# LG
## Life's Good

# OWNER'S MANUAL
# PLASMA TV

Please read this manual carefully before operating your set and retain it for future reference.

| | | |
|---|---|---|
| 42PM4700 | 50PM6700 | 50PM9700 |
| 50PM4700 | 60PM6700 | 60PM9700 |

# IMPORTANT SAFETY INSTRUCTIONS

Always comply with the following precautions to avoid dangerous situations and ensure peak performance of your product.

**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.

**WARNING**: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. *Wash hands after handling.*

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

• Do not use this apparatus near water.

• Clean only with a dry cloth.

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

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

• 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 (Can differ by country).

ENGLISH

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

- Only use attachments/accessories specified by the manufacturer.

- Use only with a 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.

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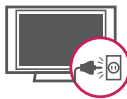
- Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate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

- Do not stick metal objects or any other conductive material into the power cord. Do not touch the end of the power cord while it is plugged in.

- Keep the packing anti-moisture material or vinyl packing out of the reach of children. Anti-moisture material is harmful if swallowed. If swallowed by mistake, force the patient to vomit and visit the nearest hospital. Additionally, vinyl packing can cause suffocation. Keep it out of the reach of children.

- CAUTION concerning the Power Cord (Can differ by country):
It is recommended 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 service. 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 move 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.

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- **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.

- 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).

- **Grounding**
  (Except for devices which are not grounded.) 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.

  Short-circuit Breaker / Power Supply
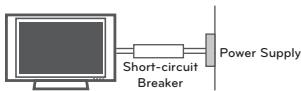
- **DISCONNECTING DEVICE FROM THE MAIN POWER**
  Mains plug is the disconnecting device. The plug must remain readily operable.
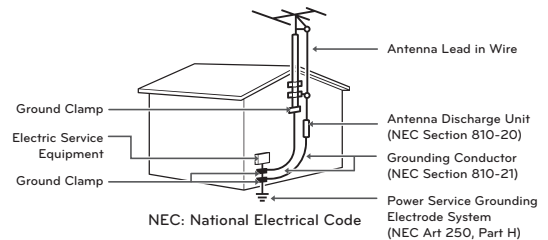- As long as this unit is connected to the AC wall outlet, it is not disconnected from the AC power source even if the unit is turned off.
- Do not attempt to modify this product in any way without written authorization from LG Electronics. Unauthorized modification could void the user's authority to operate this product.

- **ANTENNAS Outdoor antenna grounding** (Can differ by country):
  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**

  Antenna Lead in Wire
  Ground Clamp
  Electric Service Equipment
  Ground Clamp
  Antenna Discharge Unit (NEC Section 810-20)
  Grounding Conductor (NEC Section 810-21)
  Power Service Grounding Electrode System (NEC Art 250, Part H)
  NEC: National Electrical Code

- **Cleaning**
  When cleaning, unplug the power cord and wipe 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 benzine.
- **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 or put stress on the front panel of the TV.

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- **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 while plugged. Do not install in excessively dusty places.
- If you smell smoke or other odors coming from the TV, unplug the power cord and contact an authorized service center.
- Do not press strongly upon the panel with a hand or a sharp object such as a nail, pencil or pen, or make a scratch on it.
- Keep the product away from direct sunlight.



- Never touch this apparatus or antenna during a thunder or lightning storm.
- When mounting a TV on the wall, make sure not to install the TV by hanging the power and signal cables on the back of the TV.
- Do not allow an impact shock or any objects to fall into the product, and do not drop anything onto the screen.
- **Dot Defect**
  The Plasma or LCD panel is a high technology product with resolution of two million to six million pixels. In a very few cases, you could see fine dots on the screen while you're viewing the TV. Those dots are deactivated pixels and do not affect the performance and reliability of the TV.
- **Generated Sound**
  "Cracking" noise: A cracking noise that occurs when watching or turning off the TV is generated by plastic thermal contraction due to temperature and humidity. This noise is common for products where thermal deformation is required.
  Electrical circuit humming/panel buzzing: A low level noise is generated from a high-speed switching circuit, which supplies a large amount of current to operate a product. It varies depending on the product.
  This generated sound does not affect the performance and reliability of the product.

- Take care not to touch the ventilation openings. When watching the TV for a long period, the ventilation openings may become hot. This does not affect the performance of the product or cause defects in the product.

Preventing "Image burn" or "Burn-in" on your TV screen
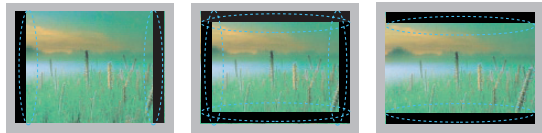


- If a fixed image displays on the TV screen for a long period of time, it will be imprinted and become a permanent disfigurement on the screen. This is "image burn" or "burn-in" and not covered by the warranty.
- If the aspect ratio of the TV is set to 4:3 for a long period of time, image burn may occur on the letterboxed area of the screen.
- Avoid displaying a fixed image on the TV screen for a long period of time (2 or more hours for LCD, 1 or more hours for the Plasma TV) to prevent image burn.

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# Viewing 3D Imaging (For 3D models)

## ⚠️ WARNING

**Viewing Environment**

- Viewing Time
  - When watching 3D contents, take 5 - 15 minute breaks every hour. Viewing 3D contents for a long period of time may cause headache, dizziness, fatigue or eye strain.

**Those that have a photosensitive seizure or chronic illness**

- Some users may experience a seizure or other abnormal symptoms when they are exposed to a flashing light or particular pattern from 3D contents.
- Do not watch 3D videos if you feel nausea, are pregnant and/ or have a chronic illness such as epilepsy, cardiac disorder, or blood pressure disease, etc.
- 3D Contents are not recommended to those who suffer from stereo blindness or stereo anomaly. Double images or discomfort in viewing may be experienced.
- If you have strabismus (cross-eyed), amblyopia (weak eyesight) or astigmatism, you may have trouble sensing depth and easily feel fatigue due to double images. It is advised to take frequent breaks than the average adult.
- If your eyesight varies between your right and left eye, revise your eyesight prior to watching 3D contents.

**Symptoms which require discontinuation or refraining from watching 3D contents**

- Do not watch 3D contents when you feel fatigue from lack of sleep, overwork or drinking.
- When these symptoms are experienced, stop using/watching 3D contents and get enough rest until the symptom subsides.
  - Consult your doctor when the symptoms persist. Symptoms may include headache, eyeball pain, dizziness, nausea, palpitation, blurriness, discomfort, double image, visual inconvenience or fatigue.

## ⚠ CAUTION

### Viewing Environment

- Viewing Distance
  - Maintain a distance of at least twice the screen diagonal length when watching 3D contents. If you feel discomfort in viewing 3D contents, move further away from the TV.
- Viewing Position (Only for SG Mode)
  - Face the center of the screen at eye level with the head looking straight ahead. Otherwise, you may not be able to view 3D contents properly.
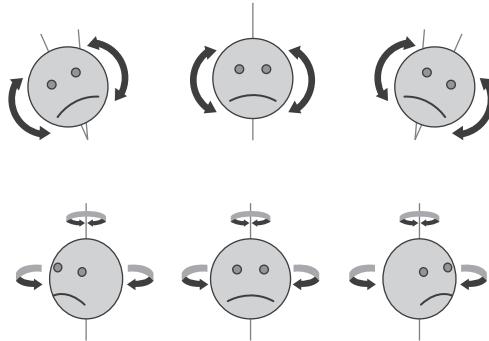
### Viewing Age

- Infants / Children
  - Usage/ Viewing 3D contents for children under the age of 5 are prohibited.
  - Children under the age of 10 may overreact and become overly excited because their vision is in development (for example: trying to touch the screen or trying to jump into it. Special monitoring and extra attention is required for children watching 3D contents.
  - Children have greater binocular disparity of 3D presentations than adults because the distance between the eyes is shorter than one of adults. Therefore they will perceive more stereoscopic depth compared to adults for the same 3D image.
- Teenagers
  - Teenagers under the age of 19 may be stimulated to light coming from 3D videos. Advise them not to watch 3D videos for a long time when they are tired.
- Elderly
  - The elderly may perceive less of a 3D effect than the youth. Do not sit closer to the TV than the recommended distance.

### Cautions when using the 3D glasses

- Make sure to use LG 3D glasses. Otherwise, you may not be able to view 3D videos properly.
- Do not use 3D glasses instead of your normal glasses, sunglasses or protective goggles.
- Using modified 3D glasses may cause eye strain or image distortion.
- Do not keep your 3D glasses in extremely high or low temperatures. It will cause deformation.
- The 3D glasses are fragile and are easy to be scratched. Always use a soft, clean piece of cloth when wiping the lenses. Do not scratch the lenses of the 3D glasses with sharp objects or clean/wipe them with chemicals.
- When watching 3D videos under fluorescent lights or with three wave length lamps, you may experience the screen blinking. When this occurs, turn the light off or turn it down. (Only for SG mode)
- Other electronic or communication  devices should be turned off or put away from the TV because it can cause interference and prevent the 3D function from working properly. (Only for SG mode)
- When you watch TV lying down, 3D images may look darker or invisible. (Only for SG mode)

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# TABLE OF CONTENTS

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> **NOTE**
> - Image shown may differ from your TV.
> - Your TV's OSD (On Screen Display) may differ slightly from that shown in this manual.
> - The available menus and options may differ from the input source or product model that you are using.
> - New features may be added to this TV in the future.

# INSTALLATION PROCEDURE

1   Open the package and make sure all the accessories are included.

2   Attach the stand to the TV set.

3   Connect an external device to the TV set.

4   Make sure the network connection is available.
     You can use the TV network functions only when the network connection is made.

# ASSEMBLING AND PREPARING

## Unpacking

Check your product box for the following items. If there are any missing accessories, contact the local dealer where you purchased your product. The illustrations in this manual may differ from the actual product and item.

> **NOTE**
> * The items supplied with your product may vary depending on the model.
> * Product specifications or contents of this manual may be changed without prior notice due to upgrade of product functions.

> **CAUTION**
> * Do not use any unapproved items to ensure the safety and product life span.
> * Any damages or injuries by using unapproved items are not covered by the warranty.
> * In case of some model, the thin film on screen is a part of TV, So don't take it off.

## ⓘ NOTE

• How to use the ferrite core

1 Use the ferrite core to reduce the electromagnetic interference in the PC audio cable.
Wind the PC audio cable on the ferrite core thrice. Place the ferrite core close to the TV.

[to an External device]                [to the TV]

10 mm (+/-5 mm)

[Figure 1]

[Cross Section of Ferrite Core]
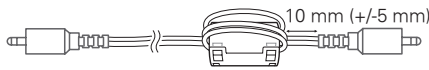
2 Use the ferrite core to reduce the electromagnetic interference in the power cable.
Wind the power cable on the ferrite core once. Place the ferrite core close to the TV and wall plug.

[to a wall plug]                        [to the TV]

[Figure 2]

[Cross Section of Ferrite Core]

3 Use the ferrite core to reduce the electromagnetic interference in the LAN cable. Wind the
LAN cable once on the ferrite core. Place the ferrite core close to the TV.

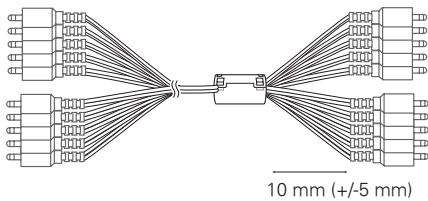[to an External device]                [to the TV]

10 mm (+/-5 mm)

[Figure 3]

[Cross Section of Ferrite Core]

4 Use the ferrite core to reduce the electromagnetic interference in the component Y, Pb, Pr, L, R
cable. Place the ferrite core close to the TV.

[to an External device]                [to the TV]

10 mm (+/-5 mm)

[Figure 4]
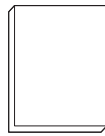
[Cross Section of Ferrite Core]

- If there is one ferrite core, follow as shown in Figure 1.
- If there are three ferrite cores, follow as shown in Figures 1 and 2.
- If there are four ferrite cores, follow as shown in Figures 1, 2 and 3.
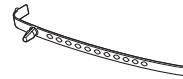- If there are five ferrite cores, follow as shown in Figures 1, 2, 3 and 4.

