

OWNER'S MANUAL

MONITOR SIGNAGE

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

MONITOR SIGNAGE MODELS

M4720C

M5520C

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Accessories

Included Accessories

Thank you for your purchase. Check to make sure that the accessories shown immediately below have been included with your set.

❖ Note that the accessories may look different from those shown here.



Remote Control / Batteries



D-Sub Signal Cable



Power Cable



CD-ROM / Cards

Separately Purchased Accessories

Optional accessories are subject to change without prior notice to improve the performance of the set. New optional accessories may be added periodically.

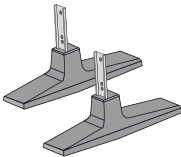
❖ Optional accessories (purchased separately) may vary depending on the model.

❖ Note that optional accessories may look different from those shown here.

Stand Kit

❖ Applicable only for models that support stand.

< M4720C >

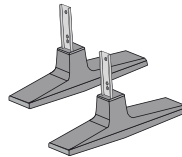


Stand (2)



Screws (4)

< M5520C >



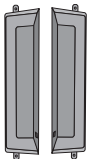
Stand (2)



Screws (2)

Speaker Kit

❖ Applicable only for models that support the speakers.



Speaker(2)



Screws (4) / Cable (2)

Cable holder/Cable tie



They may not be available in some areas or for some models.

Connecting the Stand

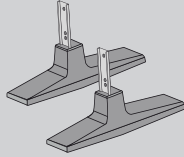
- Only on some models.

M4720C

1. Take the parts for the stand out of the box and assemble them as shown in the picture.

Parts

First, check if the following parts are all present.

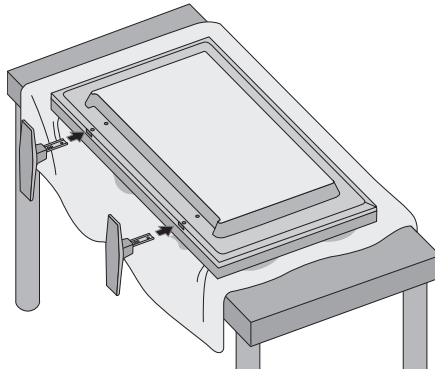


Stand (2)

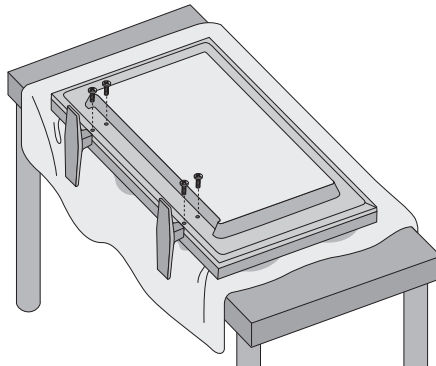


Screws (4)

2. Place a soft cloth on a table and place the set screen side down upon the table. Connect the stand as shown below.



3. Use the screws to secure the stand on the rear side of the set as shown below.



Connecting the Stand

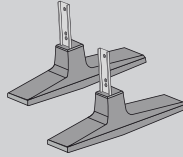
- Only on some models.

M5520C

1. Take the parts for the stand out of the box and assemble them as shown in the picture.

Parts

First, check if the following parts are all present.

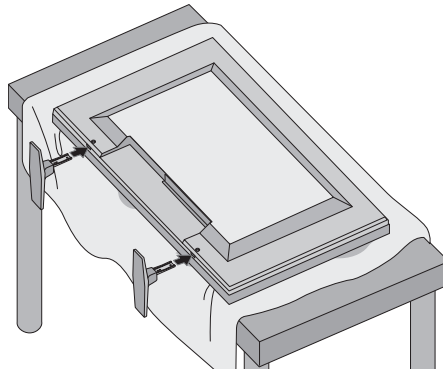


Stand (2)

