | 1 | One                  | 1 | No Use                 | x |          | 0 | 0 | 0 | 1 | NTSC Cable      |
|   |                  |   |                      |   |                        | x |          | 0 | 0 | 1 | 0 | ATSC Air        |
|   |                  |   |                      |   |                        | x |          | 0 | 0 | 1 | 1 | ATSC Cable_std  |
|   |                  |   |                      |   |                        | x |          | 0 | 1 | 0 | 0 | ATSC Cable_hrc  |
|   |                  |   |                      |   |                        | x |          | 0 | 1 | 0 | 1 | ATSC Cable_irc  |
|   |                  |   |                      |   |                        | x |          | 0 | 1 | 1 | 0 | ATSC cable_auto |
|   |                  |   |                      |   |                        | x |          | 0 | 1 | 1 | 1 | Reserved        |
|   |                  |   |                      |   |                        | x |          | x | x | x | x | ...             |
|   |                  |   |                      |   |                        | x |          | 1 | 1 | 1 | 1 | Reserved        |

The table above lists the binary code which must be converted to Hexadecimal before sending. For example: The binary code to tune the sub source to an NTSC cable channel is "1000 0001", which translates to "81" in Hex.

- \* 7th bit : For which source do you want to change the channel.
- \* 6th bit: Use a two part or one part channel. Most cases just use 0 since it's ignored when using NTSC.
- \* 5th bit: Use 0 with NTSC since it can only use the physical channel number. Normally use 1 for ATSC since most times it doesn't matter what the physical number is.
- \* 4th bit: Set to 0.
- \* 3-0 bits: Choose signal type.

\* Tune Command Examples:

1. Tune to the analog (NTSC) cable channel 35.

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

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

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

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

## 20. Channel Add/Del (Command: m b)

To add and delete the channels.

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

Data 00: Channel Delete    Data 01: Channel Add

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

## 21. Key (Command: m c)

To send IR remote key code.

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

See page 115.

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

## 22. Backlight (Command: m g)

To adjust screen backlight.

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

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

\*Refer to 'Real data mapping'.

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

## OPEN SOURCE LICENSE - *This feature is not available for all models.*

### GNU GENERAL PUBLIC LICENSE

Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA

Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

#### Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software - to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other free software foundation software is covered by the GNU Lesser General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making

the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

#### GNU GENERAL PUBLIC LICENSE

#### TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This license applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this license; they are outside its scope. The act of running the Program is not restricted, and the output from the program is covered only if its contents constitute a work based on the program (independent of having been made by running the program). Whether that is true depends on what the program does.

1. You may copy and distribute verbatim copies of the program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this license and to the absence of any warranty; and give any other recipients of the program a copy of this license along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of section 1 above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

- b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this license.
- c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this license. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this license, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this license, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

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

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

- 3. You may copy and distribute the program (or a work based on it, under section 2) in object code or executable form under the terms of sections 1 and 2 above provided that you also do one of the following:
  - a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of sections 1 and 2 above on a medium customarily used for software interchange; or,
  - b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of sections 1 and 2 above on a medium customarily used for software interchange; or,

- c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

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

- 4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this license. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this license. However, parties who have received copies, or rights, from you under this license will not have their licenses terminated so long as such parties remain in full compliance.
- 5. You are not required to accept this license, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this license. Therefore, by modifying or distributing the program (or any work based on the program), you indicate your acceptance of this license to do so, and all its terms and conditions for copying, distributing or modifying the program or works based on it.
- 6. Each time you redistribute the program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this license.



# APPENDIX

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this license, they do not excuse you from the conditions of this license. If you cannot distribute so as to satisfy simultaneously your obligations under this license and any other pertinent obligations, then as a consequence you may not distribute the program at all. For example, if a patent license would not permit royalty-free redistribution of the program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this license would be to refrain entirely from distribution of the program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this license.

8. If the distribution and/or use of the program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the program under this license may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this license incorporates the limitation as if written in the body of this license.
9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the program specifies a version number of this license which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of

any later version published by the Free Software Foundation. If the program does not specify a version number of this license, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

## NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

## END OF TERMS AND CONDITIONS

### How to apply these terms to your new programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

one line to give the program's name and a brief idea of what it does.

Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation; either version 2 of the license, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program; if not, write to the Free Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA.

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author  
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type 'show w'. This is free software, and you are welcome to redistribute it under certain conditions; type 'show c' for details.

The hypothetical commands 'show w' and 'show c' should show the appropriate parts of the General Public License. Of course, the commands you use may be called something other than 'show w' and 'show c'; they could even be mouse-clicks or menu items-whatever suits your program.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the program, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program 'Gnomovision' (which makes passes at compilers) written by James Hacker.

signature of Ty Coon, 1 April 1989

Ty Coon, President of Vice

This General Public License does not permit incorporating your program into proprietary programs. If your program is a subroutine library, you may consider it more useful to permit linking proprietary applications with the library. If this is what you want to do, use the GNU Lesser General Public License instead of this license.

## GNU LESSER GENERAL PUBLIC LICENSE

Version 2.1, February 1999

Copyright (C) 1991, 1999 Free Software Foundation, Inc. 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA  
Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

[This is the first released version of the Lesser GPL. It also counts as the successor of the GNU Library Public License, version 2, hence the version number 2.1.]

### Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public Licenses are intended to guarantee your freedom to share and change free software - to make sure the software is free for all its users.

This license, the Lesser General Public License, applies to some specially designated software packages - typically libraries - of the Free Software Foundation and other authors who decide to use it. You can use it too, but we suggest you first think carefully about whether this license or the ordinary General Public License is the better strategy to use in any particular case, based on the explanations below.

When we speak of free software, we are referring to freedom of use, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish); that you receive source code or can get it if you want it; that you can change the software and use pieces of it in new free programs; and that you are informed that you can do these things.

To protect your rights, we need to make restrictions that forbid distributors to deny you these rights or to ask you to surrender these rights. These restrictions translate to certain responsibilities for you if you distribute copies of the library or if you modify it.

For example, if you distribute copies of the library, whether gratis or for a fee, you must give the recipients all the rights that we gave you. You must make sure that they, too, receive or can get the source code. If you link other code with the library, you must provide complete object files to the recipients, so that they can relink them with the library after making changes to the library and recompiling it. And you must show them these terms so they know their rights.

We protect your rights with a two-step method: (1) we copyright the library, and (2) we offer you this license, which gives you legal permission to copy, distribute and/or modify the library.

To protect each distributor, we want to make it very clear that there is no warranty for the free library. Also, if the library is modified by someone else and passed on, the recipients should know that what they have is not the original version, so that the original author's reputation will not be affected by problems that might be introduced by others.

Finally, software patents pose a constant threat to the existence of any free program. We wish to make sure that a company cannot effectively restrict the users of a free program by obtaining a restrictive license from a patent holder. Therefore, we insist that any patent license obtained for a version of the library must be consistent with the full freedom of use specified in this license.

Most GNU software, including some libraries, is covered by the ordinary GNU General Public License. This license, the GNU Lesser General Public License, applies to certain designated libraries, and is quite different from the ordinary General Public License. We use this license for certain libraries in order to permit linking those libraries into non-free programs.

When a program is linked with a library, whether statically or using a shared library, the combination of the two is legally speaking a combined work, a derivative of the original library. The ordinary General Public License therefore permits such linking only if the entire combination fits its criteria of freedom. The Lesser General Public License permits more lax criteria for linking other code with the library.

We call this license the "Lesser" General Public License because it does less to protect the user's freedom than the ordinary General Public License. It also provides other free software developers less of an advantage over competing non-free programs. These disadvantages are the reason we use the ordinary General Public License for many libraries. However, the Lesser license provides advantages in certain special circumstances.

For example, on rare occasions, there may be a special need to encourage the widest possible use of a certain library, so that it becomes a de-facto standard. To achieve this, non-free programs must be allowed to use the library. A more frequent case is that a free library does the same job as widely used non-free libraries. In this case, there is little to gain by limiting the free library to free software only, so we use the Lesser General Public License.

In other cases, permission to use a particular library in non-free programs enables a greater number of people to use a large body of free software. For example, permission to use the GNU C Library in non-free programs enables many more people to use the whole GNU operating system, as well as its variant, the GNU/Linux operating system.

Although the Lesser General Public License is Less protective of the users' freedom, it does ensure that the user of a program that is linked with the Library has the freedom and the wherewithal to run that program using a modified version of the Library.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, whereas the latter must be combined with the library in order to run.

#### GNU LESSER GENERAL PUBLIC LICENSE TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This license agreement applies to any software library or other program which contains a notice placed by the copyright holder or other authorized party saying it may be distributed under the terms of this Lesser General Public License (also called "this license"). Each license is addressed as "you".