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### For PM4700, PM6700-UB series
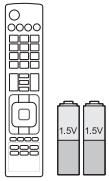
**Remote control,
Batteries (AAA)**
(See p.31)

**Owner's manual**

**Cable holder**
(See p.19)

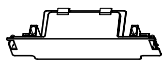**Stand Screws**
3 EA, M5 x 16
(See p.17)
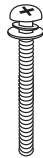
**Stand Screws**
4 EA, M4 x 30
(See p.17)

**Power Cord holder**
(See p.19)

**Protection cover**
(See p.19)

**Power Cord**
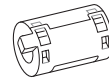
**Ferrite core**
(Depending on model)
(See p.11)

**Polishing cloth**
(Depending on model)
Use this  to remove dust from
the cabinet.

**Stand Body**
(See p.17)
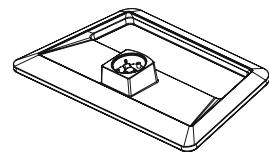
**Stand Base**
(See p.17)

**Wi-Fi dongle**
(For PM4700 series)

ENGLISH

For PM9700, PM6700-UD series
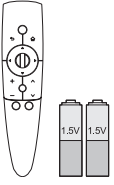
**Magic Remote Control,
Batteries (AA)**
(See p.33)
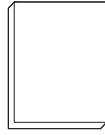
**Owner's manual**
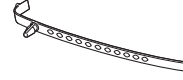
**Cable holder**
(See p.19)

**Stand Screws**
M5 x 16
The number of screws may
differ depending on the model.
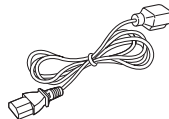(See p.18)
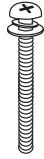
**Stand Screws**
4 EA, M4 x 30
(See p.18)

**Power Cord holder**
(See p.19)
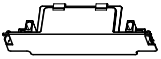
**Protection cover**
(See p.19)
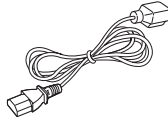
**Power Cord**
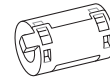
**Ferrite core**
(Depending on model)
(See p.11)
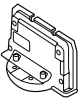
**Stand Body**
(See p.18)
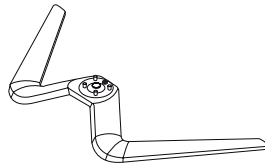
**Stand Base**
(See p.18)

**Cable management**
(See p.18)

**Polishing cloth**
(Depending on model)
Use this  to remove dust from
the cabinet.

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# Optional Extras

Optional extras can be changed or modified for quality improvement without any notification.
Contact your dealer to buy these items.
These devices only work with certain models.

**AG-S3\*\***
3D Glasses
The model name or
design may be changed
manufacturer's circumstances
or policies.

**AN-MR300**
Magic Remote Control

**AN-WF100**
Wireless LAN for Broadband/
DLNA Adaptor

**AN-VC\*\*\***
Video Call Camera
The model name or
design may be changed
manufacturer's circumstances
or policies.

| Compatibility | PM4700 | PM6700 | PM9700 |
|---|:---:|:---:|:---:|
| **AG-S3\*\*** 3D Glasses | ● | ● | ● |
| **AN-MR300** Magic Remote Control | ● | ● | ● |
| **AN-WF100** Wireless LAN for Broadband/ DLNA Adaptor | ● | | |
| **AN-VC\*\*\*** Video Call Camera | ● | ● | ● |

# Parts and buttons

For PM4700, PM6700-UB series

Screen

Remote control and
intelligent sensors[1]

Power indicator

Speakers

⏻/| INPUT SETTINGS OK◉ — + ⌄ ⌃

Buttons

For PM9700, PM6700-UD series

ENGLISH

Screen

Remote control and
intelligent sensors[1]

Power indicator

Speakers
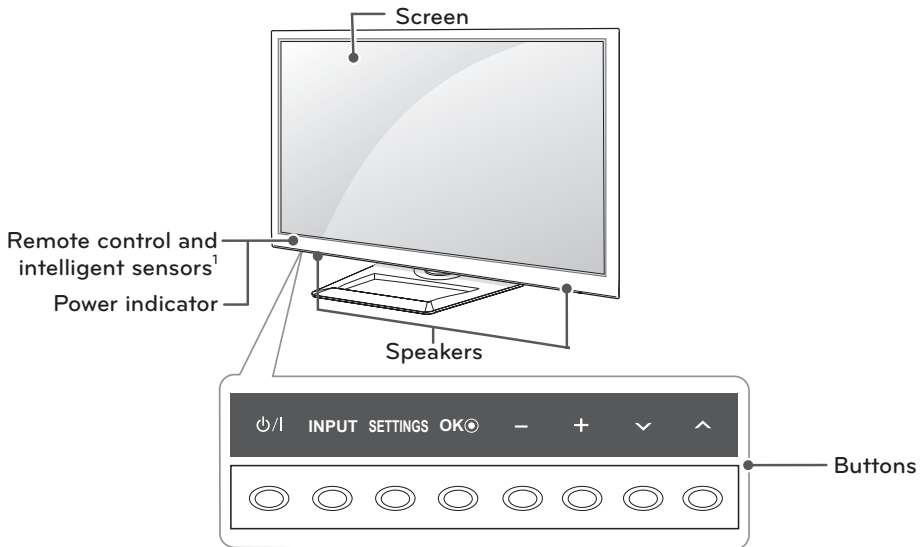
⏻/| INPUT SETTINGS OK◉ — + ⌄ ⌃
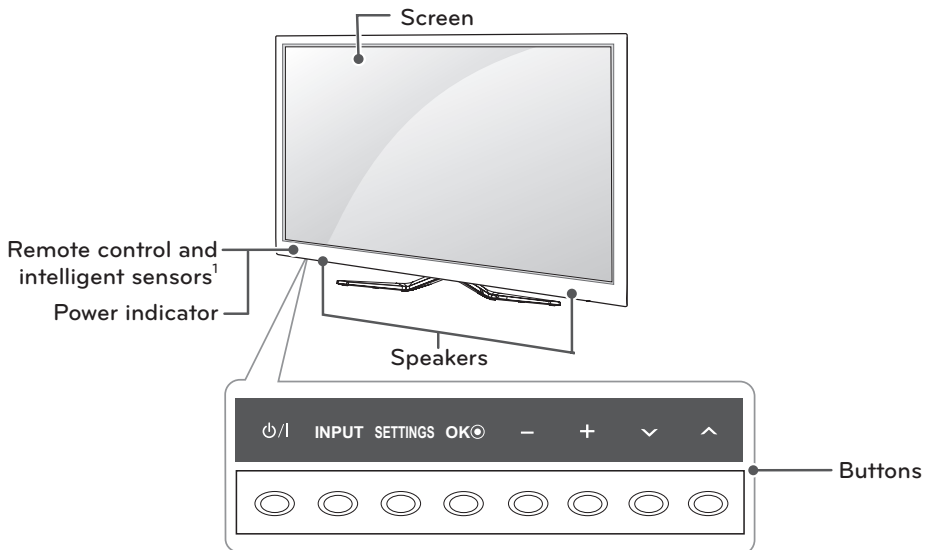
Buttons

| Button | Description |
|---|---|
| ⏻/| | Turns the power on or off. |
| INPUT | Changes the input source. |
| SETTINGS | Accesses the main menus, or saves your input and exits the menus. |
| OK ◉ | Selects the highlighted menu option or confirms an input. |
| - + | Adjusts the volume level. |
| ∨ ∧ | Scrolls through the saved channels. |

1   Intelligent sensor - Adjusts the image quality and brightness based on the surrounding environment.

# Lifting and moving the TV

When moving or lifting the TV, read the following to prevent the TV from being scratched or damaged and for safe transportation regardless of its type and size.

> ⚠ **CAUTION**
> - Avoid touching the screen at all times, as this may result in damage to the screen.

- It is recommended to move the TV in the box or packing material that the TV originally came in.
- Before moving or lifting the TV, disconnect the power cord and all cables.
- When holding the TV, the screen should face away from you to avoid damage.



- Hold the top and bottom of the TV frame firmly. Make sure not to hold the transparent part, speaker, or speaker grill area.
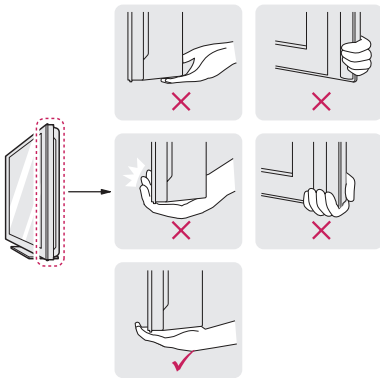


- When transporting a large TV, there should be at least 2 people.
- When transporting the TV by hand, hold the TV as shown in the following illustration.
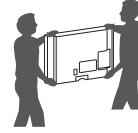


- When transporting the TV, do not expose the TV to jolts or excessive vibration.
- When transporting the TV, keep the TV upright, never turn the TV on its side or tilt towards the left or right.

# Setting up the TV

Put your TV on a pedestal stand and mount the TV on a table or wall.

## Attaching the stand

If you are not mounting the TV to a wall, use the following instructions to attach the stand.

For PM4700, PM6700-UB series

**1**
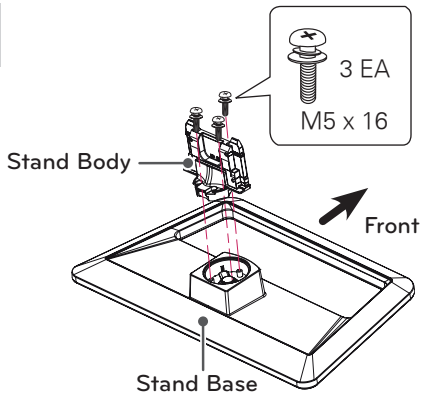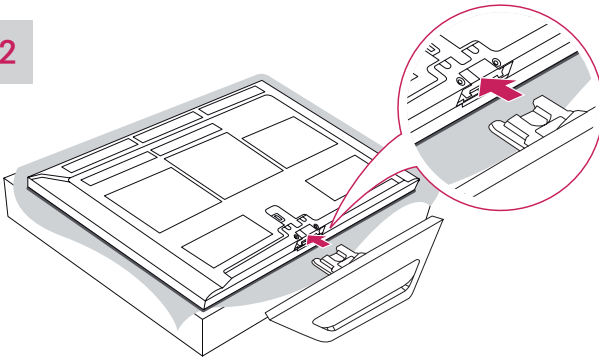
3 EA

M5 x 16

Stand Body

Front

Stand Base

**2**

⚠ CAUTION
• When attaching the stand to the TV set, place the screen facing down on a cushioned table or flat surface to protect the screen from scratches.

**3**

4 EA
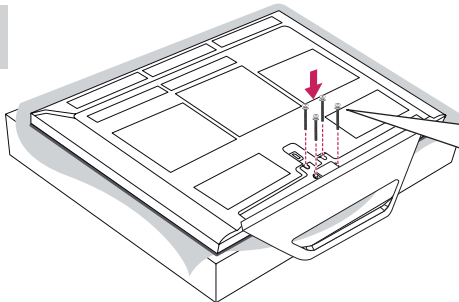
M4 x 30
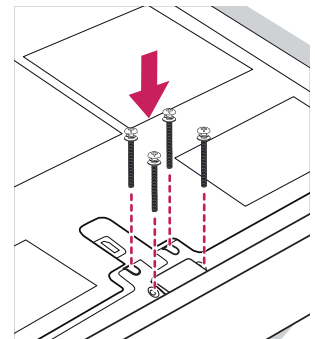
⚠ CAUTION
• Tighten the screws firmly to prevent the TV from tilting forward. Do not over tighten.

For PM9700/ PM6700-UD series

**1**
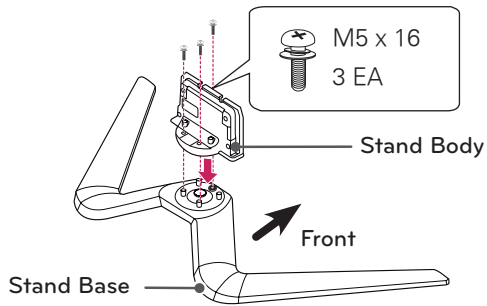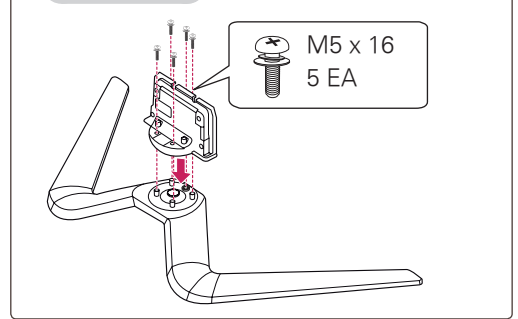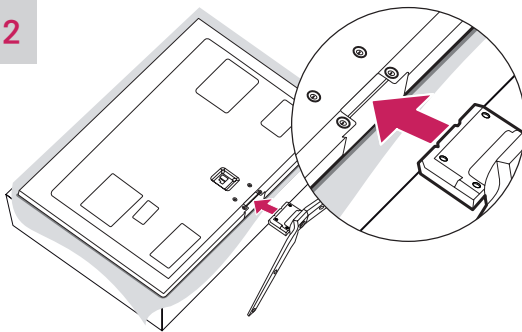
M5 x 16
3 EA

Stand Body

Front

Stand Base

For 60 inches

M5 x 16
5 EA

**2**

⚠ CAUTION

• When attaching the stand to the TV set, place the screen facing down on a cushioned table or flat surface to protect the screen from scratches.