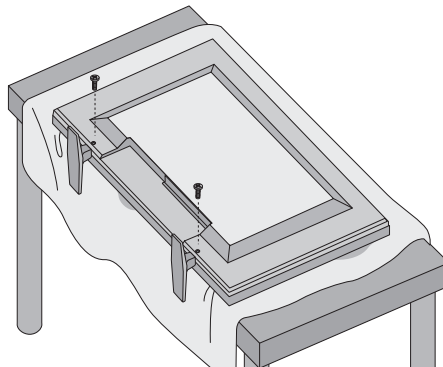


Screws (2)

2. Place a soft cloth on a table and place the set screen side down upon the table. Connect the stand as shown below.



3. Use the screws to secure the stand on the rear side of the set as shown below.

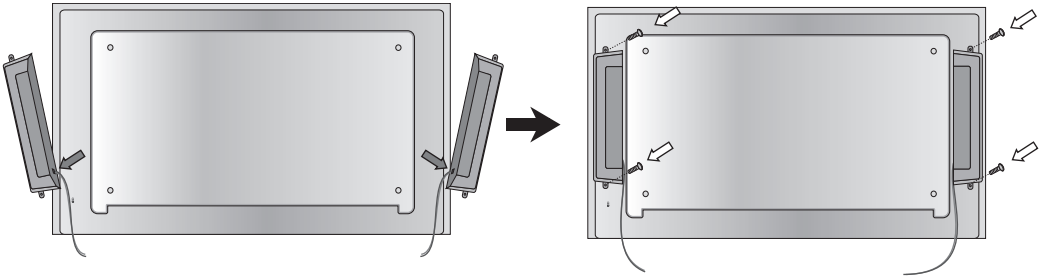


Connecting the Speakers

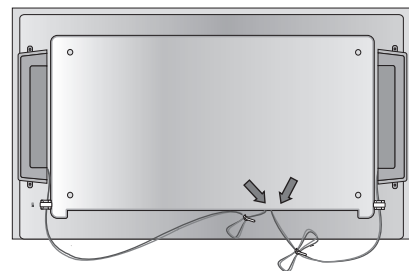
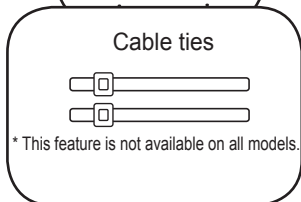
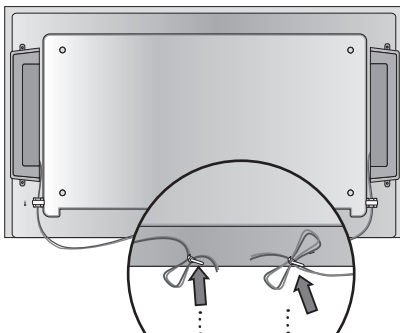
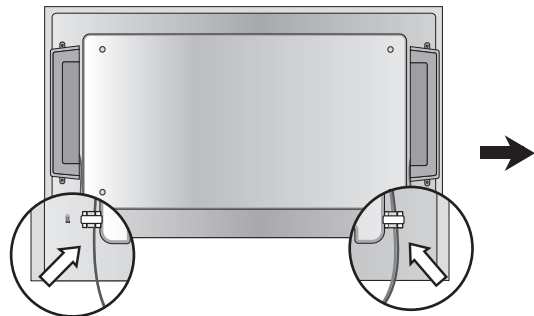
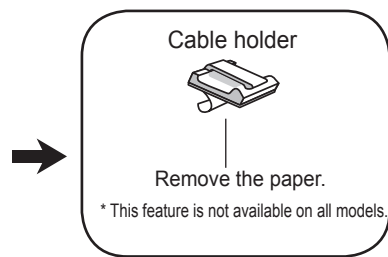
- Only on some models.

M4720C

Attach the speakers to the set using screws as shown below. Then, connect the speaker cable.



After installing your speakers, use holders and cable ties to organize the speaker cables.



When the speakers are installed.