A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

The "Library", below, refers to any such software library or work which has been distributed under these terms. A "work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is included without limitation in the term "modification".)

"Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

Activities other than copying, distribution and modification are not covered by this license; they are outside its scope. The act of running a program using the Library is not restricted, and output from such a program is covered only if its contents constitute a work based on the library (independent of the use of the Library in a tool for writing it). Whether that is true depends on what the library does and what the program that uses the library does.

1. You may copy and distribute verbatim copies of the library's complete source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on

each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this license and to the absence of any warranty; and distribute a copy of this license along with the Library.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of section 1 above, provided that you also meet all of these conditions:
  - a) The modified work must itself be a software library.
  - b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.
  - c) You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this license.
  - d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

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

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the library, and can be reasonably considered independent and separate works in themselves, then this license, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the library, the distribution of the whole must be on the terms of this license, whose permissions for other licenses extend to the entire whole, and thus to each and every part regardless of who wrote it.

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

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

# APPENDIX

3. You may opt to apply the terms of the ordinary GNU General Public License instead of this License to a given copy of the Library. To do this, you must alter all the notices that refer to this License, so that they refer to the ordinary GNU General Public License, version 2, instead of to this License. (If a newer version than version 2 of the ordinary GNU General Public License has appeared, then you can specify that version instead if you wish.) Do not make any other change in these notices.

Once this change is made in a given copy, it is irreversible for that copy, so the ordinary GNU General Public License applies to all subsequent copies and derivative works made from that copy.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

7. You may place library facilities that are a work based on the library side-by-side in a single library together with other library facilities not covered by this license, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:
  - a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities. This must be distributed under the terms of the sections above.
  - b) Give prominent notice with the combined library of the fact that part of it is a work based on the library, and explaining where to find the accompanying uncombined form of the same work.
8. You may not copy, modify, sublicense, link with, or distribute the library except as expressly provided under this license. Any attempt otherwise to copy, modify, sublicense, link with, or distribute the library is void, and will automatically terminate your rights under this license. However, parties who have received copies, or rights, from you under this license will not have their licenses terminated so long as such parties remain in full compliance.
9. You are not required to accept this license, since you have not signed it. However, nothing else grants you permission to modify or distribute the library or its derivative works. These actions are prohibited by law if you do not accept this license. Therefore, by modifying or distributing the library (or any work based on the library), you indicate your acceptance of this license to do so, and all its terms and conditions for copying, distributing or modifying the library or works based on it.
10. Each time you redistribute the library (or any work based on the Library), the recipient automatically receives a license from the original licensor to copy, distribute, link with or modify the library subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise

of the rights granted herein.

You are not responsible for enforcing compliance by third parties with this license.

11. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this license, they do not excuse you from the conditions of this license. If you cannot distribute so as to satisfy simultaneously your obligations under this license and any other pertinent obligations, then as a consequence you may not distribute the library at all. For example, if a patent license would not permit royalty-free redistribution of the library by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this license would be to refrain entirely from distribution of the library.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply, and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a license cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this license.

12. If the distribution and/or use of the library is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the library under this license may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this license incorporates the limitation as if written in the body of this license.
13. The Free Software Foundation may publish revised and/or new versions of the Lesser General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns. Each version is given a distinguishing version number. If the library specifies a version number of this license which applies to it and “any later version”, you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation.

# APPENDIX

If the library does not specify a license version number, you may choose any version ever published by the Free Software Foundation.

14. If you wish to incorporate parts of the library into other free programs whose distribution conditions are incompatible with these, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

## NO WARRANTY

15. BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE LIBRARY "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE LIBRARY AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE LIBRARY (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

## END OF TERMS AND CONDITIONS

How to apply these terms to your new libraries

If you develop a new library, and you want it to be of the greatest possible use to the public, we recommend making it free software that everyone can redistribute and change. You can do so by permitting redistribution under these terms (or, alternatively, under the terms of the ordinary General Public License).

To apply these terms, attach the following notices to the library. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

one line to give the library's name and a brief idea of what it does.  
Copyright (C) <year> <name of author>

This library is free software; you can redistribute it and/or modify it under the terms of the GNU Lesser General Public License as published by the Free Software Foundation; either version 2.1 of the license, or (at your option) any later version.

This library is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU Lesser General Public License for more details.

You should have received a copy of the GNU Lesser General Public License along with this library; if not, write to the Free Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA

Also add information on how to contact you by electronic and paper mail.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the library, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the library 'Frob' (a library for tweaking knobs) written by James Random Hacker.

signature of Ty Coon, 1 April 1990  
Ty Coon, President of Vice



# MOZILLA PUBLIC LICENSE

Version 1.1

-----

## 1. Definitions.

1.0.1. "Commercial use" means distribution or otherwise making the covered code available to a third party.

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

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

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

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

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

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

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

1.8. "License" means this document.

1.8.1. "Licensable" means having the right to grant, to the maximum extent possible, whether at the time of the initial grant or subsequently acquired, any and all of the rights conveyed herein.

1.9. "Modifications" means any addition to or deletion from the substance or structure of either the original code or any previous modifications. When covered code is released as a series of files, a modification is:

A. Any addition to or deletion from the contents of a file containing original code or previous modifications.

B. Any new file that contains any part of the original code or previous modifications.

1.10. "Original code" means source code of computer software

code which is described in the source code notice required by exhibit as original code, and which, at the time of its release under this license is not already covered code governed by this license.

1.10.1. "Patent claims" means any patent claim(s), now owned or hereafter acquired, including without limitation, method, process, and apparatus claims, in any patent licensable by grantor.

1.11. "Source code" means the preferred form of the covered code for making modifications to it, including all modules it contains, plus any associated interface definition files, scripts used to control compilation and installation of an executable, or source code differential comparisons against either the original code or another well known, available covered code of the contributor's choice. The source code can be in a compressed or archival form, provided the appropriate decompression or de-archiving software is widely available for no charge.

1.12. "You" (or "Your") means an individual or a legal entity exercising rights under, and complying with all of the terms of, this license or a future version of this license issued under section 6.1.

For legal entities, "You" includes any entity which controls, is controlled by, or is under common control with You. For purposes of this definition, "control" means (a) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (b) ownership of more than fifty percent (50%) of the outstanding shares or beneficial ownership of such entity.

## 2. Source Code License.

### 2.1. The initial developer grant.

The initial developer hereby grants You a world-wide, royalty-free, non-exclusive license, subject to third party intellectual property claims:

- under intellectual property rights (other than patent or trademark) licensable by initial developer to use, reproduce, modify, display, perform, sublicense and distribute the original code (or portions thereof) with or without modifications, and/or as part of a larger work; and
- under patents claims infringed by the making, using or selling of original code, to make, have made, use, practice, sell, and offer for sale, and/or otherwise dispose of the original code (or portions thereof).



- (c) the licenses granted in this section 2.1 (a) and (b) are effective on the date Initial developer first distributes original code under the terms of this license.
- (d) Notwithstanding section 2.1(b) above, no patent license is granted: 1) for code that You delete from the original Code; 2) separate from the original code; or 3) for infringements caused by: i) the modification of the original code or ii) the combination of the original code with other software or devices.

## 2.2. Contributor Grant.

Subject to third party intellectual property claims, each contributor hereby grants You a world-wide, royalty-free, non-exclusive license

- (a) under intellectual property rights (other than patent or trademark) licensable by contributor, to use, reproduce, modify, display, perform, sublicense and distribute the modifications created by such contributor (or portions thereof) either on an unmodified basis, with other modifications, as covered code and/or as part of a larger work; and
- (b) under patent claims infringed by the making, using, or selling of modifications made by that contributor either alone and/or in combination with its contributor version (or portions of such combination), to make, use, sell, offer for sale, have made, and/or otherwise dispose of: 1) modifications made by that contributor (or portions thereof); and 2) the combination of modifications made by that contributor with its contributor version (or portions of such combination).
- (c) the licenses granted in sections 2.2(a) and 2.2(b) are effective on the date contributor first makes commercial use of the covered code.
- (d) Notwithstanding section 2.2(b) above, no patent license is granted: 1) for any code that contributor has deleted from the contributor version; 2) separate from the contributor version; 3) for infringements caused by: i) third party modifications of contributor version or ii) the combination of modifications made by that contributor with other software (except as part of the contributor version) or other devices; or 4) under patent claims infringed by covered code in the absence of modifications made by that contributor.

## 3. Distribution Obligations.

### 3.1. Application of license.

The modifications which You create or to which you contribute are governed by the terms of this license, including without limitation section 2.2. The source code version of covered code may be distributed only under the terms of this license or a future version of this license released under section 6.1, and you must include a copy of this license with every copy of the source code you distribute.