**3**

4 EA
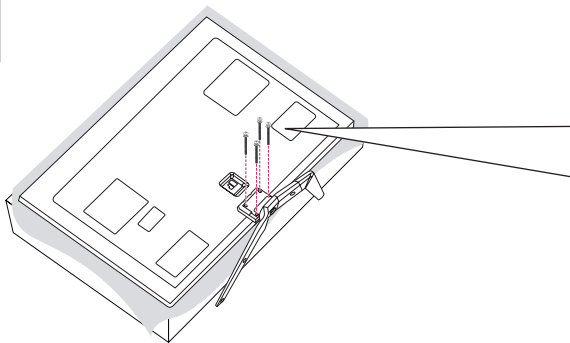
M4 x 30
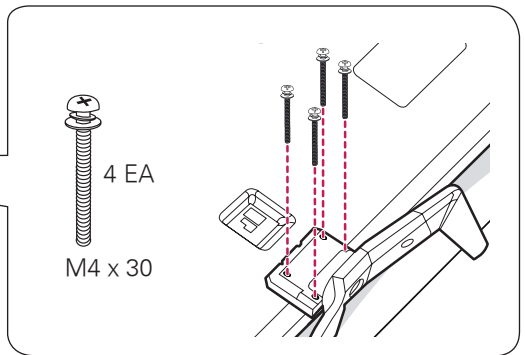
⚠ CAUTION

• Tighten the screws firmly to prevent the TV from tilting forward. Do not over tighten.

**4**

Cable management
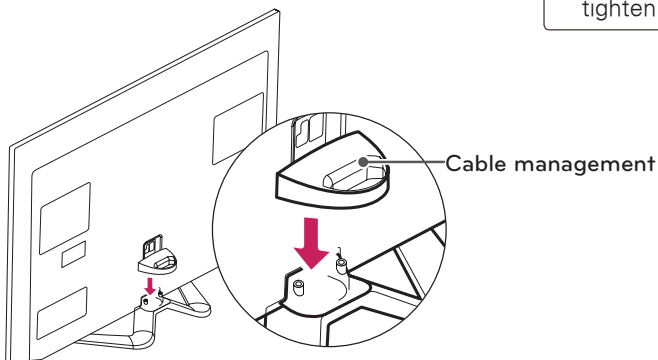
## Attaching the protection cover

1   Remove the stand before installing the TV on a wall mount by performing the stand attachment in reverse.
    After removing the stand, push the supplied protection cover into the opening at the bottom of the TV until it locks in place.
    This will protect the opening from accumulating dust and dirt.
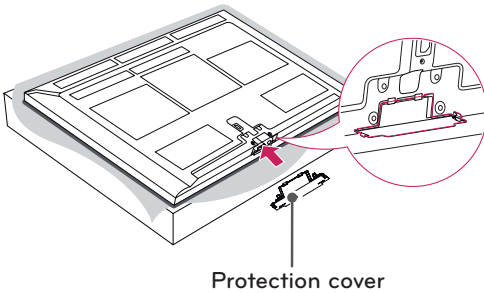
Protection cover

2   Secure the TV and the protection cover with the 2 screws.
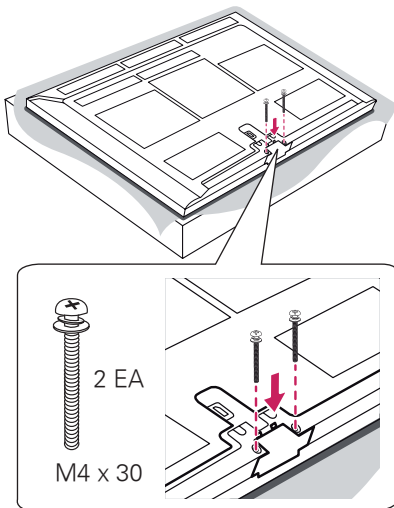
2 EA

M4 x 30

⚠ CAUTION
• Tighten the screws firmly to prevent the TV from tilting forward. Do not over tighten.

## Tidying cables

1   Install the power cord holder and power cord. It will help prevent the power cable from being removed by accident.
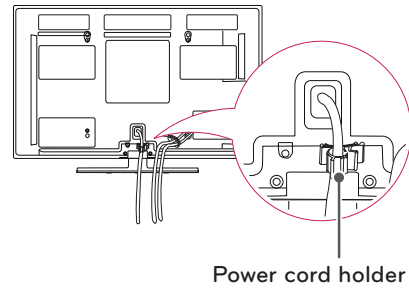
Power cord holder

2   Gather and bind the cables with the cable holder.
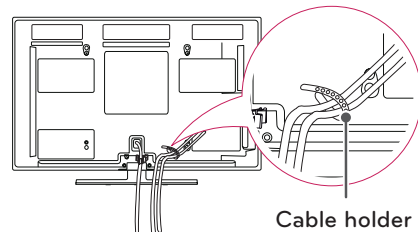
Cable holder

⚠ CAUTION
• Do not move the TV by holding the cable holder and power cord holder, as the cable holders may break, and injuries and damage to the TV may occur.

ENGLISH

## Mounting on a table

1   Lift and tilt the TV into its upright position on a table.
    - Leave a 10 cm (4 inch) (minimum) space from the wall for proper ventilation.
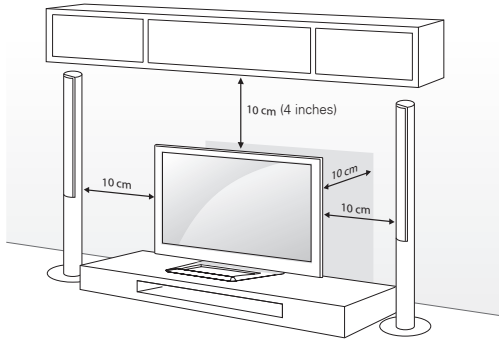


2   Connect the power cord to a wall outlet.

⚠ **CAUTION**
- Do not place the TV near or on sources of heat, as this may result in fire or other damage.

### Adjusting the angle of the TV to suit view

Swivel 20±2 degrees to the left or right and adjust the angle of the TV to suit your view.



20°                              20°
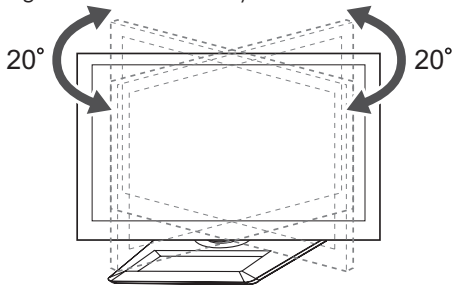
⚠ **CAUTION**
- When adjusting the angle of the TV, watch out for your fingers.
  - Personal injury may occur if hands or fingers are pinched. If the product is tilted too much, it may fall, causing damage or injury.



Front                    Rear
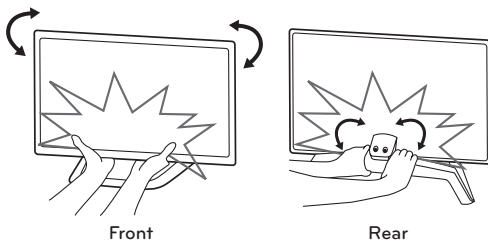
### Securing the TV to a wall (optional)

(Depending on model)
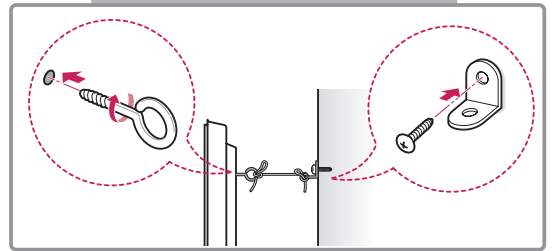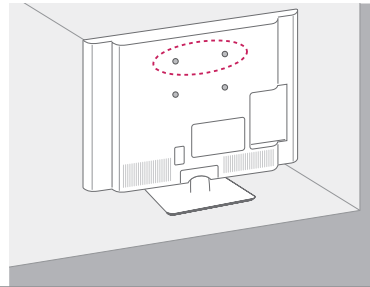


1   Insert and tighten the eye-bolts, or TV brackets and bolts on the back of the TV.
    - If there are bolts inserted at the eye-bolts position, remove the bolts first.

2   Mount the wall brackets with the bolts to the wall.
    Match the location of the wall bracket and the eye-bolts on the rear of the TV.

3   Connect the eye-bolts and wall brackets tightly with a sturdy rope.
    Make sure to keep the rope horizontal with the flat surface.

⚠ **CAUTION**
- Make sure that children do not climb on or hang on the TV.
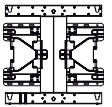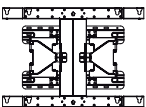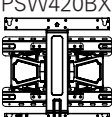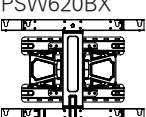
🔵 **NOTE**
- Use a platform or cabinet that is strong and large enough to support the TV securely.
- Brackets, bolts and ropes are optional. You can obtain additional accessories from your local dealer.

## Mounting on a wall

Attach an optional wall mount bracket at the rear of the TV carefully and install the wall mount bracket on a solid wall perpendicular to the floor. When you attach the TV to other building materials, please contact qualified personnel. We recommend that you use an LG brand wall mount when mounting the TV to a wall.
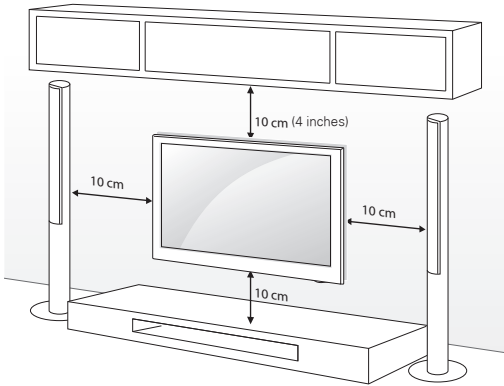


Make sure to use screws and wall mounts that meet the VESA standard. Standard dimensions for the wall mount kits are described in the following table.

| Model | 42/50PM4700 50PM6700 50PM9700 | 60PM6700 60PM9700 |
|---|---|---|
| VESA | 400 x 400 | 600 x 400 |
| Standard screw | M6 | M8 |
| Number of screws | 4 | 4 |
| Wall mount bracket (optional) | PSW400B | PSW600B |
| | PSW420BX | PSW620BX |

> ⚠ **CAUTION**
> - Disconnect the power first, and then move or install the TV. Otherwise electric shock may occur.
> - If you install the TV on a ceiling or slanted wall, it may fall and result in severe injury. Use an authorized LG wall mount and contact the local dealer or qualified personnel.
> - Do not over tighten the screws as this may cause damage to the TV and void your warranty.
> - Use the screws and wall mounts that meet the VESA standard. Any damages or injuries by misuse or using an improper accessory are not covered by the warranty.

> ❗ **NOTE**
> - Use the screws that are listed on the VESA standard screw specifications.
> - The wall mount kit includes an installation manual and necessary parts.
> - The wall mount bracket is optional. You can obtain additional accessories from your local dealer.
> - The length of screws may differ depending on the wall mount. Make sure to use the proper length.
> - For more information, refer to the manual supplied with the wall mount.

ENGLISH

# MAKING CONNECTIONS

Connect various external devices to the TV and switch input modes to select an external device. For more information on external device's connection, refer to the manual provided with each device.
Available external devices are: HD receivers, DVD players, VCRs, audio systems, USB storage devices, PC, gaming devices, and other external devices.

> **① NOTE**
>
> • If you record a TV program on a DVD recorder or VCR, make sure to connect the TV signal input cable to the TV through a DVD recorder or VCR. For more information on recording, refer to the manual provided with the connected device.
> • The external device connection may differ from the model.
> • Connect external devices to the TV regardless of the order of the TV port.
> • If you connect a gaming device to the TV, use the cable supplied with the gaming device.
> • Refer to the external equipment's manual for operating instructions.

## Connecting to an antenna or cable

Connect an antenna, cable, or cable box to watch TV while referring to the following. The illustrations may differ from the actual items and a RF cable is optional.
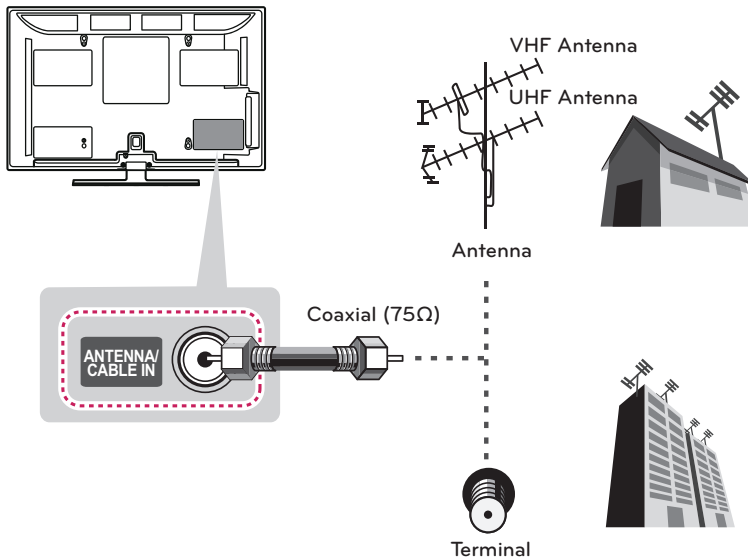


> **⚠ CAUTION**
>
> • Make sure not to bend the copper wire of the RF cable.
>
> Copper wire
>
> • Complete all connections between devices, and then connect the power cord to the power outlet to prevent damage to your TV.
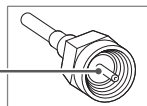
> **① NOTE**
>
> • Use a signal splitter to use more than 2 TVs.
> • Visit http://lgknowledgebase.com for more information about the antenna and cable connection. Search for antenna.