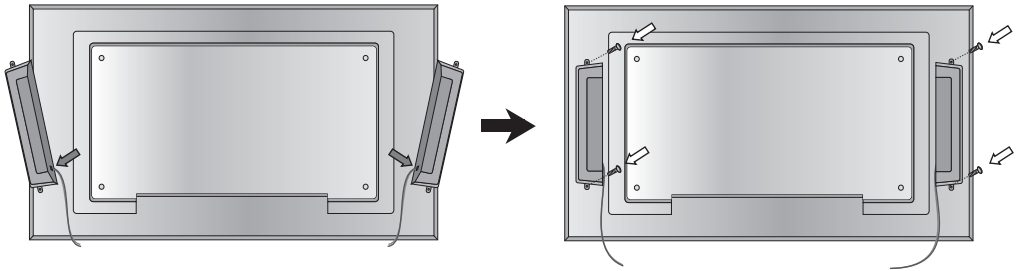
*Connect the input terminal with the proper color match.

Connecting the Speakers

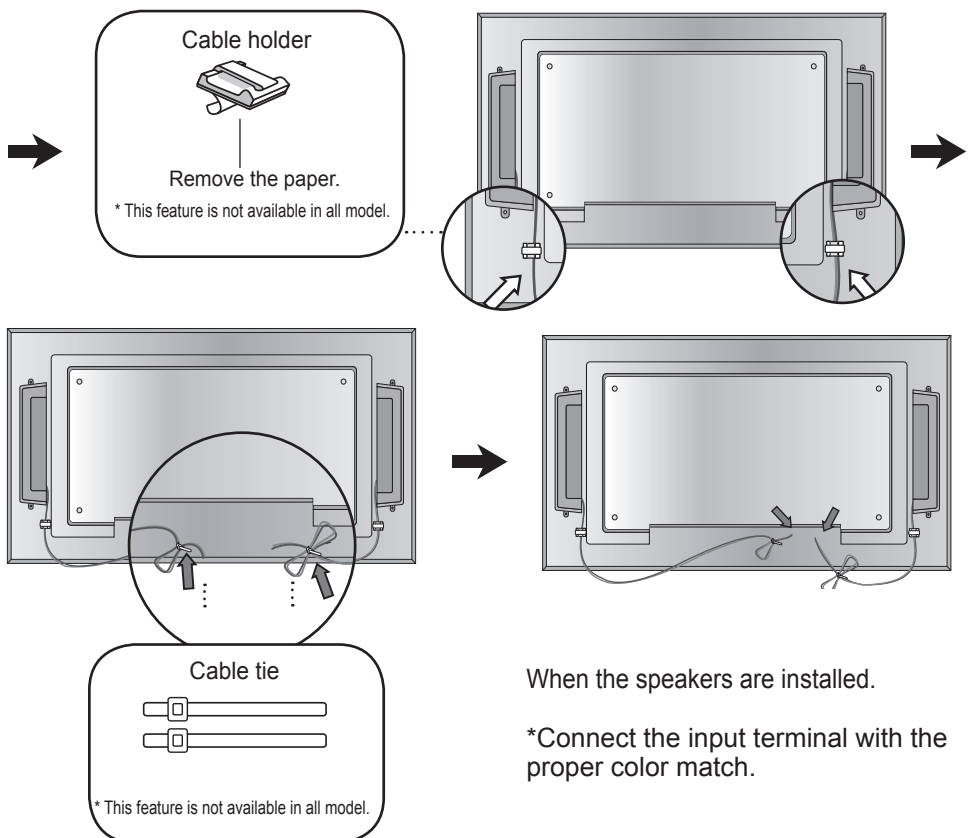
- Only on some models.

M5520C

Unscrew the screws on the back of the product. Use them to mount the speakers on both sides of the product as shown in the figure. (The screws provided with the speakers are not allowed.)



After installing your speakers, use holders and cable ties to organize the speaker cables.

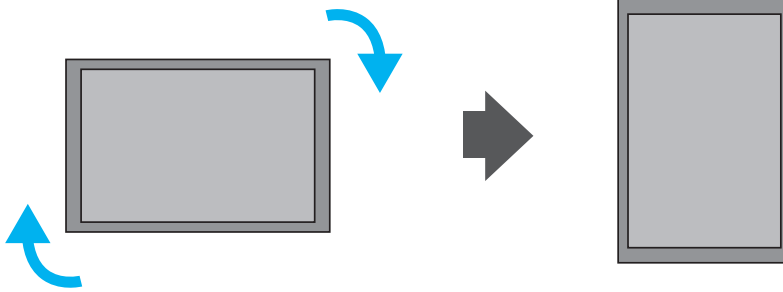


When the speakers are installed.