You may not offer or impose any terms on any source code version that alters or restricts the applicable version of this license or the recipients' rights hereunder. However, you may include an additional document offering the additional rights described in section 3.5.

### 3.2. Availability of source code.

Any modification which you create or to which you contribute must be made available in source code form under the terms of this license either on the same media as an executable version or via an accepted electronic distribution mechanism to anyone to whom you made an executable version available; and if made available via electronic distribution mechanism, must remain available for at least twelve (12) months after the date it initially became available, or at least six (6) months after a subsequent version of that particular modification has been made available to such recipients. You are responsible for ensuring that the source code version remains available even if the electronic distribution mechanism is maintained by a third party.

### 3.3. Description of modifications.

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

### 3.4. Intellectual property matters

#### (a) Third party claims.

If contributor has knowledge that a license under a third party's intellectual property rights is required to exercise the rights granted by such contributor under sections 2.1 or 2.2, contributor must include a text file with the source code distribution titled "LEGAL" which describes the claim and the party making the claim in sufficient detail that a recipient will know whom to contact. If contributor obtains such knowledge after the modification is made available as described in section 3.2, contributor shall promptly modify the LEGAL file in all copies contributor makes available thereafter and shall take other steps (such as notifying appropriate mailing lists or newsgroups) reasonably calculated to inform those who received the covered code that new knowledge has been obtained.

#### (b) Contributor APIs.

If contributor's modifications include an application programming interface and contributor has knowledge of patent licenses which are reasonably necessary to implement that API, contributor must also include this information in the LEGAL file.

(c) Representations.

contributor represents that, except as disclosed pursuant to section 3.4(a) above, contributor believes that contributor's modifications are contributor's original creation(s) and/or contributor has sufficient rights to grant the rights conveyed by this license.

3.5. Required notices.

You must duplicate the notice in exhibit A in each file of the source code. If it is not possible to put such notice in a particular source code file due to its structure, then You must include such notice in a location (such as a relevant directory) where a user would be likely to look for such a notice. If You created one or more modification(s), you may add your name as a contributor to the notice described in exhibit A. you must also duplicate this license in any documentation for the source code where You describe recipients' rights or ownership rights relating to covered code. You may choose to offer, and to charge a fee for, warranty, support, indemnity or liability obligations to one or more recipients of covered code. However, you may do so only on your own behalf, and not on behalf of the Initial developer or any contributor. You must make it absolutely clear than any such warranty, support, indemnity or liability obligation is offered by you alone, and You hereby agree to indemnify the Initial developer and every contributor for any liability incurred by the Initial developer or such contributor as a result of warranty, support, indemnity or liability terms you offer.

3.6. Distribution of executable versions.

You may distribute covered code in executable form only if the requirements of section 3.1-3.5 have been met for that covered code, and if you include a notice stating that the source code version of the covered code is available under the terms of this license, including a description of how and where you have fulfilled the obligations of section 3.2. The notice must be conspicuously included in any notice in an executable version, related documentation or collateral in which you describe recipients' rights relating to the covered code. You may distribute the executable version of covered code or ownership rights under a license of your choice, which may contain terms different from this license, provided that you are in compliance with the terms of this license and that the license for the executable version does not attempt to limit or alter the recipient's rights in the source code version from the rights set forth in this license. If you distribute the executable version under a different license you must make it absolutely clear that any terms which differ from this license are offered by you alone, not by the Initial developer or any contributor. You hereby agree to indemnify the initial developer and every contributor for any liability incurred by the initial developer or such contributor as a result of any such terms You offer.

3.7. Larger works.

You may create a larger work by combining covered code with other code not governed by the terms of this license and distribute the larger work as a single product. In such a case, you must make sure the requirements of this license are fulfilled for the covered code.

4. Inability to comply due to statute or regulation.

If it is impossible for you to comply with any of the terms of this license with respect to some or all of the covered code due to statute, judicial order, or regulation then you must: (a) comply with the terms of this license to the maximum extent possible; and (b) describe the limitations and the code they affect. Such description must be included in the LEGAL file described in section 3.4 and must be included with all distributions of the source code. Except to the extent prohibited by statute or regulation, such description must be sufficiently detailed for a recipient of ordinary skill to be able to understand it.

5. Application of this license.

This license applies to code to which the initial developer has attached the notice in exhibit A and to related covered code.

6. Versions of the license.

6.1. New versions.

Netscape communications corporation ("Netscape") may publish revised and/or new versions of the license from time to time. Each version will be given a distinguishing version number.

6.2. Effect of new versions.

Once covered code has been published under a particular version of the license, you may always continue to use it under the terms of that version. You may also choose to use such covered code under the terms of any subsequent version of the license published by netscape. No one other than netscape has the right to modify the terms applicable to covered code created under this license.

6.3. Derivative works.

If You create or use a modified version of this license (which you may only do in order to apply it to code which is not already covered code governed by this license), You must (a) rename Your license so that the phrases "Mozilla", "MOZILLAPL", "MOZPL", "Netscape", "MPL", "NPL" or any confusingly similar phrase do not appear in your license (except to note that your license differs from this license) and (b) otherwise make it clear that Your version of the license contains terms which differ from the Mozilla Public license and netscape Public License. (Filling in the name of the initial developer, original code or contributor in the notice described in exhibit A shall not of themselves be deemed to be modifications of this license.)

# APPENDIX

## 7. DISCLAIMER OF WARRANTY.

COVERED CODE IS PROVIDED UNDER THIS LICENSE ON AN "AS IS" BASIS, WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, WITHOUT LIMITATION, WARRANTIES THAT THE COVERED CODE IS FREE OF DEFECTS, MERCHANTABLE, FIT FOR A PARTICULAR PURPOSE OR NON-INFRINGEMENT. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE COVERED CODE IS WITH YOU. SHOULD ANY COVERED CODE PROVE DEFECTIVE IN ANY RESPECT, YOU (NOT THE INITIAL DEVELOPER OR ANY OTHER CONTRIBUTOR) ASSUME THE COST OF ANY NECESSARY SERVICING, REPAIR OR CORRECTION. THIS DISCLAIMER OF WARRANTY CONSTITUTES AN ESSENTIAL PART OF THIS LICENSE. NO USE OF ANY COVERED CODE IS AUTHORIZED HEREUNDER EXCEPT UNDER THIS DISCLAIMER.

## 8. TERMINATION.

8.1. This license and the rights granted hereunder will terminate automatically if you fail to comply with terms herein and fail to cure such breach within 30 days of becoming aware of the breach. All sublicenses to the covered code which are properly granted shall survive any termination of this license. Provisions which, by their nature, must remain in effect beyond the termination of this license shall survive.

8.2. If you initiate litigation by asserting a patent infringement claim (excluding declaratory judgment actions) against initial developer or a contributor (the initial developer or contributor against whom you file such action is referred to as "Participant") alleging that:

(a) such participant's contributor version directly or indirectly infringes any patent, then any and all rights granted by such participant to you under sections 2.1 and/or 2.2 of this license shall, upon 60 days notice from Participant terminate prospectively, unless if within 60 days after receipt of notice you either: (i) agree in writing to pay participant a mutually agreeable reasonable royalty for your past and future use of modifications made by such participant, or (ii) withdraw your litigation claim with respect to the contributor version against such participant. If within 60 days of notice, a reasonable royalty and payment arrangement are not mutually agreed upon in writing by the parties or the litigation claim is not withdrawn, the rights granted by participant to you under sections 2.1 and/or 2.2 automatically terminate at the expiration of the 60 day notice period specified above.

(b) any software, hardware, or device, other than such participant's contributor Version, directly or indirectly infringes any patent, then any rights granted to You by

such participant under sections 2.1 (b) and 2.2(b) are revoked effective as of the date you first made, used, sold, distributed, or had made, modifications made by that participant.

8.3. If you assert a patent infringement claim against participant alleging that such participant's contributor version directly or indirectly infringes any patent where such claim is resolved (such as by license or settlement) prior to the initiation of patent infringement litigation, then the reasonable value of the licenses granted by such participant under sections 2.1 or 2.2 shall be taken into account in determining the amount or value of any payment or license.

8.4. In the event of termination under sections 8.1 or 8.2 above, all end user license agreements (excluding distributors and resellers) which have been validly granted by you or any distributor hereunder prior to termination shall survive termination.