• This part of MAKING CONNECTIONS mainly uses picture for PM6700 series.

# Connecting to a HD receiver, DVD, or VCR player

Connect a HD receiver, DVD, or VCR player to the TV and select an appropriate input mode.

## HDMI Connection

**HDMI is the best way to connect a device.**
Transmits the digital video and audio signals from an external device to the TV. Connect the external device and the TV with the HDMI cable as shown in the following illustration.

> **NOTE**
> • Use the latest High Speed HDMI™ Cable with CEC (Customer Electronics Control) function.
> • High Speed HDMI™ Cables are tested to carry an HD signal up to 1080p and higher.



**Choose any HDMI IN input port to connect. It does not matter which port you use.**

(*Not Provided)

DVD/ Blu-Ray / HD Cable Box / HD STB

(For PM6700, PM9700 series)

**ENGLISH**

**ARC (Audio Return Channel)**
• When connected with a high−speed HDMI cable, digital audio can be sent to a compactible device without an additional optical audio cable.
• ARC is only supported on the HDMI input 1 (ARC) port. An external audio device that supports ARC should be connected to HDMI 1 if you wish to use ARC.

> **NOTE**
> • DTV Audio Supported Codec: MPEG, Dolby Digital
> • HDMI Audio Supporeted Format: Dolby Digital, PCM (Up to 192 KHz, 32k/44.1k/48k/88k/96k/176k/192k) -> Not supported DTS.

## DVI to HDMI Connection

Transmits the digital video signal from an external device to the TV. Connect the external device and the TV with the DVI-HDMI cable as shown in the following illustration. To transmit an audio signal, connect an audio cable.



DVD/ Blu-Ray / HD Cable Box
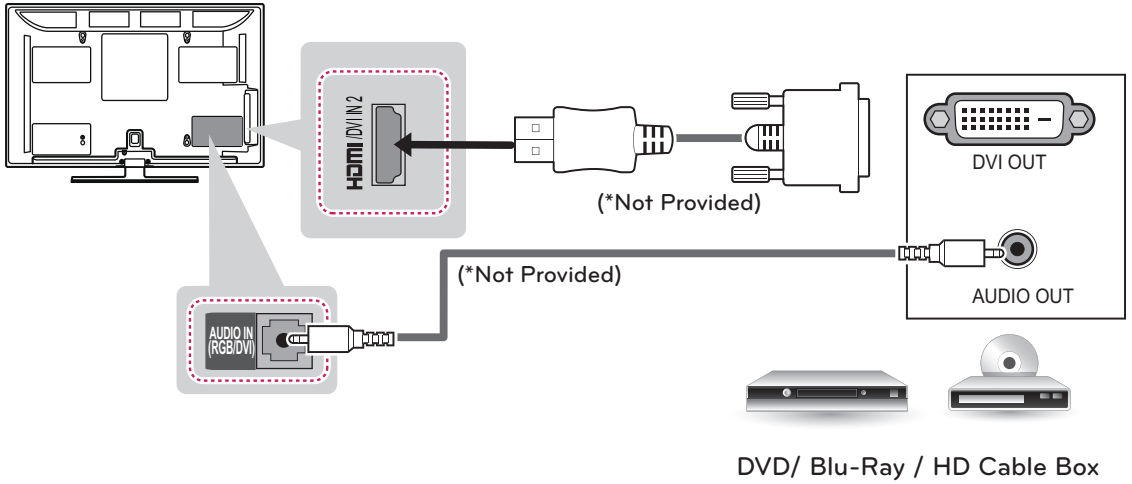
## Component Connection

Transmits analog video and audio signals from an external device to the TV. Connect the external device and the TV with a component cable as shown in the following illustration.

> **NOTE**
>
> • If cables are installed incorrectly, it could case the image to display in black and white or with distorted color.
> • **Check to ensure each cable is matched with the corresponding color connection.**



DVD/ Blu-Ray / HD Cable Box

ENGLISH
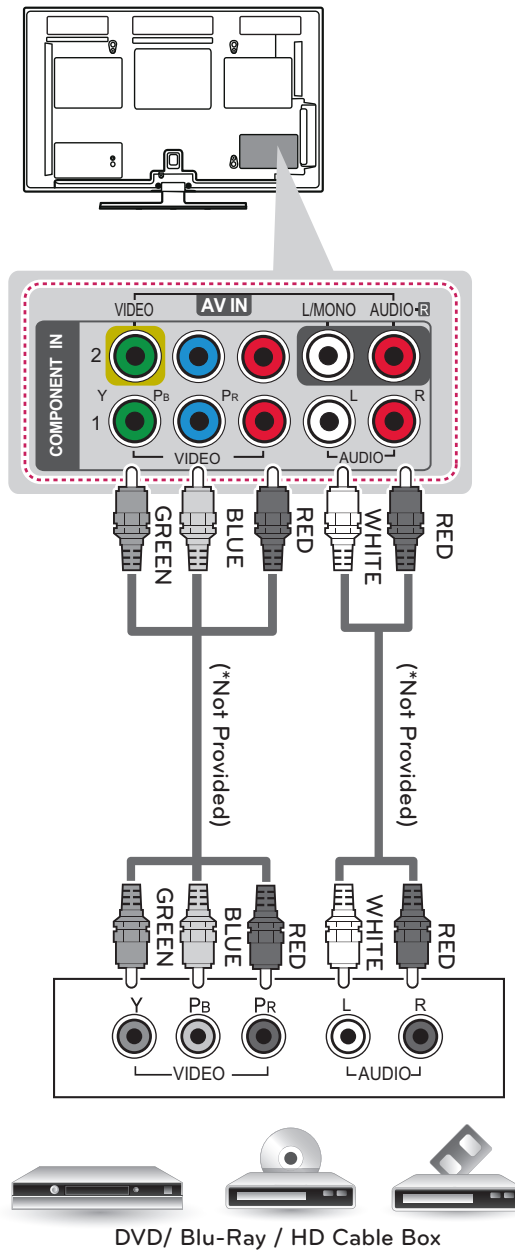
## Composite Connection

Transmits analog video and audio signals from an external device to the TV. Connect the external device and the TV with the composite cable as shown in the following illustration.

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

VCR / DVD/ Blu-Ray / HD Cable Box
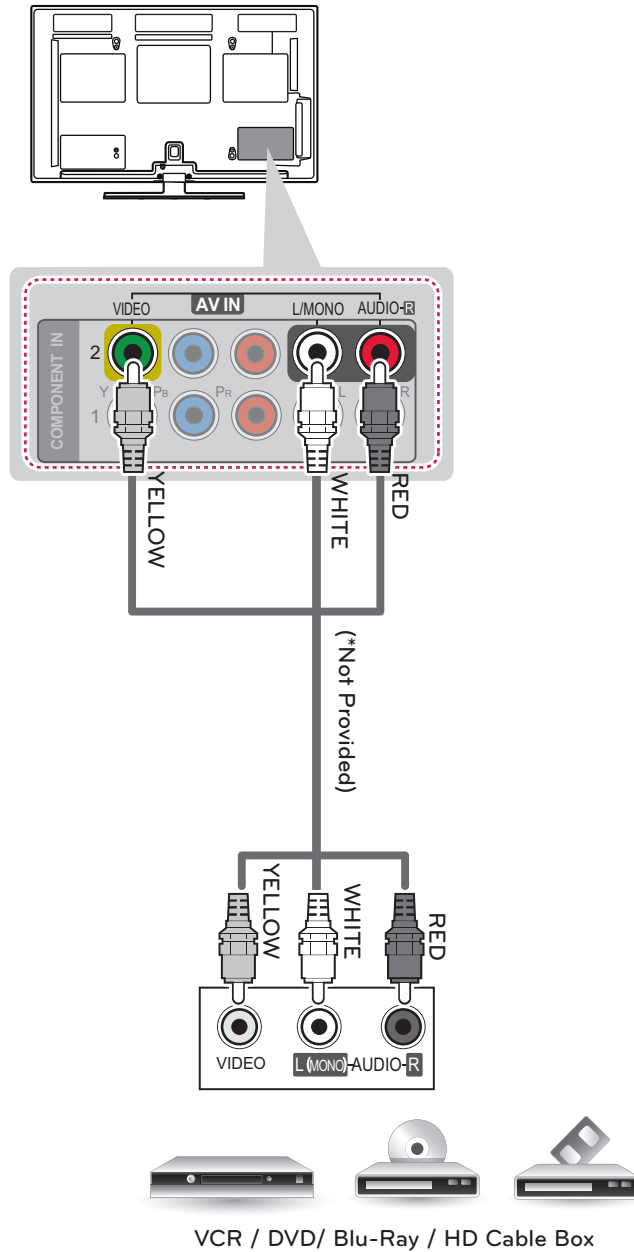
# Connecting to a PC

> **⚠ NOTE**
> - It is recommended to use the HDMI connection for the best image quality.
> - Depending on the graphics card, DOS mode video 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.
> - 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.

## HDMI Connection, DVI to HDMI Connection or RGB Connection

**Choose method A, B, or C to make connection.**

**Method A: HDMI Connection**



Choose any HDMI input port to connect.
It does not matter which port you use.

(*Not Provided)

PC

(For PM6700, PM9700 series)

ENGLISH
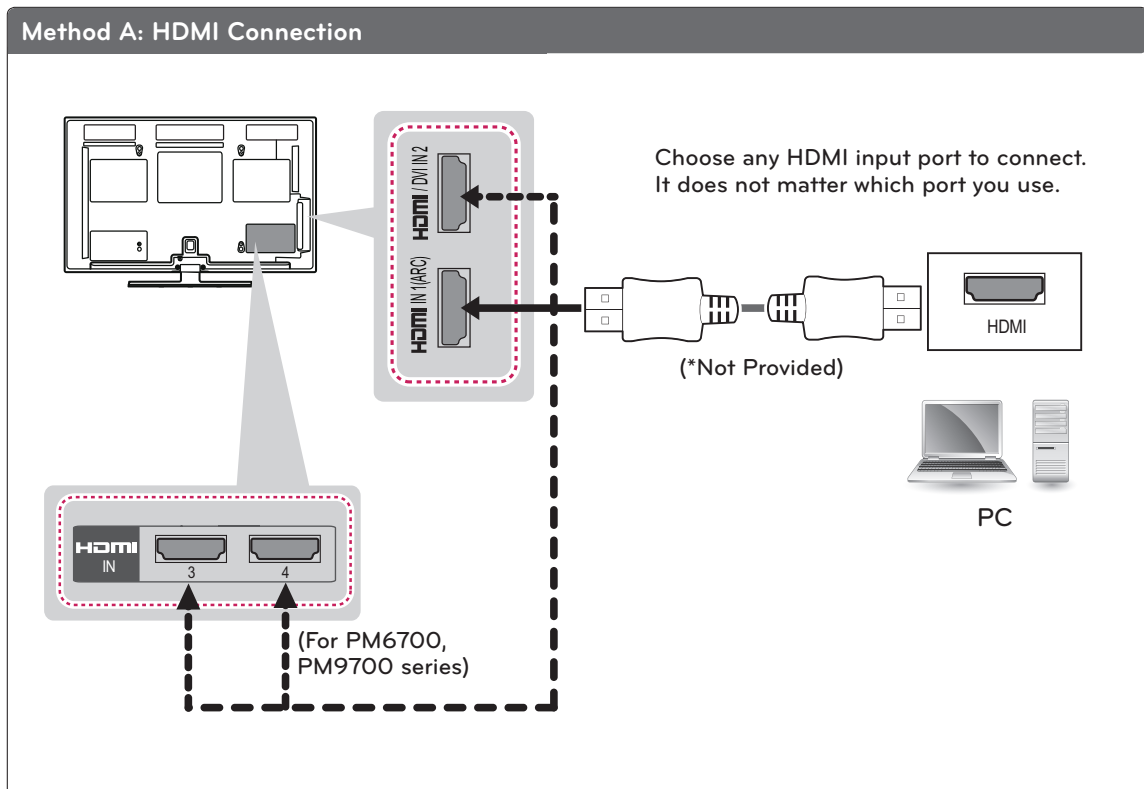
## Method B: DVI to HDMI Connection

HDMI/DVI IN 2

(*Not Provided)

AUDIO IN
(RGB/DVI)

(*Not Provided)

AUDIO OUT    DVI OUT

PC

## Method C: RGB Connection

RGB IN
(PC)