*Connect the input terminal with the proper color match.

Portrait Mode

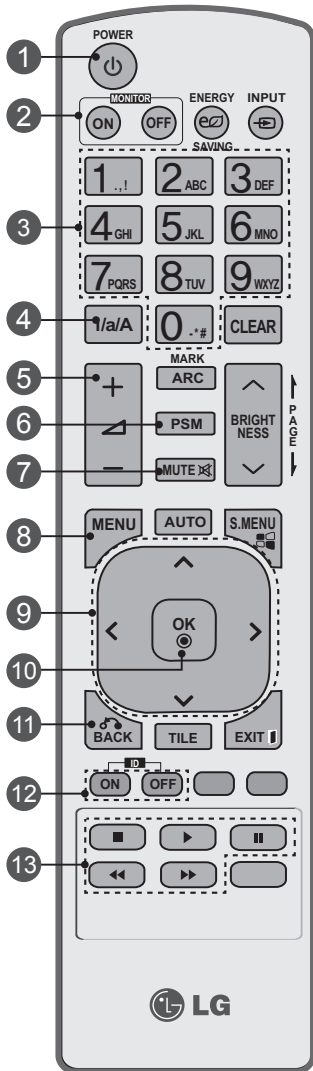
- Only on some models.



"When installing in portrait mode, rotate the set clockwise."

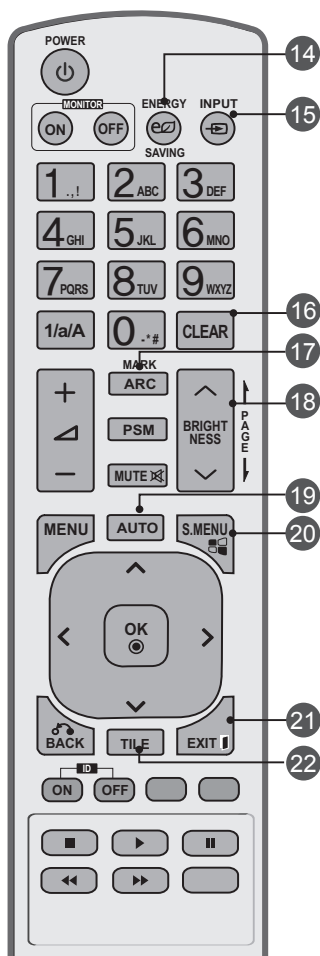
Using the Remote Control

Remote Control Buttons



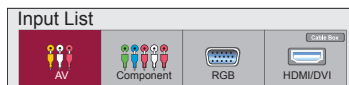
- 1 POWER On / Off Button**
- Switches the set on from standby or off to standby.
- 2 MONITOR On / Off Button**
- Turns off the monitor and then turn it back on.
- 3 Number and Letter Buttons**
- Type numbers.
It is not available to use Alphabet.
- 4 1/a/A Button**
- It is not available to use this function.
- 5 Volume Up/Down Button**
- Adjusts the volume.
- 6 PSM Button**
- Selects the Picture Status mode.
- 7 MUTE Button**
- Switches the sound on or off.
- 8 MENU Button**
- Selects a menu.
- Clears all on-screen displays and returns to monitor viewing from any menu.
- 9 Up/Down/Left/Right Buttons**
- Allows you to navigate the on-screen menus and adjust the system settings to your preference.
- 10 OK Button**
- Accepts your selection or displays the current mode.
- 11 BACK Button**
- Allows the user to move return one step in an interactive application.
- 12 ID ON/OFF Button**
- When the number of input ID is equal to the number of ID Mode, you can control the monitor which you want in the multi display condition.
- 13 USB Menu Control Buttons**
- Adjusts the USB menu (Photo List, Music List and Movie List).