## 9. LIMITATION OF LIABILITY.

UNDER NO CIRCUMSTANCES AND UNDER NO LEGAL THEORY, WHETHER TORT (INCLUDING NEGLIGENCE), CONTRACT, OR OTHERWISE, SHALL YOU, THE INITIAL DEVELOPER, ANY OTHER CONTRIBUTOR, OR ANY DISTRIBUTOR OF COVERED CODE, OR ANY SUPPLIER OF ANY OF SUCH PARTIES, BE LIABLE TO ANY PERSON FOR ANY INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES OF ANY CHARACTER INCLUDING, WITHOUT LIMITATION, DAMAGES FOR LOSS OF GOODWILL, WORK STOPPAGE, COMPUTER FAILURE OR MALFUNCTION, OR ANY AND ALL OTHER COMMERCIAL DAMAGES OR LOSSES, EVEN IF SUCH PARTY SHALL HAVE BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. THIS LIMITATION OF LIABILITY SHALL NOT APPLY TO LIABILITY FOR DEATH OR PERSONAL INJURY RESULTING FROM SUCH PARTY'S NEGLIGENCE TO THE EXTENT APPLICABLE LAW PROHIBITS SUCH LIMITATION. SOME JURISDICTIONS DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THIS EXCLUSION AND LIMITATION MAY NOT APPLY TO YOU.

## 10. U.S. GOVERNMENT END USERS.

The covered code is a "commercial item," as that term is defined in 48 C.F.R. 2.101 (Oct. 1995), consisting of "commercial computer software" and "commercial computer software documentation," as such terms are used in 48 C.F.R. 12.212 (Sept. 1995). Consistent with 48 C.F.R. 12.212 and 48 C.F.R. 227.7202-1 through 227.7202-4 (June 1995), all U.S. Government end users acquire covered code with only those rights set forth herein.

#### 11. MISCELLANEOUS.

This license represents the complete agreement concerning subject matter hereof. If any provision of this license is held to be unenforceable, such provision shall be reformed only to the extent necessary to make it enforceable. This License shall be governed by California law provisions (except to the extent applicable law, if any, provides otherwise), excluding its conflict-of-law provisions. With respect to disputes in which at least one party is a citizen of, or an entity chartered or registered to do business in the united states of america, any litigation relating to this License shall be subject to the jurisdiction of the federal courts of the northern district of california, with venue lying in santa clara county, california, with the losing party responsible for costs, including without limitation, court costs and reasonable attorneys' fees and expenses. The application of the united nations convention on contracts for the International sale of goods is expressly excluded. Any law or regulation which provides that the language of a contract shall be construed against the drafter shall not apply to this license.

#### 12. RESPONSIBILITY FOR CLAIMS.

As between initial developer and the contributors, each party is responsible for claims and damages arising, directly or indirectly, out of its utilization of rights under this license and you agree to work with initial developer and contributors to distribute such responsibility on an equitable basis. Nothing herein is intended or shall be deemed to constitute any admission of liability.

#### 13. MULTIPLE-LICENSED CODE.

Initial developer may designate portions of the covered code as "Multiple-Licensed". "Multiple-Licensed" means that the initial developer permits you to utilize portions of the covered code under your choice of the NPL or the alternative licenses, if any, specified by the initial developer in the file described in exhibit A.

#### EXHIBIT A -Mozilla Public License.

The contents of this file are subject to the Mozilla Public License Version 1.1 (the "license"); you may not use this file except in compliance with the License. You may obtain a copy of the license at <http://www.mozilla.org/MPL/>

Software distributed under the license is distributed on an "AS IS" basis, WITHOUT WARRANTY OF ANY KIND, either express or implied. See the license for the specific language governing rights and limitations under the License.

The Original Code is \_\_\_\_\_.

The Initial Developer of the Original Code is \_\_\_\_\_.

Portions created by \_\_\_\_\_ are Copyright (C) \_\_\_\_\_. All Rights Reserved.

Contributor(s): \_\_\_\_\_.

Alternatively, the contents of this file may be used under the terms of the \_\_\_\_\_ license (the "[ ] License"), in which case the provisions of [ ] license are applicable instead of those above. If you wish to allow use of your version of this file only under the terms of the [ ] license and not to allow others to use your version of this file under the MPL, indicate your decision by deleting the provisions above and replace them with the notice and other provisions required by the [ ] license. If you do not delete the provisions above, a recipient may use your version of this file under either the MPL or the [ ] license."

NOTE: The text of this exhibit A may differ slightly from the text of the notices in the source code files of the original code. You should use the text of this exhibit A rather than the text found in the original code/source code for Your modifications.

**LG Electronics Inc.**

## ■■■ Regulatory Information cont.

### :: FCC Compliance Statement

This equipment has been tested and found to comply within the limits of 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 on and off), the user is encouraged to try to correct the interference by using one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the 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.

Caution: Changes or modifications not expressly approved by the party responsible for compliance could void the user's (or your) authority to operate the equipment. Only peripherals (digital input/output devices, terminals, printers, etc.) certified to comply with the Class B limits may be attached to this monitor. Operation with non-certified peripherals is likely to result in interference to radio and TV reception. Only shielded signal cables may be used with this System.

#### NOTICE

The regulations are applied only to the products with the ID LABEL indicating specific requirements.

### :: Canadian DOC Notice

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations. Cet appareil numérique de la classe B

respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

#### NOTICE

The regulations are applied only to the products with the ID LABEL indicating specific requirements.

### :: CE Conformity Notice (for Europe)

Products with the "CE" Marking comply with the EMC Directive(89/336/EEC) and LOW VOLTAGE Directive (73/23/EEC) issued by the Commission of the European Community.

Compliance with these directives implies conformity to the following European Norms :

- EN 55022 ; Radio Frequency Interference
- EN 55024 ; Electromagnetic Immunity
- EN 61000-3-2 ; Power Line Harmonics
- EN 61000-3-3 ; Voltage Fluctuations
- EN 60950-1 ; Product Safety

#### NOTICE

The regulations are applied only to the products with the ID LABEL indicating specific requirements.

### :: Low Radiation Compliance (MPR II)

This monitor meets one of the strictest guidelines available today for low radiation emissions, offering the user extra shielding and an antistatic screen coating. These guidelines, set forth by a government agency in Sweden, limit the amount of emission allowed in the Extremely Low Frequency (ELF) and Very Low Frequency (VLF) electromagnetic range.

### :: TCO'99 (TCO'99 applied model only)



#### Congratulations!

You have just purchased a TCO'99 approved and labelled product! Your choice has provided you with a product developed for professional use. Your purchase has also contributed to reducing the burden on the environment and also to the further development of environmentally adapted electronics products.

## ■ ■ ■ Regulatory Information cont.

### Why do we have environmentally labelled computers?

In many countries, environmental labelling has become an established method for encouraging the adaptation of goods and services to the environment. With the growing manufacture and usage of electronic equipment throughout the world, there is a recognized concern for the materials and substances used by electronic products with regards to their eventual recycling and disposal. By proper selection of these materials and substances, the impact on the environment can be minimized.

There are also other characteristics of a computer, such as energy consumption levels, that are important from the viewpoints of both the work (internal) and natural (external) environments. Electronic equipment in offices is often left running continuously, resulting in unnecessary consumption of large amounts of energy and additional power generation. From the standpoint of carbon dioxide emissions alone, it is vital to save energy.

### What does labelling involve?

The product meets the requirements for the TCO'99 scheme which provides for international and environmental labelling of personal computers and/or displays.

The labelling scheme was developed as a joint effort by the TCO (The Swedish Confederation of Professional Employees), Svenska Naturskyddsforeningen (The Swedish Society for Nature Conservation) and Statens Energimyndighet (The Swedish National Energy Administration).

Approval requirements cover a wide range of issues: ecology, ergonomics, emission of electrical and magnetical fields, energy consumption and electrical safety.

Ecological criteria impose restrictions on the presence and use of heavy metals, brominated and chlorinated flame retardants, and other substances. The product must be prepared for recycling and the manufacturing site(s) shall be certified according to ISO14001 or EMAS registered.

Energy requirements include a demand that the system unit and/or display, after a certain period of inactivity, shall reduce its power consumption to a lower level in one or more stages. The length of time to reactivate the system unit shall be reasonable for the user.

Labelled products must meet strict environmental demands, for example, in respect of the reduction of electrical and magnetical fields as well as work load and

visual ergonomics.