AUDIO IN
(RGB/DVI)

(*Not Provided)

(*Not Provided)

PC

AUDIO OUT    RGB OUT (PC)
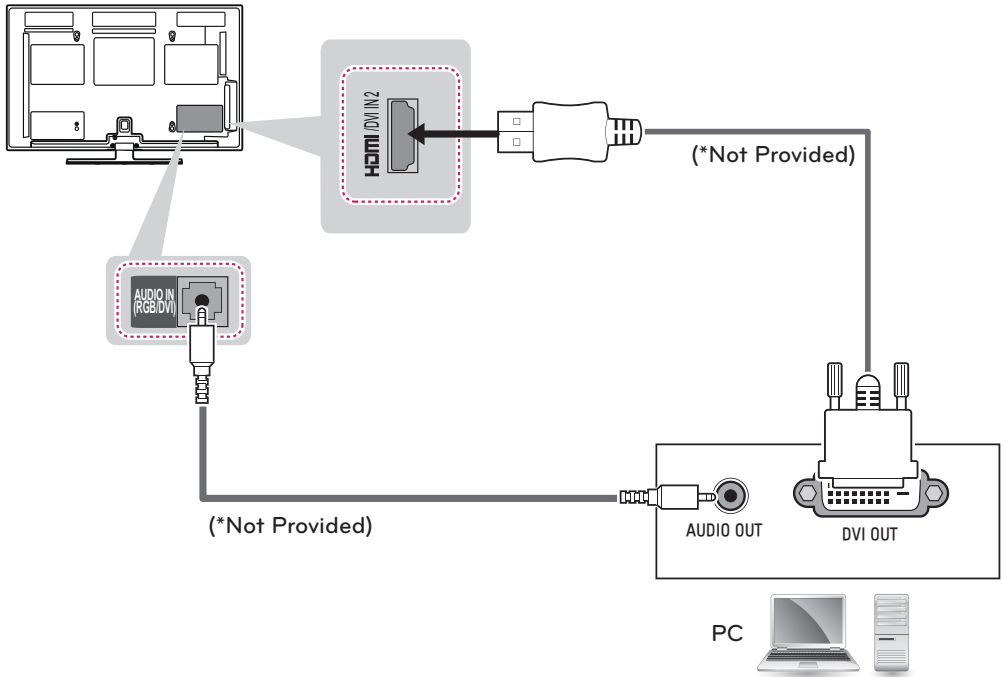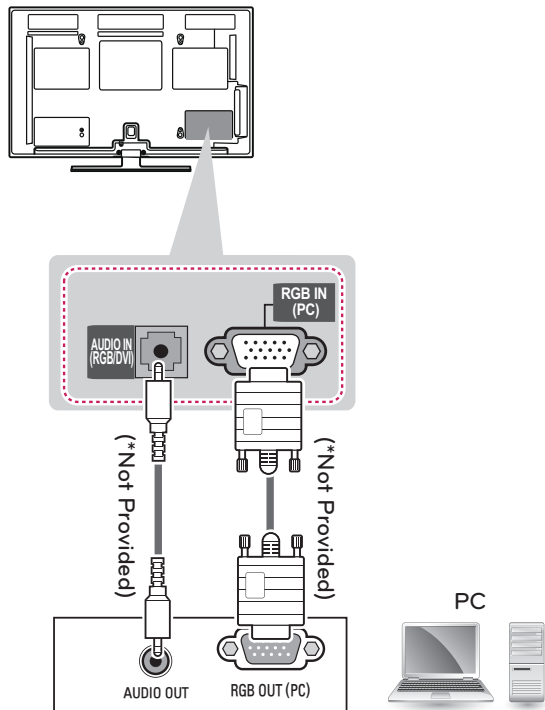
# Connecting to an Audio System

You may use an optional external audio system instead of the built-in speaker.

> **NOTE**
> - If you use an optional external audio device instead of the built-in speaker, set the TV speaker feature to off.

## Digital Optical Audio Connection

Transmits a digital audio signal from the TV to an external device. Connect the external device and the TV with the optical audio cable as shown in the following illustration.

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



**OPTICAL DIGITAL AUDIO OUT**

(*Not Provided)

OPTICAL AUDIO IN

**Digital Audio System**
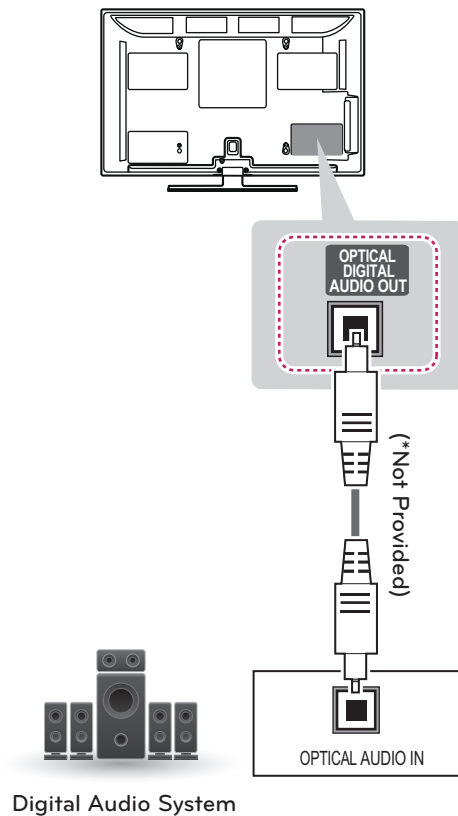
# Connecting to a USB

Connect a USB storage device such as a USB flash memory, external hard drive, or a USB memory card reader to the TV and access the Smart Share menu to use various multimedia files.

> **NOTE**
> • To store apps on a USB storage device, make sure that it is connected to the USB IN 1 port.
> • To use a USB Hub device, make sure that it is connected to the USB IN 1 port.



Choose any USB input port to connect. It does not matter which port you use.

(*Not Provided)

USB
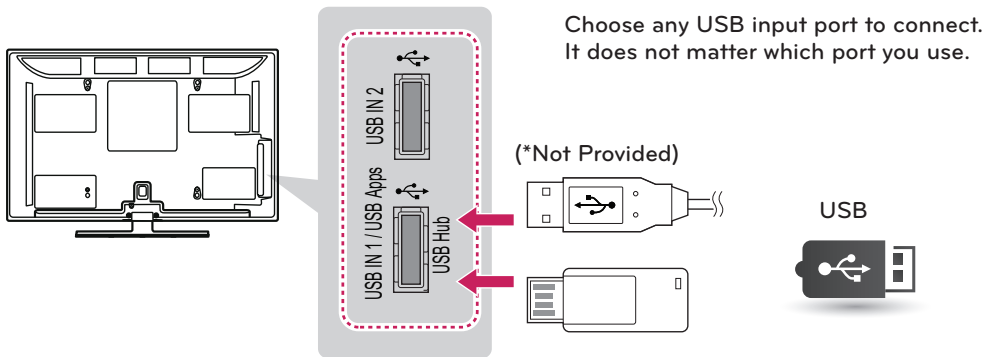
# REMOTE CONTROL

For PM4700, PM6700-UB series

The descriptions in this manual are based on the buttons on the remote control.
Please read this manual carefully and use the TV correctly.
To replace batteries, open the battery cover, replace batteries (1.5 V AAA) matching
the ⊕ and ⊖ ends to the label inside the compartment, and close the battery cover. To
remove the batteries, perform the installation actions in reverse.
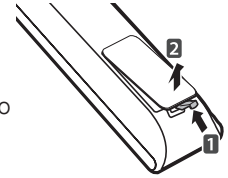
⚠ CAUTION
• Do not mix old and new batteries, as this may damage the remote control.

Make sure to point the remote control toward at the remote control sensor on the TV.

**⏻ (POWER)**
Turns the TV on or off.

**📖(User-Guide)**
Sees User-Guide.

**▭RATIO**
Resizes an image.

**⊕ INPUT**
Changes the input source; Turns the TV on.

**TV**
Returns to the last TV channel.

**Number button**
Enters numbers.

**LIST, - (Dash)**
LIST: Accesses the saved channel list.
- (Dash): Inserts a dash between numbers such as 2-1 and 2-2.

**FLASHBK**
Alternates between the two last channels selected (pressing repeatedly).

**ENGLISH**
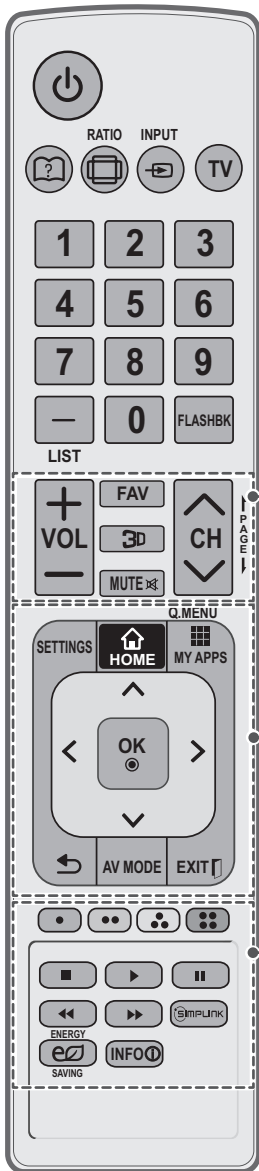
**+ VOL -**
    Adjusts the volume level.

**FAV**
    Accesses your favorite channel list.

**3D**
    Used for viewing 3D video.

**MUTE** ⊄
    Mutes all sounds.

**^ CH v, ⊦ PAGE ⊦**
    CH: Scrolls through the saved channels.
    PAGE: Moves to the previous or next screen.

**SETTINGS**
    Accesses the main menu.

**⌂ HOME**
    Accesses the HOME menu.

**▦ MY APPS**
    Shows the list of Apps.

**Q. MENU**
    Accesses the quick menu.

**Navigation buttons** (up/down/left/right)
    Scrolls through menus or options.

**OK ◉**
    Selects menus or options and confirms your input.

**⤺ (BACK)**
    Returns to the previous level.

**AV MODE**
    Selects an AV mode.

**EXIT ⌷**
    Clears all on-screen displays and returns to TV viewing.

**Color buttons**
    These access special functions in some menus.

**Control buttons**
    Controls the Premium contents, Smart Share menus, or the
    SIMPLINK compatible devices (USB,SIMPLINK).

**ⓈIMPLINK**
    Accesses the AV devices connected to the TV;
    Opens the SIMPLINK menu.

**e⌀ ENERGY SAVING**
    Adjusts the brightness of the screen to reduce energy
    consumption.

**INFO ①**
    Views the information of the current program and screen.

# Magic Remote Control Functions

## For PM9700, PM6700-UD series

When the message "Magic remote control battery is low. Change the battery." is displayed, replace the battery.

To replace batteries, open the battery cover, replace batteries (1.5 V AA) matching ⊕ and ⊖ ends to the label inside the compartment, and close the battery cover. Be sure to point the remote control at the remote control sensor on the TV.

To remove the batteries, perform the installation actions in reverse.
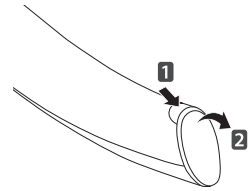
⚠ CAUTION

- Do not mix old and new batteries, as this may damage the remote control.
- Do not need RF dongle which is built in.

Make sure to point the remote control at the remote control sensor on the TV.

**Pointer (RF & Bluetooth transmitter)**
Blinks the light when operating.

**⏻ (POWER)**
Turns the TV on or off.

**↰BACK**
Returns to the previous level.

**⌂HOME**
Accesses the Home menu.

**Wheel (OK)**
Selects menus or options and confirms your input;
Scrolls through the saved channels.
If you press the navigation button while moving the pointer on the screen, the pointer disappears, and the Magic remote control works as a regular remote control.
To display the pointer again, shake the Magic remote control from side to side.

**Navigation buttons** (up/down/left/right)
Scrolls through menus or options.

**+ VOL -**
Adjusts the volume level.
**^ CH v**
Scrolls through the saved channels.
**◁ (MUTE)**
Mutes all sounds.

**3D**
Uses for viewing 3D video.

**⊞MY APPS**
Shows the list of Apps.
**Q. MENU**
Accesses the quick menu.

| | |
|---|---|
| ① | If you press the **Wheel (OK)** button on the Magic remote control, the following screen appears. Shows information about the current program and screen. |
| ② | Pressing this button will display number keypad which you can select channel number. |
| ③ | You can select My apps Menu. |

📺 11-1 Brief Info Title Test...   11:40 AM MONO  ⓘ Info.