Using the Remote Control



14 ENERGY SAVING Button
- Adjusts the Energy Saving mode of the set.

15 INPUT Select Button
Accesses the Input Signal Window.
Selects the signal type you want using < >.



16 CLEAR Button
- It is not available to use this function.

17 ARC Button
- Selects the Aspect Ratio mode.

18 BRIGHTNESS Button
- Adjusts the brightness by pressing Up and Down.
- In USB mode, the OSD menu has the Page function to move to the next file list.

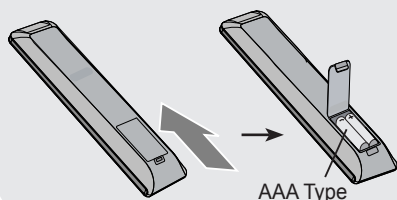
19 AUTO Button
- Automatically adjusts picture position and minimizes image instability (RGB input only).

20 S.MENU Button (SuperSign Menu Key)
- It is not available to use this function.

21 EXIT Button
- Clears all on-screen displays and returns to set normal viewing from any menu.

22 TILE Button
- Selects the TILE mode.

Inserting Batteries into the Remote Control

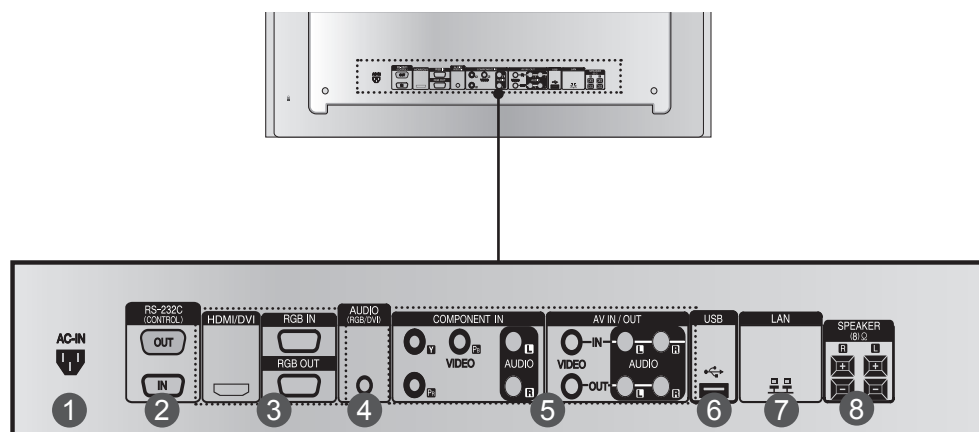


1. Slide off the battery cover.
 2. Insert the batteries with correct polarity (+ / -).
 3. Close the battery cover.
 4. To remove the batteries, perform the installation actions in reverse.
- Dispose of used batteries accordance with local regulations to prevent environmental pollution.

Part Names and Functions

* The set image in the user's guide may be different from the actual image.

Rear View



- 1 Power Connector**
Connect the power cord.
- 2 RS-232C Serial Ports**
- 3 RGB, HDMI/DVI Ports**
HDMI supports high definition input and HDCP (High-bandwidth Digital Content Protection). Some devices require HDCP in order to display HD signals.
- 4 PC Sound Jack**
Connect the audio cable to the LINE OUT* jack of the PC sound card.
- 5 Component, AV Ports**
- 6 USB Port**
- 7 LAN Port**
- 8 Speaker Ports**

* LINE OUT

A terminal that is used to connect to the speaker including a built-in amplifier (amp).

Check the connecting terminal of the PC sound card before connecting. If the Audio Out of the PC sound card only has a Speaker Out jack, reduce the PC volume. If the Audio Out of the PC sound card supports both Speaker Out and Line Out, convert to Line Out using the card jumper of the program (refer to your sound card's manual).