Below you will find a brief summary of the ecological requirements met by this product. The complete ecological criteria document can be found at TCO Development's website <http://www.tcodevelopment.com> or may be ordered from:

#### TCO Development

SE-114 94 STOCKHOLM, Sweden

Fax: +46 8 782 92 07

Email : [development@tco.se](mailto:development@tco.se)

Information regarding TCO'99 approved and labelled products may also be obtained at <http://www.tcodevelopment.com>

### Ecological requirements

#### Flame retardants

Flame retardants may be present in printed wiring board laminates, cables, and housings. Their purpose is to prevent, or at least to delay the spread of fire. Up to 30% by weight of the plastic in a computer casing can consist of flame retardant substances. Many flame retardants contain bromine or chlorine, and these flame retardants are chemically related to PCBs (polychlorinated biphenyls). Both the flame retardants containing bromine or chlorine and the PCBs are suspected of giving rise to health effects, including reproductive damage in fish-eating birds and mammals, due to the bio-accumulative\* processes when not disposed of in accordance with strict standards for disposal.

TCO'99 requires that plastic components weighing more than 25 grams shall not contain flame retardants with organically bound bromine or chlorine. Flame retardants are allowed in the printed wiring board laminates due to the lack of commercially available alternatives.

#### Cadmium\*\*

Cadmium is present in rechargeable batteries and in the colour-generating layers of certain computer displays. TCO'99 requires that batteries, the colour-generating layers of display screens, and the electrical or electronics components shall not contain any cadmium.

#### Mercury\*\*

Mercury is sometimes found in batteries, relays and switches. TCO'99 requires that batteries shall not contain any mercury. It also demands that mercury is not present in any of the electrical or electronics components associated with the labelled unit. There is however one



## ■■■ Regulatory Information cont.

exception. Mercury is, for the time being, permitted in the back light system of flat panel monitors as there today is no commercially available alternative. TCO aims on removing this exception when a mercury free alternative is available.

### Lead\*\*

Lead can be found in picture tubes, display screens, solders and capacitors. TCO'99 permits the use of lead due to the lack of commercially available alternatives, but in future requirements TCO Development aims at restricting the use of lead.

\* Bio-accumulative is defined as substances which accumulate in living organisms.

\*\*Lead, Cadmium and Mercury are heavy metals which are bio-accumulative.

## :: TCO'03 (TCO'03 applied model only)



### Congratulations!

The display you have just purchased carries the TCO'03 Displays label.

This means that your display is designed, manufactured and tested according to some of the strictest quality and environmental requirements in the world. This makes for a high performance product, designed with the user in focus that also minimizes the impact on our natural environment. Some of the features of the TCO'03 Display requirements:

### Ergonomics

- Good visual ergonomics and image quality in order to improve the working environment for the user and to reduce sight and strain problems. Important parameters are luminance, contrast, resolution, reflectance, colour rendition and image stability.

### Energy

- Energy-saving mode after a certain time – beneficial both for the user and the environment
- Electrical safety

### Emissions

- Electromagnetic fields

- Noise emissions

### Ecology

- The product must be prepared for recycling and the manufacturer must have a certified environmental management system such as EMAS or ISO 14 001
- Restrictions on
  - chlorinated and brominated flame retardants and polymers
  - heavy metals such as cadmium, mercury and lead.

The requirements included in this label have been developed by TCO Development in co-operation with scientists, experts, users as well as manufacturers all over the world. Since the end of the 1980s TCO has been involved in influencing the development of IT equipment in a more user-friendly direction. Our labelling system started with displays in 1992 and is now requested by users and IT-manufacturers all over the world.

For more information, please visit  
[www.tcodevelopment.com](http://www.tcodevelopment.com)

## English

### Information for Environmental Preservation

LGE. announced the 'LG Declaration for a Cleaner Environment' in 1994, and this ideal has served as a guiding managerial principle ever since. The Declaration is a foundation that has allowed us to undertake environmentally friendly activities in careful consideration of economic, environmental, and social aspects.

We promote activities for environmental preservation, and we specifically develop our products to embrace the concept of environment-friendly.

We minimize the hazardous materials contained in our products. For example, there is no cadmium to be found in our monitors.

### Information for recycling

This monitor may contain parts which could be hazardous to the environment. It is important that this monitor be recycled after use.

LGE. handles all waste monitors through an environmentally acceptable recycling method. There are several take-back and recycling systems currently in



## ■■■ Regulatory Information cont.

operation worldwide. Many parts will be reused and recycled, while harmful substances and heavy metals are treated by an environmentally friendly method.

If you want to find out more information about our recycling program, please contact your local LG vendor or a corporate representative of LG.

We set our vision and policies on a cleaner world by selecting the issue of the global environment as a task for corporate improvement. Please visit our website for more information about our 'green' policies.

<http://www.lge.com/about/environment/html/Recycling.jsp>

### ■ ■ ■ Deutsch

#### Informationen zur Erhaltung der Umwelt

Im Jahr 1994 verkündete LGE die 'LG Declaration for a Cleaner Environment' (LG Erklärung für eine sauberere Umwelt). Seitdem dient dieses Ideal als führendes Prinzip des Unternehmens. Diese Erklärung war die Basis für die Durchführung von

umweltfreundlichen Aktivitäten, wobei wirtschaftliche, umweltbezogene und soziale Aspekte in die Überlegungen mit einbezogen wurden.

Wir fördern Aktivitäten zum Schutz der Umwelt und die Entwicklung unserer Produkte ist darauf ausgerichtet, unserem Konzept bezüglich Umweltfreundlichkeit gerecht zu werden.

Wir sind darauf bedacht, den Anteil der in unseren Produkten enthaltenen schädlichen Materialien zu minimieren. So ist in unseren Monitoren beispielsweise kein Kadmium zu finden.

#### Informationen zum Thema Recycling

Dieser Monitor enthält Teile, die umweltschädlich sein können. Es ist unbedingt erforderlich, dass der Monitor recycelt wird, nachdem er außer Dienst gestellt wurde.

Bei LGE, werden alle ausrangierten Monitore in einem unter umweltbezogenen Aspekten geeigneten Verfahren recycelt. Augenblicklich sind weltweit mehrere Rücknahme- und Recyclingsysteme im Einsatz. Viele Teile werden wieder verwendet und recycelt. Schädliche Substanzen und Schwermetalle werden durch umweltverträgliche Verfahren behandelt.

Falls Sie mehr über unser Recyclingprogramm erfahren möchten, wenden Sie sich bitte an Ihren lokalen LG-Händler oder einen Unternehmensvertreter von LG.

Wir richten unsere Firmenpolitik auf eine sauberere Umwelt hin aus, indem wir umweltspezifische Aspekte als wichtigen Punkt in die Weiterentwicklung unseres Unternehmens einfließen lassen. Zusätzliche Informationen über unsere 'grüne' Firmenpolitik erhalten Sie auf unserer Website.

<http://www.lge.com/about/environment/html/Recycling.jsp>

### ■ ■ ■ Français

#### Information sur la protection de l'environnement

LGE, a publié sa 'Déclaration en faveur d'un environnement plus propre' en 1994 et celle-ci est restée, depuis lors, un principe directeur de notre entreprise. Cette déclaration a servi de base à notre réflexion et nous a permis de prendre en compte à la fois les aspects économiques et sociaux de nos activités, tout en respectant l'environnement.

Nous encourageons les activités en faveur de la préservation de l'environnement et c'est dans cet esprit que nous développons nos produits : nous réduisons au minimum les matières dangereuses qui entrent dans leur composition et l'on ne trouve pas de cadmium, par exemple, dans nos moniteurs.

#### Information sur le recyclage

Ce moniteur peut contenir des composants qui présentent un risque pour l'environnement. Il est donc important que celui-ci soit recyclé après usage.

LGE, traite les moniteurs en fin de cycle conformément à une méthode de recyclage respectueuse de l'environnement. Nous reprenons nos produits et les recyclons dans plusieurs sites répartis dans le monde entier. De nombreux composants sont réutilisés et recyclés, et les matières dangereuses, ainsi que les métaux lourds, sont traités selon un procédé écologique.

Si vous souhaitez plus de renseignements sur notre programme de recyclage, veuillez contacter votre revendeur LG ou un l'un de nos représentants.

Nous voulons agir pour un monde plus propre et croyons au rôle de notre entreprise dans l'amélioration de l'environnement. Pour plus de renseignements sur notre politique "verte", rendez visite à notre site :

<http://www.lge.com/about/environment/html/Recycling.jsp>

## ■■■ Regulatory Information cont.

### Italiano

#### Informazioni per la tutela dell'ambiente

La LGE. ha annunciato nel 1994 la cosiddetta 'LG Declaration for a Cleaner Environment' (Dichiarazione di LG a favore di un ambiente più pulito), un ideale che da allora funge da principio ispiratore della gestione aziendale. La dichiarazione rappresenta il fondamento che consente di intraprendere attività a favore dell'ambiente tenendo conto degli aspetti economici, ambientali e sociali. Noi della LG, promuoviamo attività a favore della tutela dell'ambiente sviluppando appositamente i nostri prodotti per cogliere il concetto del rispetto dell'ambiente riducendo i materiali dannosi presenti nei nostri prodotti. Ad esempio nei nostri monitor non è presente il cadmio.