## Registering Magic Remote Control

The Magic remote Control operates by pairing with your TV. Once you purchased the TV, please register the Magic remote control as follows;

### How to register the Magic Remote Control

| | |
|---|---|
| | To register the remote control, press the **Wheel (OK)** button on the remote control. |

### How to Re-register the Magic Remote Control after Registration Failure

| | |
|---|---|
| ↺ **BACK** ⌂ **HOME** | 1 Press and hold the **BACK** ↺ and **HOME** ⌂ buttons together for 5 seconds to reset, then register it by following "How to register the Magic remote control" above. (Once the reset is complete, the light on the Pointer blinks.) 2 To re-register the Magic remote control, press and hold the **BACK** ↺ button for 5 seconds toward the TV. (Once the reset is complete, the light on the Pointer blinks.) |

## How to use Magic Remote Control
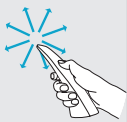
| | |
|---|---|
| | 1 If the pointer disappears, move the remote control slightly to left or right. Then, it will automatically appear on the screen. » If the pointer has not been used for a certain period of time, it will disappear. 2 You can move the pointer by aiming the Pointer Receiver of the remote control at your TV then move it left, right, up or down. » If the pointer does not work properly after clicking the **Wheel (OK)** button, leave the remote control for 10 seconds then use it again. |

## Precautions to Take when Using the Magic Remote Control

- Use the remote control within the maximum communication distance (10 m, 32.8ft). Using the remote control beyond this distance, or with an object obstructing it, may cause a communication failure.
- A communication failure may occur due to nearby devices. Electrical devices such as a microwave oven or wireless LAN product may cause interference, as these use the same bandwidth (2.4 GHz) as the Magic Remote Control.
- The Magic Remote Control may be damaged or may malfunction if it is dropped or receives a heavy impact.
- Take care not to bump into nearby furniture or other people when using the Magic Remote Control.
- Manufacturer and installer cannot provide service related to human safety as the applicable wireless device has possibility of electric wave interference.
- It is recommended that an Access Point (AP) be located more than 1 m (3.28 ft) away from the TV. If the AP is installed closer than 1 m (3.28 ft), the magic remote control may not perform as expected due to frequency interference.

# WATCHING TV

## Turning the TV on for the first time

When you turn the TV on for the first time, the Initial setting screen appears. Select a language and customize the basic settings.

1  Connect the power cord to a power outlet.

2  In Standby mode, press the power button on the remote control to turn the TV on.

   The Initial setting screen appears if you turn the TV on for the first time.

> **ⓘ NOTE**
> • You can also access **Initial Setting** by accessing **OPTION** in the main menu.

3  Follow the on-screen instructions to customize your TV settings according to your preferences.

| | |
|---|---|
| **Language Selection\*** | Selects a language to display. |
| ⇩ | |
| **Using the Magic remote control** | Sets the Magic remote contol. |
| ⇩ | |
| **Enviroment Selection** | Select **Home\*** for the home environment. |
| ⇩ | |
| **Time Zone Setting** | Selects the time zone and daylight saving. (Depending on country.) |
| ⇩ | |
| **Network Connection** | Sets your network to enable network-related features on the TV. |
| ⇩ | |
| **Auto Tuning** | Scans and saves available channels automatically. |
| ⇩ | |
| **Setting is completed.** | Confirms the setting options. |

> **ⓘ NOTE**
> • Select **Home\*** when prompted. **Store\*** mode puts the TV in demo mode.
> • If you select **Store\***, the any customized settings will switch back to the default settings of **Store\*** in 5 minutes.

4  When the basic settings are complete, press the **Wheel (OK)** button.

> **ⓘ NOTE**
> • If you do not complete the Initial setting, it will appear whenever the TV turns on.
> • Disconnect the power cord from the power outlet when you do not use the TV for a long period of time.

5  To turn the TV off, press the power button on the remote control.

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# USING THE USER GUIDE

User Guide allows you to more easily access the detailed TV information.

1 Press the **HOME** button to access the HOME menu.

2 Select User Guide and press the **Wheel (OK)** button.

User Guide



**1** Shows the current channel.

**2** Allows to select the category you want.

**3** Allows to select the item you want.
   You can use ∧/∨ to move between pages.

**4** Allows to browse the description of the function you want from the index.
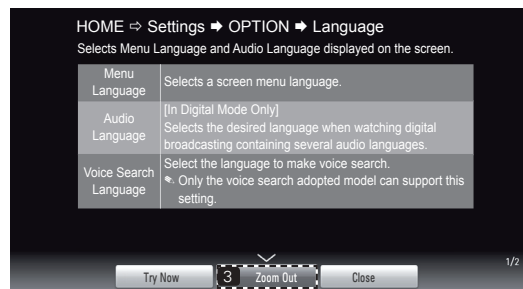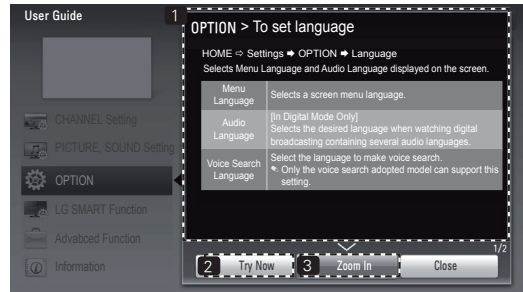
**1** Shows the description of the selected menu. You can use ∧/∨ to move between pages.

**2** Moves to the selected menu directly from the User Guide.

**3** Zooms in or out the screen.

# TROUBLESHOOTING

General

| Problem | Solution |
|---------|----------|
| Cannot control the TV with the remote control. | • Check the remote control sensor on the product and try again.<br>• Check if there is any obstacle between the product and the remote control.<br>• Check if the batteries are still working and properly installed (⊕ to ⊕, ⊖ to ⊖). |
| No image display and no sound is produced. | • Check if the product is turned on.<br>• Check if the power cord is connected to a wall outlet.<br>• Check if there is a problem in the wall outlet by connecting other products. |
| The TV turns off suddenly. | • Check the power control settings. The power supply may be interrupted.<br>• Check if the Auto sleep feature is activated in the Time settings.<br>• If there is no signal while the TV is on, the TV will turn off automatically after 15 minutes of inactivity. |
| When connecting to the PC (RGB/ HDMI DVI) 'No Signal' or 'Invalid Format' is displayed. | • Turn the TV off/on.<br>• Reconnect the RGB/HDMI cable.<br>• Restart the PC with the TV on. |

# EXTERNAL CONTROL DEVICE SETUP

To obtain the external control device setup information, please visit www.lg.com.

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# SPECIFICATIONS

Product specifications may be changed without prior notice due to upgrade of product functions.

| | |
|---|---|
| Power requirement | AC 100 - 240 V ~ 50 / 60 Hz |
| Television System | NTSC-M, ATSC, 64 & 256 QAM |
| Program Coverage | VHF 2-13, UHF 14-69, CATV 1-135, DTV 2-69, CADTV 1-135 |
| External Antenna Impedance | 75 Ω |
| Environment condition | Operating Temperature | 0 - 40 °C |
| | Operating Humidity | Less than 80 % |
| | Storage Temperature | -20 - 60 °C |
| | Storage Humidity | Less than 85 % |

| MODELS | | 42PM4700 (42PM4700-UB) | 50PM4700 (50PM4700-UB) |
|---|---|---|---|
| Dimensions (Width x Height x Depth) | With stand | 983.6 mm x 655.0 mm x 246.7 mm (38.7 inch x 25.7 inch x 9.7 inch) | 1168.0 mm x 758.0 mm x 297.0 mm (45.9 inch x 29.8 inch x 11.6 inch) |
| | Without stand | 983.6 mm x 601.3 mm x 58.0 mm (38.7 inch x 23.6 inch x 2.2 inch) | 1168.0 mm x 704.0 mm x 53.0 mm (45.9 inch x 27.7 inch x 2.0 inch) |
| Weight | With stand | 20.6 kg (45.4 lbs) | 28.2 kg (62.1 lbs) |
| | Without stand | 19.0 kg (41.8 lbs) | 25.8 kg (56.8 lbs) |
| Current Value / Power consumption | | 2.3 A / 230 W | 3.0 A / 300 W |

| MODELS | | 50PM6700 (50PM6700-UB) | 60PM6700 (60PM6700-UB) |
|---|---|---|---|
| Dimensions (Width x Height x Depth) | With stand | 1168.0 mm x 758.0 mm x 297.0 mm (45.9 inch x 29.8 inch x 11.6 inch) | 1386.8 mm x 883.2 mm x 354.7 mm (54.5 inch x 34.7 inch x 13.9 inch) |
| | Without stand | 1168.0 mm x 704.0 mm x 53.0 mm (45.9 inch x 27.7 inch x 2.0 inch) | 1386.8 mm x 818.2 mm x 53.0 mm (54.5 inch x 32.2 inch x 2.0 inch) |
| Weight | With stand | 28.8 kg (64.3 lbs) | 40.6 kg (89.5 lbs) |
| | Without stand | 26.4 kg (58.2 lbs) | 36.4 kg (80.2 lbs) |
| Current Value / Power consumption | | 3.2 A / 320 W | 4.6 A / 460 W |

| MODELS | | 50PM6700 (50PM6700-UD) | 60PM6700 (60PM6700-UD) |
|---|---|---|---|
| Dimensions (Width x Height x Depth) | With stand | 1168.0 mm x 768.0 mm x 297.0 mm (45.9 inch x 30.2 inch x 11.6 inch) | 1386.8 mm x 906.0 mm x 346.0 mm (54.5 inch x 35.6 inch x 13.6 inch) |
| | Without stand | 1168.0 mm x 704.0 mm x 53.0 mm (45.9 inch x 27.7 inch x 2.0 inch) | 1386.8 mm x 818.2 mm x 53.0 mm (54.5 inch x 32.2 inch x 2.0 inch) |
| Weight | With stand | 28.1 kg (61.9 lbs) | 39.8 kg (87.7 lbs) |
| | Without stand | 26.4 kg (58.2 lbs) | 36.4 kg (80.2 lbs) |
| Current Value / Power consumption | | 3.2 A / 320 W | 4.6 A / 460 W |

| MODELS | | 50PM9700<br>(50PM9700-UA) | 60PM9700<br>(60PM9700-UA) |
|---|---|---|---|
| Dimensions<br>(Width x Height x Depth) | With stand | 1168.0 mm x 765.0 mm x 297.0 mm<br>(45.9 inch x 30.1 inch x 11.6 inch) | 1386.8 mm x 897.0 mm x 346.0 mm<br>(54.5 inch x 35.3 inch x 13.6 inch) |
| | Without stand | 1168.0 mm x 701.0 mm x 53.4 mm<br>(45.9 inch x 27.5 inch x 2.1 inch) | 1386.8 mm x 827.2 mm x 53.4 mm<br>(54.5 inch x 32.5 inch x 2.1 inch) |
| Weight | With stand | 28.2 kg (62.1 lbs) | 40.2 kg (88.6 lbs) |
| | Without stand | 26.5 kg (58.4 lbs) | 36.8 kg (81.1 lbs) |
| Current Value / Power consumption | | 3.2 A / 320 W | 4.6 A / 460 W |

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**3D supported mode**

- Media contents and a player need to support HDMI 3D Frame Packing, HDMI 3D Side by Side, HDMI 3D Top & Bottom to play in 3D.
- Video, which is input as HDMI,USB,DLNA, is switched into the 3D screen automatically. (This funtion does not support all of the 3D video format. The specific 3D video format is not switched into the 3D screen automatically.)
- 2D -> 3D mode is available to watch for all signals.
- For models supporting WiDi, you can set the 3D mode in the same way as in RGB (PC) mode.

| Input | Signal | Resolution | Horizontal Frequency (kHz) | Vertical Frequency (Hz) | Playable 3D video format |
|-------|--------|------------|----------------------------|-------------------------|--------------------------|
| HDMI-DTV | 480p | 640X480 | 62.938 / 63 | 59.94/ 60 | Frame packing, Line alternative |
| | | 720X480 | | | |
| | | 640X480 | 31.469 / 31.5 | | Side-by-side(Full), Top-and-Bottom, Side-by-side(half) |
| | | 720X480 | | | |
| | 720p | 1280X720 | 89.91/90 | 59.94 / 60 | Frame packing, Line alternative |
| | | | 44.96 / 45 | 59.94 / 60 | Side-by-side(Full), Top-and-Bottom Side-by-side(half), Single Frame Sequential |
| | 1080i | 1920X1080 | 67.432 / 67.5 | 59.94 / 60 | Frame packing, Field alternative |
| | | | 33.72 / 33.75 | 59.94 / 60 | Side-by-side(Full), Top-and-Bottom, Side-by-side(half) |
| | 1080p | 1920X1080 | 53.946 / 54 | 23.97 / 24 | Frame packing, Line alternative |
| | | | 67.432/67.5 | 29.976 / 30 | |
| | | | 26.97 / 27 | 23.97 / 24 | Side-by-side(Full), Top-and-Bottom, Side-by-side(half), Checkerboard |
| | | | 33.716 / 33.75 | 29.976 / 30.00 | |
| | | | 67.43 / 67.5 | 59.94 / 60 | Top-and-Bottom, Side-by-side(half), Checkerboard, Single Frame Sequential, Row Interleaving, Column Interleaving |
| HDMI-PC | | 1024x768 | 48.363 | 60.004 | Side by Side(Half), Top & Bottom |
| | | 1360x768 | 47.712 | 60.015 | Side by Side(Half), Top & Bottom |
| | | 1920x1080 | 67.50 | 60.00 | Side by Side(Half), Top & Bottom Checkerboard, Single Frame Sequential Row Interleaving, Column Interleaving |
| RGB-PC | | 1024x768 | 48.363 | 60.004 | Side by Side(Half), Top & Bottom |
| | | 1360x768 | 47.712 | 60.015 | Side by Side(Half), Top & Bottom |
| | | 1920x1080 | 67.50 | 60.00 | Side by Side(Half), Top & Bottom |
| Component | 720p | 1280X720 | 44.96 / 45 | 59.94 / 60 | Side by Side, Top & Bottom |
| | 1080i | 1920X1080 | 33.72 / 33.75 | 59.94 / 60 | |
| USB | 1080p | 1920X1080 | 33.75 | 30 | Side by Side, Top & Bottom, Checker Board, Single Frame Sequential, Row Interleaving, Column Interleaving, MPO(Photo), JPS(Photo) (Photo : Side by Side(half), Top & Bottom) |
| DLNA | 1080p | 1920X1080 | 33.75 | 30 | Side by Side, Top & Bottom, Checker Board, Single Frame Sequential, Row Interleaving, Column Interleaving, MPO(Photo), JPS(Photo) (Photo : Side by Side(half), Top & Bottom) |

| Input | Signal | Playable 3D video format |
|-------|--------|--------------------------|
| DTV | 720p, 1080i | Side by Side, Top & Bottom |