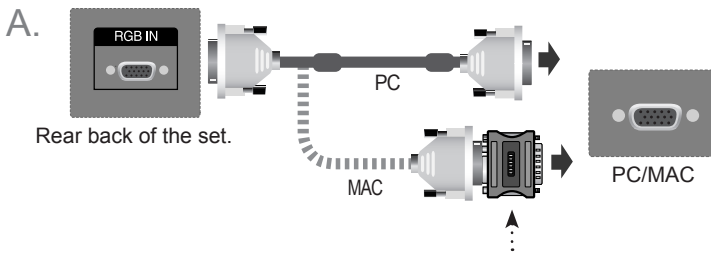
Connecting to External Devices

● Connecting to Your PC

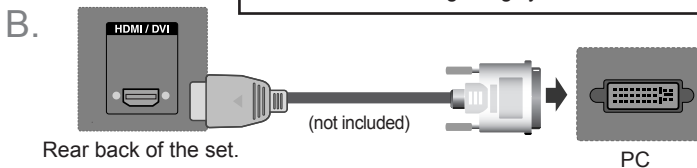
- 1 Check that the computer, monitor and the peripherals are turned off. Then, connect the signal input cable.

- A. Connecting with a D-Sub Signal Input Cable.
B. Connecting with an HDMI-DVI Signal Input Cable (not included)

* When HDMI PC is used, a compatibility problem may occur.



Macintosh Adapter (not included)
Use the standard Macintosh adapter since an incompatible adapter that uses a different signaling system is available on the market.

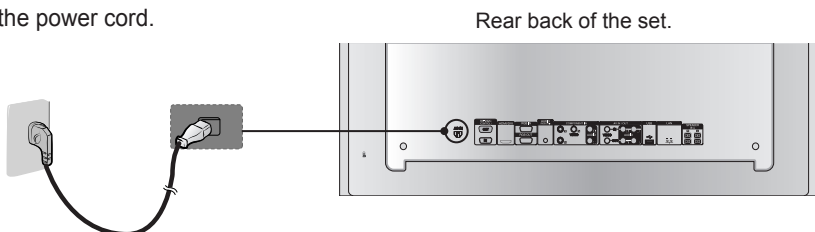


* Use shielded signal interface cables (D-sub 15 pin cable, HDMI-DVI cable) with ferrite cores to maintain standard compliance with your set.

- 2 Connect the Audio cable.

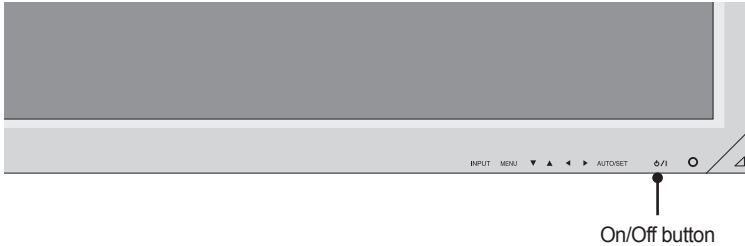


- 3 Connect the power cord.



Connecting to External Devices

- 4 1. Press Power.



2. Turn on the PC.

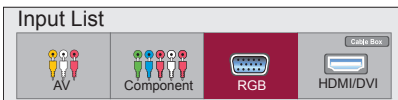
- 5 Select an input signal.
Press **INPUT** on the remote control to select the input signal.

INPUT → < > → **OK**

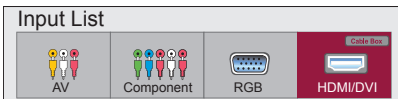
Or, press **INPUT** on the bottom of the set.

INPUT → ◀ ▶ → **AUTO/SET**

- A. Connecting with a D-Sub Signal Input Cable.
• Select **RGB**: 15-pin D-Sub analog signal.



- B. Connecting with an HDMI to DVI Signal Input Cable.
• Select **HDMI/DVI**: DVI Digital signal or HDMI Digital signal.



Note



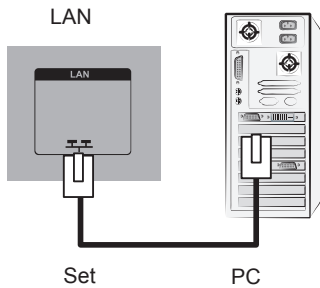
- Connecting two computers.
Connect the signal cables (HDMI-DVI and D-Sub) to each computer.
Press **INPUT** on the remote control to select the computer to use.
- Connect to a grounded power outlet directly on the wall or on a grounded power strip.