#### Informazioni per il riciclaggio

Il monitor può presentare componenti che potrebbero risultare eventualmente dannosi per l'ambiente. È importante che il monitor sia riciclato al termine del suo utilizzo.

La LGE. gestisce tutti i monitor di rifiuto con un metodo di riciclaggio soddisfacente dal punto di vista ambientale. In tutto il mondo sono attualmente in funzione numerosi sistemi di riciclaggio e recupero. I diversi componenti sono riutilizzati e riciclati, mentre le sostanze dannose e i metalli pesanti vengono trattati con un metodo rispettoso dell'ambiente.

Se si desiderano maggiori informazioni in merito al programma di riciclaggio, è consigliabile rivolgersi al proprio rivenditore LG o ad un rappresentante aziendale della LG.

Noi della LG impostiamo la nostra visione e le nostre politiche a favore di un mondo più pulito ponendo la questione dell'ambiente dal punto di vista globale come una mansione rivolta al miglioramento della nostra azienda. Vi invitiamo a visitare il nostro sito internet per ulteriori informazioni sulla nostra politica "verde".

<http://www.lge.com/about/environment/html/Recycling.jsp>

### Espanol

#### Información para la conservación medioambiental

LGE. presentó la 'Declaración para un entorno más limpio de LG' en 1994 y este ideal ha servido para guiar nuestros principios empresariales desde entonces. La Declaración es la base que nos ha permitido llevar a cabo tareas que

respetan el medio ambiente siempre teniendo en cuenta aspectos sociales, económicos y medioambientales.

Promocionamos actividades orientadas a la conservación del medio ambiente y desarrollamos nuestros productos específicamente para que se ajusten a la filosofía que protege el entorno.

Reducimos al máximo el uso de materiales de riesgo en nuestros productos. Un ejemplo de ello es la ausencia total de cadmio en nuestros monitores.

#### Información para el reciclaje

Este monitor puede contener piezas que entrañen riesgos medioambientales. Es importante reciclar este monitor después de su utilización.

LGE. trata todos los monitores usados siguiendo un método de reciclaje que no daña al entorno. Contamos con diversos sistemas de recuperación y reciclaje que funcionan a nivel mundial en la actualidad. Es posible reciclar y reutilizar muchas de las piezas, mientras que las sustancias dañinas y los metales pesados se tratan siguiendo un método que no perjudique al medio ambiente. Si desea obtener más información acerca del programa de reciclaje, póngase en contacto con su proveedor local de LG o con un representante empresarial de nuestra marca.

Basamos nuestra visión y nuestras políticas en un mundo más limpio y para ellos optamos por un entorno global como tarea principal de nuestra evolución como empresa. Visite nuestra página Web para obtener más información sobre nuestras políticas ecológicas.

<http://www.lge.com/about/environment/html/Recycling.jsp>

### Português

#### Informações relacionadas à preservação ambiental

A LGE. anunciou a 'LG Declaration for a Cleaner Environment' (Declaração da LG para um ambiente mais limpo) em 1994 e esse ideal tem servido desde então como um princípio administrativo de orientação. A Declaração é a base que nos tem permitido realizar atividades favoráveis ao ambiente com consideração atenta aos aspectos econômicos, ambientais e sociais.

Promovemos atividades de preservação ambiental e desenvolvemos nossos produtos para englobar

## ■■■ Regulatory Information cont.

especificamente o conceito de favorável ao ambiente.

Reduzimos os materiais perigosos contidos em nossos produtos. Por exemplo, não há cádmio em nossos monitores.

### **Informações relacionadas à reciclagem**

Este monitor pode conter peças que podem representar riscos ao ambiente. É importante que ele seja reciclado após o uso.

A LGE, cuida de todos os monitores descartados através de um método de reciclagem agradável ao ambiente. Há vários sistemas de devolução e reciclagem atualmente em operação no mundo. Muitas peças serão reutilizadas e recicladas e as substâncias nocivas e os metais pesados passarão por tratamento através de um método favorável ao ambiente.

Para obter mais informações sobre nosso programa de reciclagem, entre em contato com seu fornecedor LG local ou com um representante corporativo da LG.

Definimos nossa visão e nossas políticas relacionadas a um mundo mais limpo selecionando a questão do ambiente global como uma tarefa de aprimoramento corporativo. Visite nosso site para obter mais informações sobre nossas políticas de meio ambiente.

<http://www.lge.com/about/environment/html/Recycling.jsp>

### **Nederlands**

#### **Informatie met betrekking tot het behoud van het milieu**

LGE. publiceerde in 1994 de 'LG Declaration for a Cleaner Environment' (de LG-verklaring met betrekking tot een schoner milieu). Deze verklaring en het ideaal van een schoner milieu fungeren sindsdien als een bestuurlijke leidraad voor onze onderneming. Op basis van deze verklaring ontplooiën wij milieuvriendelijke activiteiten, waarbij er zowel met sociale en economische aspecten, als met milieuaspecten zorgvuldig rekening wordt gehouden.

Wij ondersteunen activiteiten die zijn gericht op het behoud van het milieu en wij houden bij het ontwikkelen onze producten specifiek rekening met de milieuvriendelijkheid van onze producten.

Wij minimaliseren het gebruik van schadelijke stoffen in onze producten. Er wordt bijvoorbeeld geen cadmium verwerkt in onze monitoren.

#### **Informatie met betrekking tot recycling**

Deze monitor bevat materialen die schadelijk zouden kunnen zijn voor het milieu. Het is belangrijk dat deze monitor aan het einde van zijn levensduur wordt gerecycled.

LGE. verwerkt alle afvalmonitors via een milieuvriendelijke recyclingmethode. Hiervoor worden er momenteel wereldwijd verscheidene inname- en recyclingsystemen gehanteerd. Een groot aantal onderdelen wordt opnieuw gebruikt en gerecycled, waarbij schadelijke stoffen en zware metalen volgens een milieuvriendelijke methode worden verwerkt.

Voor meer informatie over ons recyclingprogramma kunt u contact opnemen met uw plaatselijke LG-vertegenwoordiger of een LG-vestiging.

Onze visie en ons beleid met betrekking tot een schonere wereld vloeien voort uit het feit dat wij het milieu hebben aangemerkt als een onderwerp dat speciale aandacht verdient binnen onze onderneming. Bezoek onze website voor meer informatie over ons 'groene' beleid.

<http://www.lge.com/about/environment/html/Recycling.jsp>

### **Russian**

#### **Информация по охране окружающей среды**

В 1994 году корпорация LGE опубликовала 'Декларацию LG по охране окружающей среды', которая с тех пор служит основным принципом управления. На основе этой декларации мы смогли предпринять действия, обеспечивающие безопасность окружающей среды, уделяя при этом должное внимание экономическим, экологическим и социальным аспектам.

Мы стимулируем деятельность по охране окружающей среды, уделяя особое внимание разработке нашей продукции в соответствии с концепцией экологической безопасности.

Мы сводим к минимуму содержание опасных веществ в нашей продукции. Например, в наших мониторах вы не найдете кадмия.

#### **Информация по утилизации отходов**

Этот монитор может содержать компоненты, которые могут нанести ущерб окружающей среде.

## Regulatory Information cont.

Необходимо утилизировать монитор после использования.

Корпорация LGE перерабатывает все бракованные мониторы с помощью экологически приемлемого метода утилизации отходов. По всему миру действуют системы утилизации отходов и возврата использованной продукции. Многие компоненты будут вторично использованы и утилизированы, в то время как вредные вещества и тяжелые металлы будут обработаны с помощью экологически приемлемого метода.

За более подробной информацией по нашей программе утилизации отходов обращайтесь к местному поставщику или представителю корпорации LG.

Мы ориентируемся на обеспечение экологической безопасности, ставя себе целью глобальную защиту окружающей среды. Дополнительную информацию о нашей политике по охране окружающей среды вы можете найти на нашем сайте:  
<http://www.lge.com/about/environment/html/Recycling.jsp>

### 한국어

#### 환경 보존 정보

LG 전자는 1994년 'LG 환경 선언문'을 발표한 후 현재까지 이를 기업 경영의 이념으로 삼아왔습니다. 이 선언문을 바탕으로 LG 전자는 모든 경영 활동에서 경제성뿐만 아니라 환경성 및 사회성을 주요 의사 결정의 기준으로 삼음으로써 지속적으로 환경 친화적인 경영을 전개하고 있습니다.

본사는 보다 활발한 환경 보존 활동과 더불어 환경 친화적 제품 개발에 주력해 왔습니다.