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### HDMI/DVI-DTV supported mode

| Resolution | Horizontal Frequency (kHz) | Vertical Frequency (Hz) |
|---|---|---|
| 720x480 | 31.469<br>31.5 | 59.94<br>60 |
| 1280x720 | 44.96<br>45 | 59.94<br>60 |
| 1920x1080 | 33.72<br>33.75<br>26.97<br>27<br>33.716<br>33.75<br>67.43<br>67.5 | 59.94<br>60<br>23.97<br>24<br>29.976<br>30.00<br>59.94<br>60 |

### Component port connecting information

| Component ports on the TV | Y | P$_B$ | P$_R$ |
|---|---|---|---|

| Video output ports on DVD player | Y | P$_B$ | P$_R$ |
|---|---|---|---|
| | Y | B-Y | R-Y |
| | Y | Cb | Cr |
| | Y | Pb | Pr |

| Signal | Component |
|---|---|
| 480i | O |
| 480p | O |
| 720p/1080i | O |
| 1080p | O<br>(60 Hz only) |

### Wireless LAN module(TWFM-B003D) specification

| Standard | IEEE802.11a/b/g/n |
|---|---|
| Frequency Range | 2400 to 2483.5 MHz<br>5150 to 5250 MHz<br>5725 to 5850 MHz |
| Modulation | CCK / OFDM / MIMO |
| Output Power (Typical) | 802.11a: 15 dBm<br>802.11b: 14 dBm<br>802.11g: 17 dBm<br>802.11n - 2.4GHz: 17 dBm<br>802.11n - 5GHz: 15 dBm |
| Data rate | 802.11a/g: 54 Mbps<br>802.11b: 11 Mbps<br>802.11n: 300 Mbps |
| Antenna Gain (Typical) | 2400 to 2483.5 MHz: -2.5 dBi<br>5150 to 5250 MHz: -2.2 dBi<br>5725 to 5850 MHz: -2.9 dBi |
| Occupied bandwidth | 802.11a/b/g: HT20<br>802.11n: HT20/40 |

Because band channel used by the country could be different, the user can not change or adjust the operating frequency and this product is set for the regional frequency table.

- FCC ID of Wi-Fi module inside TV
  FCC ID: BEJTWFM-B003D

### Bluetooth module (BM-LDS302) specification

| Standard | Bluetooth Version 3.0 |
|---|---|
| Frequency Range | 2400 ~ 2483.5 MHz |
| Output Power (Max.) | 10 dBm or lower |
| Data rate (Max.) | 3 Mbps |
| Communication Distance | Line of Open Sight approx. 10 m |

- FCC ID of Bluetooth module inside TV
  FCC ID: BEJLDS302

**ENGLISH**

# MAINTENANCE

## Cleaning Your TV

Clean your TV regularly to keep the best performance and to extend the product lifespan.

> ⚠ CAUTION
>
> • Make sure to turn the power off and disconnect the power cord and all other cables first.
> • When the TV is left unattended and unused for a long time, disconnect the power cord from the wall outlet to prevent possible damage from lightning or power surges.

### Screen, frame, Cabinet and stand

To remove dust or light dirt, wipe the surface with a dry, clean, and soft cloth.
To remove major dirt, wipe the surface with a soft cloth dampened in clean water or a diluted mild detergent. Then wipe immediately with a dry cloth.

> ⚠ CAUTION
>
> • Do not push, rub, or hit the surface with your fingernail or a sharp object, as this may result in scratches on the screen and image distortions.
> • Do not use any chemicals, such as waxes, benzene, alcohol, thinners, insecticides, air fresheners, lubricants, as these may damage the screen's finish and cause discoloration.
> • Do not spray liquid onto the surface. If water enters the TV, it may result in fire, electric shock, or malfunction.

### Power cord

Remove the accumulated dust or dirt on the power cord regularly.

**Congratulations on your purchase! As you enjoy your new product, please keep these safety tips in mind:**

### THE ISSUE

- The home theater entertainment experience is a growing trend and larger flat panel displays are popular purchases. However, flat panel displays are not always supported on the proper stands or installed according to the manufacturer's recommendations.
- Flat panel displays that are inappropriately situated on dressers, bookcases, shelves, desks, speakers, chests or carts may fall over and cause injury.

### THIS MANUFACURER CARES!

- The consumer electronics industry is committed to making home entertainment enjoyable and safe.

### TUNE INTO SAFETY

- One size does NOT fit all. Follow the manufacturer's recommendations for the safe installation and use of your flat panel display.
- Carefully read and understand all enclosed instructions for proper use of this product.
- Don't allow children to climb on or play with furniture and television sets.
- Don't allow place flat panel displays on furniture that can easily be used as steps, such as a chest of drawers.
- Remember that children can become excited while watching a program, especially on a "larger than life" flat panel display. Care should be taken to place or install the display where it cannot be pushed, pulled over, or knocked down.
- Care should be taken to route all cords and cables connected to the flat panel display so that they cannot be pulled or grabbed by curious children.

### WALL MOUNTING: IF YOU DECIDE TO WALL MOUNT YOUR FLAT PANEL DISPLAY, ALWAYS:

- Use a mount that has been recommended by the display manufacturer and/or listed by an independent laboratory (such as UL, CSA, ETL).
- Follow all instructions supplied by the display and wall mount manufacturers.
- If you have any doubts about your ability to safely install your flat panel display, contact your retailer about professional installation.
- Make sure that the wall where you are mounting the display is appropriate. Some wall mounts are not designed to be mounted to walls with steel studs or old cinder block construction. If you are unsure, contact a professional installer.
- A minimum of two people are required for installation. Flat panel displays can be heavy

**CEA**
Consumer Electronics Association

**www.CE.org/safety**

# LG

**Life's Good**

The model and serial number of the TV is located on the back and/or one side of the TV. Record it below should you ever need service.

MODEL _____

SERIAL _____

(For PM4700 series/50PM6700/50PM9700 USA, Canada, Mexico)

![LG Life's Good]

OWNER'S MANUAL

# EXTERNAL CONTROL DEVICE SETUP

Please read this manual carefully before operating your set and retain it for future reference.

# IR CODES

(Depending on model)

## How to Connect

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

## Remote Control IR Codes

### Output waveform

Single pulse, modulated with 37.917kHz signal at 455kHz
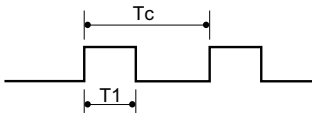


### Frame configuration

1st frame
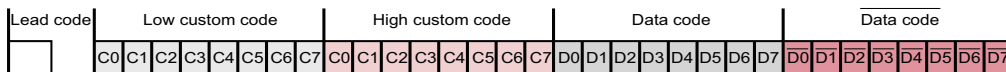


Repeat frame
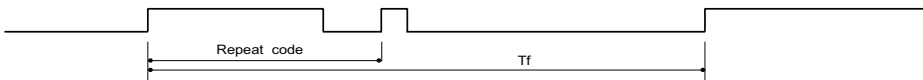


### Lead code
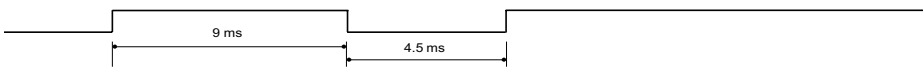


### Repeat code
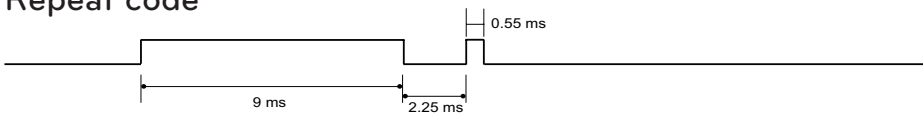


### Bit description
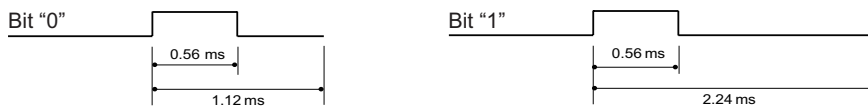


### Frame interval: Tf

The waveform is transmitted as long as a key is depressed.
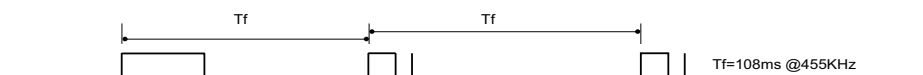
| Code (Hexa) | Function | Note | Code (Hexa) | Function | Note |
|---|---|---|---|---|---|
| 08 | ⏻ (POWER) | Remote control Button (Power On/Off) | 0F | TV | Remote control Button |
| | | | DC | 3D | Remote control Button |
| 42 | Q.MENU/MY APPS | Remote control Button | 5B | EXIT | Remote control Button |
| 43 | SETTINGS | Remote control Button | 7C | HOME | Remote control Button |
| 0B | INPUT | Remote control Button | 7A | 📖(User-Guide) | Remote control Button |
| 10 - 19 | Number Key 0-9 | Remote control Button | | | |
| 4C | - (Dash)/LIST | Remote control Button | D6 | TV | Discrete IR Code (TV Input Selection) |
| 1A | FLASHBK | Remote control Button | | | |
| 09 | MUTE | Remote control Button | C4 | POWER ON | Discrete IR Code (Only Power Off) |
| 02 | VOL + | Remote control Button | | | |
| 03 | VOL - | Remote control Button | C5 | POWER OFF | Discrete IR Code (Only Power Off) |
| 00 | CH ⋀ | Remote control Button | | | |
| 01 | CH ⋁ | Remote control Button | 5A | AV | Discrete IR Code (AV Input Selection) |
| 1E | FAV/MARK | Remote control Button | | | |
| 40 | ⋀ | Remote control Button | BF | COMPONENT1 | Discrete IR Code (Component1 Input Selection) |
| 41 | ⋁ | Remote control Button | | | |
| 07 | < | Remote control Button | D4 | COMPONENT2 | Discrete IR Code (Component2 Input Selection) |
| 06 | > | Remote control Button | | | |
| 44 | OK | Remote control Button | D5 | RGB-PC | Discrete IR Code (RGB-PC Input Selection) |
| 28 | ↰ (BACK) | Remote control Button | | | |
| 79 | RATIO | Remote control Button | CE | HDMI1 | Discrete IR Code (HDMI1 Input Selection) |
| BA | ⏸ (FREEZE) | Remote control Button | | | |
| 95 | ENERGY SAVING | Remote control Button | CC | HDMI2 | Discrete IR Code (HDMI2 Input Selection) |
| 7E | SIMPLINK | Remote control Button | | | |
| AA | INFO | Remote control Button | E9 | HDMI3 | Discrete IR Code (HDMI3 Input Selection) |
| 30 | AV MODE | Remote control Button | | | |
| 72 | RED | Remote control Button | DA | HDMI4 | Discrete IR Code (HDMI4 Input Selection) |
| 71 | GREEN | Remote control Button | | | |
| 63 | YELLOW | Remote control Button | 76 | Ratio 4:3 | Discrete IR Code (Only 4:3 Mode) |
| 61 | BLUE | Remote control Button | | | |
| B1 | ■ | Remote control Button | 77 | Ratio 16:9 | Discrete IR Code (Only 16:9 Mode) |
| B0 | ▶ | Remote control Button | | | |
| BA | ⏸ | Remote control Button | AF | Ratio Cinema Zoom | Discrete IR Code (Only Cinema Zoom Mode) |
| 8E | ▶▶ | Remote control Button | | | |
| 8F | ◀◀ | Remote control Button | | | |

• Use the feature depending on your model.