또한 제품에 포함되는 환경 위해 요소를 최소화하는 데에도 노력을 기울이지 않고 있습니다. LG 전자 모니터의 경우 카드를 전혀 사용하지 않는 것에서도 이러한 노력을 알 수 있습니다.

#### 재활용 정보

본 모니터에는 환경에 위해를 주는 부품이 포함되어 있을 수도 있습니다. 따라서 사용이 끝난 모니터는 재활용하는 것이 좋습니다.

폐모니터는 모두 환경 친화적 방식으로 처리됩니다. 현재 세계적으로 운영되고 있는 회수 및 재활용 시스템에는

여러 가지가 있습니다. 대부분의 부품의 경우 재사용 또는 재활용되지만 환경 위해 물질과 중금속은 환경 친화적 방법으로 처리됩니다.

본사의 재활용 프로그램에 대한 자세한 정보는 각 지역의 LG 공급업체나 LG 기업 대표부에 문의하시기 바랍니다.

LG 전자는 기업 개선 정책의 하나로 지구 환경 문제를 채택함으로써 보다 나은 환경을 만들어 나가기 위한 비전과 정책을 수립했습니다. 본사의 친환경 정책에 대한 자세한 정보를 보시려면 아래의 웹 사이트를 방문하십시오.

[http://www.lge.co.kr/cckr/about/environment/purity\\_02.jsp](http://www.lge.co.kr/cckr/about/environment/purity_02.jsp)

### ::EPA (EPA applied model only)

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



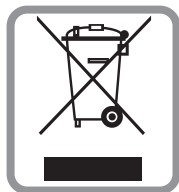
As an ENERGY STAR Partner LGE U. S. A., Inc. has determined that this product meets the ENERGY STAR guidelines for energy efficiency.

### ::NOM MARK (Mexico only)



■ ■ ■ Regulatory Information cont.

**:: WEEE (for Europe )**



■ ■ **English**

**Disposal of your old appliance**

1. When this crossed-out wheeled bin symbol is attached to a product it means the product is covered by the European Directive 2002/96/EC.
2. All electrical and electronic products should be disposed of separately from the municipal waste stream via designated collection facilities appointed by the government or the local authorities.
3. The correct disposal of your old appliance will help prevent potential negative consequences for the environment and human health.
4. For more detailed information about disposal of your old appliance, please contact your city office, waste disposal service or the shop where you purchased the product.

■ ■ **French**

**Élimination de votre ancien appareil**

1. Ce symbole, représentant une poubelle sur roulettes barrée d'une croix, signifie que le produit est couvert par la directive européenne 2002/96/EC.
2. Les éléments électriques et électroniques doivent être jetés séparément, dans les vide-ordures prévus à cet effet par votre municipalité.
3. Une élimination conforme aux instructions aidera à réduire les conséquences négatives et risques éventuels pour l'environnement et la santé humaine.
4. Pour plus d'information concernant l'élimination de votre ancien appareil, veuillez contacter votre mairie, le service des ordures ménagères ou encore la magasin où vous avez acheté ce produit.

■ ■ **Italian**

**Smaltimento delle apparecchiature obsolete**

1. Quando su un prodotto è riportato il simbolo di

un bidone della spazzatura barrato da una croce significa che il prodotto è coperto dalla direttiva europea 2002/96/EC.

2. Tutti i prodotti elettrici ed elettronici dovrebbero essere smaltiti separatamente rispetto alla raccolta differenziata municipale, mediante impianti di raccolta specifici designati dal governo o dalle autorità locali.
3. Il corretto smaltimento delle apparecchiature obsolete contribuisce a prevenire possibili conseguenze negative sulla salute umana e sull'ambiente.
4. Per informazioni più dettagliate sullo smaltimento delle apparecchiature obsolete, contattare il comune, il servizio di smaltimento rifiuti o il negozio in cui è stato acquistato il prodotto.

■ ■ **Swedish**

**Kassering av din gamla apparat**

1. När den här symbolen med en överkryssad soptunna på hjul sitter på en produkt innebär det att den regleras av European Directive 2002/96/EC.
2. Alla elektriska och elektroniska produkter bör kasseras via andra vägar än de som finns för hushållsavfall, helst via för ändamålet avsedda uppsamlingsanläggningar som myndigheterna utser.
3. Om du kasserar din gamla apparat på rätt sätt så bidrar du till att förhindra negativa konsekvenser för miljön och människors hälsa.
4. Mer detaljerad information om kassering av din gamla apparat kan fås av kommunen, renhållningsverket eller den butik där du köpte produkten.

■ ■ **Dutch**

**Uw oude toestel wegdoen**

1. Als het symbool met de doorgekruiste verrijdbare afvalbak op een product staat, betekent dit dat het product valt onder de Europese Richtlijn 2002/96/EC.
2. Elektrische en elektronische producten mogen niet worden meegegeven met het huishoudelijk afval, maar moeten worden ingeleverd bij speciale inzamelingspunten die door de lokale of landelijke overheid zijn aangewezen.
3. De correcte verwijdering van uw oude toestel helpt negatieve gevolgen voor het milieu en de menselijke gezondheid voorkomen.

## Regulatory Information cont.

4. Wilt u meer informatie over de verwijdering van uw oude toestel? Neem dan contact op met uw gemeente, de afvalophaaldienst of de winkel waar u het product hebt gekocht.

### Finnish

#### Vanhojen laitteiden hävittäminen

1. Tämä merkki tuotteessa tarkoittaa, että tuote kuuluu sähkö- ja elektroniikkalaiteromusta annetun EU-direktiivin 2002/96/EY soveltamisalaan.
2. Kaikki elektroniset laitteet ovat ongelmajätettä, joten ne on toimitettava paikalliseen keräyspisteeseen.
3. Vanhan laitteen asianmukainen hävittäminen ehkäisee mahdollisia ympäristöön ja terveyteen kohdistuvia haittavaikutuksia.
4. Lisätietoa vanhan laitteen hävittämisestä saat ottamalla yhteyden paikallisiin viranomaisiin, kierrätyskeskukseen tai myymälään, josta ostit laitteen.

### German

#### Entsorgung von Altgeräten

1. Wenn dieses Symbol eines durchgestrichenen Abfalleimers auf einem Produkt angebracht ist, unterliegt dieses Produkt der europäischen Richtlinie 2002/96/EC.
2. Alle Elektro- und Elektronik-Altgeräte müssen getrennt vom Hausmüll über dafür staatlich vorgesehenen Stellen entsorgt werden.
3. Mit der ordnungsgemäßen Entsorgung des alten Geräts vermeiden Sie Umweltschäden und eine Gefährdung der persönlichen Gesundheit.
4. Weitere Informationen zur Entsorgung des alten Geräts erhalten Sie bei der Stadtverwaltung, beim Entsorgungsamt oder in dem Geschäft, wo Sie das Produkt erworben haben.

### Danish

#### Sådan smider du dit gamle apparat ud

1. Når der er et tegn med et kryds over en skraldespand, betyder det, at produktet er omfattet af EU-direktiv 2002/96/EC.
2. Alle elektriske og elektroniske produkter skal smides ud et andet sted end gennem den kommunale affaldsordning ved hjælp af specielle indsamlingsfaciliteter, der er organiseret af staten

eller de lokale myndigheder.

3. Korrekt bortskaffelse af dit gamle apparat er med til at forhindre mulige skadevirkninger på miljøet og menneskelig sundhed.
4. Mere detaljerede oplysninger om bortskaffelse af dit gamle apparat kan fås ved at kontakte dit lokale kommunekontor, renovationsselskab eller den butik, hvor du købte produktet.

### Greek

#### Απόρριψη της παλιάς σας συσκευής

1. Όταν ένα προϊόν διαθέτει το σύμβολο ενός διαγραμμένου κάλαθου απορριμμάτων, τότε το προϊόν καλύπτεται από την Ευρωπαϊκή Οδηγία 2002/96/EOK.
2. Η απόρριψη όλων των ηλεκτρικών και ηλεκτρονικών προϊόντων πρέπει να γίνεται χωριστά από τα γενικά οικιακά απορρίμματα μέσω καθορισμένων εγκαταστάσεων συλλογής απορριμμάτων, οι οποίες έχουν δημιουργηθεί είτε από την κυβέρνηση ή από τις τοπικές αρχές.
3. Η σωστή απόρριψη της παλιάς σας συσκευής θα βοηθήσει στην αποτροπή πιθανών αρνητικών συνεπειών ως προς το περιβάλλον και την υγεία του ανθρώπου.
4. Για πιο λεπτομερείς πληροφορίες σχετικά με την απόρριψη της παλιάς σας συσκευής, επικοινωνήστε με το αρμόδιο τοπικό γραφείο, υπηρεσία διάθεσης οικιακών απορριμμάτων ή το μαγαζί από το οποίο αγοράσατε το προϊόν.

### Spanish

#### Cómo deshacerse de aparatos eléctricos y electrónicos viejos

1. Si en un producto aparece el símbolo de un contenedor de basura tachado, significa que éste se acoge a la Directiva 2002/96/CE.
2. Todos los aparatos eléctricos o electrónicos se deben desechar de forma distinta del servicio municipal de recogida de basura, a través de puntos de recogida designados por el gobierno o las autoridades locales.
3. La correcta recogida y tratamiento de los dispositivos inservibles contribuye a evitar riesgos potenciales para el medio ambiente y la salud pública.
4. Para obtener más información sobre cómo deshacerse de sus aparatos eléctricos y electrónicos viejos, póngase en contacto con su ayuntamiento, el servicio de recogida de basuras o el establecimiento donde adquirió el producto.



## Regulatory Information cont.

### Portuguese

#### Eliminação do seu antigo aparelho

1. Quando este símbolo de latão cruzado estiver afixado a um produto, significa que o produto é abrangido pela Directiva Europeia 2002/96/EC.
2. Todos os produtos eléctricos e electrónicos devem ser eliminados separadamente do lixo doméstico através de pontos de recolha designados, facilitados pelo governo ou autoridades locais.
3. A eliminação correcta do seu aparelho antigo ajuda a evitar potenciais consequências negativas para o ambiente e para a saúde humana.
4. Para obter informações mais detalhadas acerca da eliminação do seu aparelho antigo, contacte as autoridades locais, um serviço de eliminação de resíduos ou a loja onde comprou o produto.

### Slovak

#### Likvidácia váš ho starého prístroja

1. Keď sa na produkte nachádza tento symbol prečiarknutej smetnej nádoby s kolieskami, znamená to, že daný produkt vyhovuje európskej Smernici č. 2002/96/EC.
2. Všetky elektrické a elektronické produkty by mali byť zlikvidované oddelene od komunálneho odpadu prostredníctvom na to určených zberných zariadení, ktoré boli ustanovené vládou alebo orgánmi miestnej správy.
3. Správnu likvidáciu starých zariadení pomôžete predchádzať potenciálnym negatívnym následkom pre prostredie a ľudské zdravie.
4. Podrobnejšie informácie o likvidácii starých zariadení nájdete na miestnom úrade, v službe na likvidáciu odpadu alebo u predajcu, kde ste tento produkt zakúpili.

### Czech

#### Likvidace starých spotřebičů

1. Pokud je u výrobku uveden symbol pojízdného kontejneru v přeškrtnutém poli, znamená to, že na výrobek se vztahuje směrnice Evropské unie číslo 2002/96/EC.
2. Všechny elektrické a elektronické výrobky by měly být likvidovány odděleně od běžného komunálního odpadu prostřednictvím sběrných zařízení zřízených za tímto účelem vládou nebo místní samosprávou.
3. Správný způsob likvidace starého elektrického spotřebiče pomáhá zamezit možným negativním dopadům na životní prostředí a zdraví.
4. Bližší informace o likvidaci starého spotřebiče získáte u místní samosprávy, ve sběrném zařízení nebo v obchodě, ve kterém jste výrobek zakoupili.

### Croatian

#### Uklanjanje starog aparata

1. Ako se na proizvodu nalazi simbol prekrizene kante za smeće, to znači da je proizvod pokriven europskom direk-

tivom 2002/96/EC.

2. Električni i elektronski proizvodi ne smiju se odlagati zajedno s komunalnim otpadom, već u posebna odlagališta koja je odredila vlada ili lokalne vlasti.
3. Pravilno odlaganje starog proizvoda sprečiti će potencijalne negativne posljedice po okoliš i zdravlje ljudi.
4. Podrobnije informacije o odlaganju starog proizvoda potražite u gradskom uredu, službi za odlaganje otpada ili u trgovini u kojoj ste kupili proizvod.

### Hungarian

#### Régi eszközök ártalmatlanítása

1. A termékhez csatolt áthúzott, kereses szeméttároló jel jelöli, hogy a termék a 2002/96/EC EU-direktíva hatálya alá esik.
2. Minden elektromos és elektronikai terméket a lakossági hulladéktól elkülönítve kell begyűjteni, a kormány vagy az önkormányzatok által kijelölt begyűjtő eszközök használatával.
3. Régi eszközeinek megfelelő ártalmatlanítása segíthet megelőzni az esetleges egészségre vagy környezetre ártalmas hatásokat.
4. Ha több információra van szüksége régi eszközeinek ártalmatlanításával kapcsolatban, tanulmányozza a vonatkozó környezetvédelmi szabályokat, vagy lépjen kapcsolatba az üzlettel, ahol a terméket vásárolta.

### Polish

#### Utylizacja starych urządzeń

1. Kiedy do produktu dołączony jest niniejszy przekreślony symbol kołowego pojemnika na śmieci, oznacza to, że produkt jest objęty dyrektywą 2002/96/EC.
2. Wszystkie elektryczne i elektroniczne produkty powinny być utylizowane niezależnie od odpadów miejskich, z wykorzystaniem przeznaczonych do tego miejsc składowania wskazanych przez rząd lub miejscowe władze.
3. Właściwy sposób utylizacji starego urządzenia pomoże zapobiec potencjalnie negatywnemu wpływowi na zdrowie i środowisko.
4. Aby uzyskać więcej informacji o sposobach utylizacji starych urządzeń, należy skontaktować się z władzami lokalnymi, przedsiębiorstwem zajmującym się utylizacją odpadów lub sklepem, w którym produkt został kupiony.

## ■ ■ ■ Regulatory Information cont.

### ■ ■ Estonian

#### Kasutuskõlbmatu seadme käitlemise kord

1. Kui seade on märgistatud selle elektri- ja elektroonikaseadmete lahuskogumist märgistava tähisega (ratastega prügikonteineri kujutis, millele on rist peale tõmmatud), tuleb toodet käidelda vastavalt Eurodirektiivile 2002/96/EÜ.
2. Elektri- ja elektroonikaseadmeid ei tohi visata tavalise prügi hulka. Nad kuuluvad lahuskogumisele selleks määratud kogumispunktides.
3. Kasutuskõlbmatu tervikseadme käitlemine tavaprügist lahus on korraldatud selleks, et vältida negatiivseid tagajärgi, mida põhjustaksid seadme osade purunemisel vabaneda võivad ohtlikud jäätmed loodusele või inimorganismile.
4. Täpsemat informatsiooni selle kohta, kuhu ja millal saab ära anda oma kasutamiskõlbmatu elektri- ja elektroonikaseadme, küsige kohalikul omavalitsuselt, prügifirmalt või kaupluselt, kust seadme ostsite.

### ■ ■ Latvian

#### Vecās elektroierīces nodošana

1. Ja uz produkta ir simbols ar pārsvītrotu atkritumu tvertni, tas nozīmē, ka produkts ir iekļauts Eiropas direktīvā 2002/96/EC.
2. Visi elektriskie un elektroniskie produkti ir jāutilizē, nododot pašvaldības īpaši noteiktās pieņemšanas vietās. Tos nedrīkst izmest parastās municipalitātes atkritumu urnās.
3. Ievērojot prasības veco elektroierīču utilizēšanā, jūs pasargāsi apkārtējo vidi un cilvēku veselību no iespējami nelabvēlīgajām sekām, kādas varētu rasties, ierīcēm sadaloties nepiemērotā vietā.
4. Lai gūtu plašāku informāciju par veco ierīču utilizēšanas iespējām, sazinieties ar pilsētas pašvaldību, atkritumu savākšanas saimniecību vai veikalu, kurā ierīci iegādājāties.

### ■ ■ Lithuanian

#### Senos įrangos atliekų tvarkymas

1. Užbrauktas konteinerio simbolis priverčia atkreipti dėmesį, kad įrangą saugo Europos direktyva 2002/96/EC.
2. Visos elektros ir elektroninės įrangos atliekos turi būti renkamos atskirai ir neišmetamos į atliekų konteinerį kartu su kitomis komunalinėmis atliekomis, taikant specialią atliekų surinkimo sistemą, patvirtintą vyriausybės ar vietos valdžios.
3. Teisingas senos įrangos atliekų tvarkymas, padės išvengti neigiamų pasekmių aplinkai ir žmonių sveikatai.
4. Dėl išsamesnės informacijos apie senos įrangos tvarkymą, prašome kreiptis į miesto valdžią, atliekų perdirbimo tarnybą arba parduotuvę, kurioje pirkote įrangą.