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# EXTERNAL CONTROL DEVICE SETUP

## RS-232C Setup

Connect the RS-232C (serial port) input jack to an external control device (such as a computer or an A/V control system) to control the product's functions externally.
Connect the serial port of the control device to the RS-232C jack on the product back panel.

> **NOTE**
> • RS-232C on this TV 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 connection cables are not supplied with the product.

## Type of connector; D-Sub 9-Pin Male
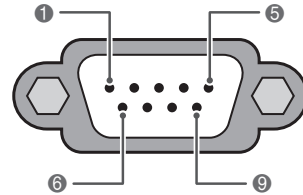
RS-232C IN
(CONTROL & SERVICE)

| 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 |

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# RS-232C configurations

7-Wire Configuration
(Serial female-female NULL modem cable)

|  | PC |  |  | TV |  |
|---|---|---|---|---|---|
| RXD | 2 | ●————● | 3 | TXD |
| TXD | 3 | ●————● | 2 | RXD |
| GND | 5 | ●————● | 5 | GND |
| DTR | 4 | ●————● | 6 | DSR |
| DSR | 6 | ●————● | 4 | DTR |
| RTS | 7 | ●————● | 8 | CTS |
| CTS | 8 | ●————● | 7 | RTS |

D-Sub 9            D-Sub 9
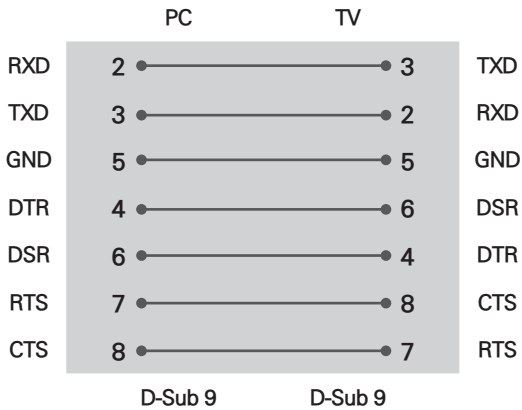
3-Wire Configurations(Not standard)

|  | PC |  |  | TV |  |
|---|---|---|---|---|---|
| RXD | 2 | ●————● | 3 | TXD |
| TXD | 3 | ●————● | 2 | RXD |
| GND | 5 | ●————● | 5 | GND |
| DTR | 4 | | 6 | DSR |
| DSR | 6 | | 4 | DTR |
| RTS | 7 | | 8 | CTS |
| CTS | 8 | | 7 | RTS |

D-Sub 9            D-Sub 9

Set ID

Set ID number.

```
┌─────────────────────────────────┐
│ ⌖  OPTION                    [X] │
├──┬──────────────────────────────┤
│🌐│           ∧                  │
│🖥│ • Language                    │
│◉ │ • Caption          : Off      │
│⏱ │ • ISM Method       : Normal   │
│◉ │ • Pointer                     │
│📺│ • Balloon Help     : On       │
│  │ • Initial Setting             │
│🗨│ • Set ID           : 1        │
│⑦ │           ∨                  │
└──┴──────────────────────────────┘
```
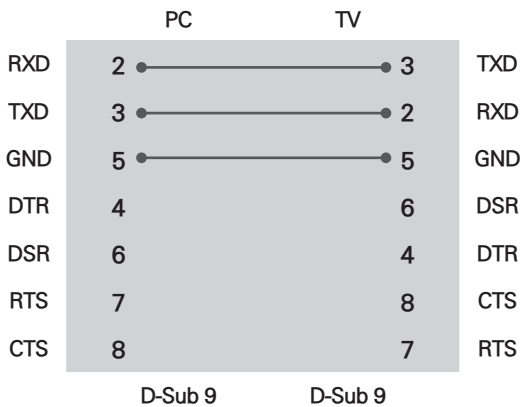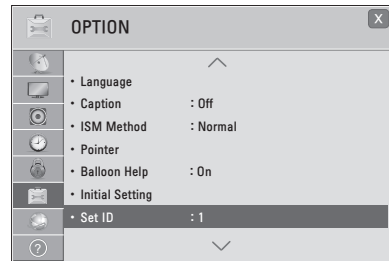
1  Press **SETTINGS** to access the main menu.

2  Press the Navigation buttons to scroll to **SETUP** and press **OK**.

3  Press the Navigation buttons to scroll to **OPTION** and press **OK**.

4  Press the Navigation buttons to scroll to **Set ID** and press **OK**.

5  Scroll left or right to select a set ID number and select **CLOSE**. The adjustment range is 1-99.

6  When you are finished, press **EXIT**.

```
┌─────────────────────────────────┐
│ *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                   │
│                                 │
└─────────────────────────────────┘
```

**ENGLISH**

## 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.

## Command reference list

|  | COMMAND1 | COMMAND2 | DATA (Hexadecimal) |  | COMMAND1 | COMMAND2 | DATA (Hexadecimal) |
|---|---|---|---|---|---|---|---|
| 01. Power | k | a | 00 - 01 | 14. Balance | k | t | 00 - 64 |
| 02. Input Select | x | b | (See p.8) | 15. 3D (For 3D TV) | x | t | (See p.9) |
| 03. Aspect Ratio | k | c | (See p.8) | 16. Color Temperature | x | u | 00 - 64 |
| 04. Screen Mute | k | d | 00 - 01 | 17. Extended 3D (For 3D TV) | x | v | (See p.9) |
| 05. Volume Mute | k | e | 00 - 01 | 18. ISM Method | j | p | (See p.9) |
| 06. Volume Control | k | f | 00 - 64 | 19. Energy Saving | j | q | (See p.9) |
| 07. Contrast | k | g | 00 - 64 | 20. Auto Configuration | j | u | (See p.10) |
| 08. Brightness | k | h | 00 - 64 | 22. Channel Add/Del | m | b | 00 - 01 |
| 09. Color | k | i | 00 - 64 | 23. Key | m | c | (See p.10) |
| 10. Tint | k | j | 00 - 64 |  |  |  |  |
| 11. Sharpness | k | k | 00 - 32 |  |  |  |  |
| 12. OSD Select | k | l | 00 - 01 |  |  |  |  |
| 13. Remote Control Lock Mode | k | m | 00 - 01 |  |  |  |  |

|  | COMMAND1 | COMMAND2 | DATA00 (Hexadecimal) | DATA01 (Hexadecimal) | DATA02 (Hexadecimal) | DATA03 (Hexadecimal) | DATA04 (Hexadecimal) | DATA05 (Hexadecimal) |
|---|---|---|---|---|---|---|---|---|
| 21. Channel Tuning | m | a | physical program high | major program low | major low | minor high | minor low | attribute |

# Transmission / Receiving protocol

## Transmission

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

[Command 1] : First command to control the set.(j, k, m or x)
[Command 2] : Second command to control the set.
[Set ID] : You can adjust the set ID to choose desired set ID number in Option menu. Adjustment range is 1~ 99. When selecting Set ID '0', every connected the set is controlled. Set ID is indicated as decimal (1~ 99) on menu and as Hexa decimal (0x0~ 0x63) on transmission /receiving protocol.
[DATA] : To transmit the command data.
Transmit the 'FF' data to read status of command.
[Cr] : Carriage Return
ASCII code '0x0D'
[ ] : ASCII code 'space (0x20)'
* In this model, set will not send the status during the standby mode.

## OK Acknowledgement

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

The set transmits ACK (acknowledgement) based on this format when receiving normal data. At this time, if the data is data read mode, it indicates present status data. If the data is data write mode, it returns the data of the PC computer.
* In this model, set will not send the status during the standby mode.
* Data Format
[Command 2] : Use as command.
[Set ID] : Use the small character, if set ID is 10, it will send the '0', 'a'.
[DATA] : Use the small character, if data is 0 x ab, it will send the 'a', 'b'.
[OK] : Use the large character.

## Error Acknowledgement

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

The set transmits ACK (acknowledgement) based on this format when receiving abnormal data from non-viable functions or communication errors.
Data01: Illegal Code
Data02: Not supported function
Data03: Wait more time
* In this model, set will not send the status during the standby mode.
* Data Format
[Command 2] : Use as command.
[Set ID] : Use the small character, if set ID is 10, it will send the '0', 'a'.
[DATA] : Use the small character, if data is 0 x ab, it will send the 'a', 'b'.
[NG] : Use the large character

ENGLISH

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

To control Power On/Off of the set.

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, set 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 set.

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 or AV1  Data 21: AV2
Data 40: Component1         Data 41: Component2
Data 42: Component3         Data 60: RGB-PC
Data 90: HDMI1    Data 91: HDMI2
Data 92: HDMI3    Data 93: HDMI4

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

* Use the feature depending on your model.

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

To adjust the screen format.

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

Data 01: 4:3              Data 09: Just scan
Data 02: 16:9            Data 10: Cinema Zoom 1
Data 04: Zoom
Data 06: Set by program        ⋮
                         Data 1F: Cinema Zoom16

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

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

To select screen mute on/off.

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

Data 00: Screen mute off (Picture on), Video-out Mute off
Data 01: Screen mute on (Picture off)
Data 10: Video-out Mute on

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

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

### 05. Volume Mute (Command: k e)

To control volume mute on/off.
You can also adjust mute using the MUTE button on
remote control.

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

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

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

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

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

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

Data Min: 00 ~ Max: 64 (*transmit by Hexadecimal code)
*Refer to "Real data mapping".

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: 32 (*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 Monitor set, use this mode. When main power is on/off, remote control lock is released.
If Key Lock is on in the standby mode, TV will not turn on by POWER button of remote control and on the TV.

### 14. 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".

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

### 15. 3D (Command: x t) (For 3D TV)
To change 3D mode for TV.

Transmission [x][t][ ][Set ID][ ][Data01]

[ ][Data02][ ][Data03][ ][Data04][Cr]

Data1
   00: 3D On              01: 3D Off
   02: 3D to 2D           03: 2D to 3D
Data2
   00: Top and Bottom     01: Side by Side
   02: Check Board        03: Single Frame Sequential
   04: Column interleaving 05: Row interleaving
Data3
   00: Right to Left      01: Left to Right
Data4
   3D Depth: Min : 00 ~ Max : 14
   (*transmit by Hexadecimal code)
*If data1 is 01(3D Off) , data2 , data3 , data4 have no meaning.
*If data1 is 02(3D to 2D), data2, data3 and data4 have no meaning.
*If data1 is 03(2D to 3D), data2 and data3 have no meaning.

| Data 01 | Data 02 | Data 03 | Data 04 |
|---------|---------|---------|---------|
| 00 | o | o | x |
| 01 | x | x | x |
| 02 | x | x | x |
| 03 | x | x | o |

x : Don't care

Acknowledgement [t][ ][OK][Data01][Data02]
[Data03][Data04][x][t][ ][NG][Data01][x]

### 16. Color Temperature (Command: x u)
To adjust color temperature.
You can also adjust color temperature in the PICTURE menu.

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

Data Min: 00 ~ Max: 64 (*transmit by Hexadecimal code)
*Refer to "Real data mapping".

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

### 17. Extended 3D (Command: x v) (For 3D TV)
To change 3D option for TV. Use the feature depending on your model.

Transmission [x][v][ ][Set ID][ ][Data01][ ][Data02][Cr]

Data1: 3D option
   00: 3D Picture Correction
   01: 3D Depth
   02: 3D Viewpoint
   07: 3D Sound Zooming
   08: Normal Image View
   09: 3D Mode
Data2: It has own range for each 3D option determined by Data1.
1) When Data1 is 00
   00: Right to Left       01: Left to Right
2) When Data1 is 01
Data Min: 00 ~ Max: 14 (*transmit by Hexadecimal code)
3) When Data1 is 02
Data Min: 00 ~ Max: 14 (*transmit by Hexadecimal code)
4) When Data1 is 07
   00: Off                 01: On
5) When Data1 is 08
   00: Off                 01: On
6) When Data1 is 09
   00: Standard            01: Sports
   02: Cinema              03: Extreme
   04: Manual

Acknowledgement [v][ ][OK][Data01][Data02][x]
[v][ ][NG][Data01][x]

* Use the feature depending on your model.

### 18. ISM Method (Command: j p)
To avoid having a fixed image remain on screen.

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

Data 02: Orbiter
   08: Normal
   20: Color Wash

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

### 19. Energy Saving (Command: j q)
To control the energy saving function.

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

Data 00: off

01: Minimum
02: Medium
03: Maximum
04: Intelligent Sensor
05: Screen off

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

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

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

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

Data 01: To set

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

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

To tune channel to following physical/major/minor number.
(This feature is not available for all models.)

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.
The table 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

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

To add and delete the channels.

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

Data 00: Channel Delete Data 01: Channel Add

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

### 23. Key (Command: m c)

To send IR remote key code.

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

See page 3.

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

When TV is in the standby mode, TV will turn on by POWER button of remote control only.

* Table List (Channel Tuning)

| 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 |