Connecting to External Devices

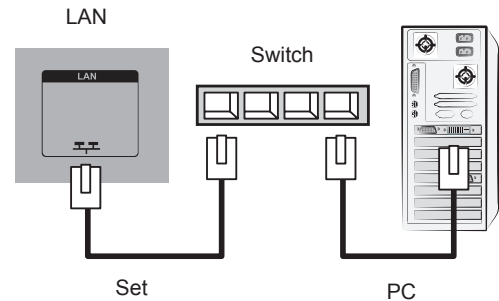
Using the LAN

1 Connect the LAN cable as shown below.

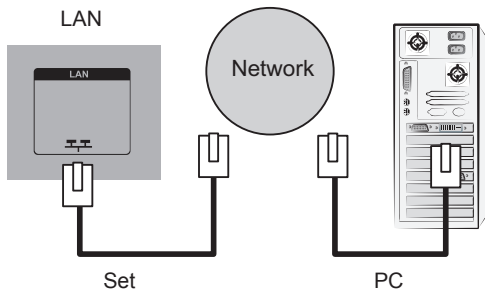
A. Connect PC to Monitor.



B. Using a Router (Switch).



C. Using the Internet.



2 Connect the LAN cable and install the eZ-Net Manager program on the CD-ROM. For more information about the program, please refer to the eZ-Net Guide on the included CD-ROM.



Note

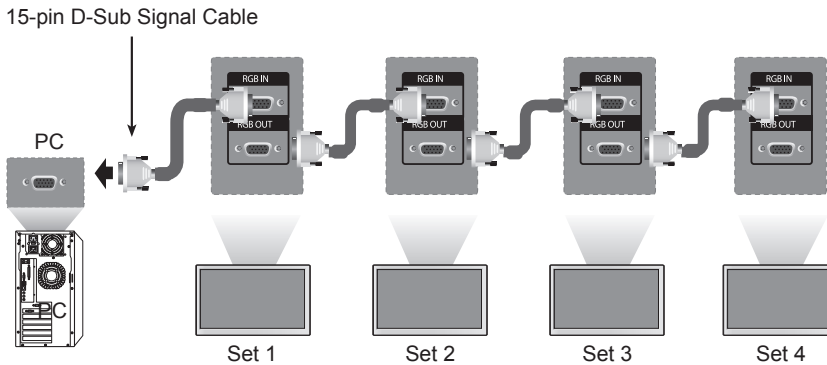
- Using a LAN establishes communication between your PC and the set and enables use of the OSD menus on the PC as well as the set.

Connecting to External Devices

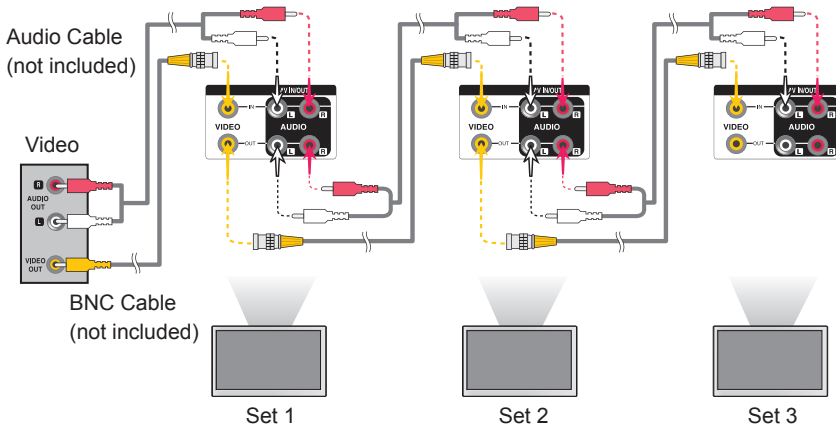
● Daisy Chaining Set

A. Using RGB Input

To use different set connected to each other, connect one end of the signal input cable (15-pin D-Sub signal cable) to the RGB OUT connector of set 1 and connect the other end to the RGB IN connector of other set.



B. Using AV Input



Note

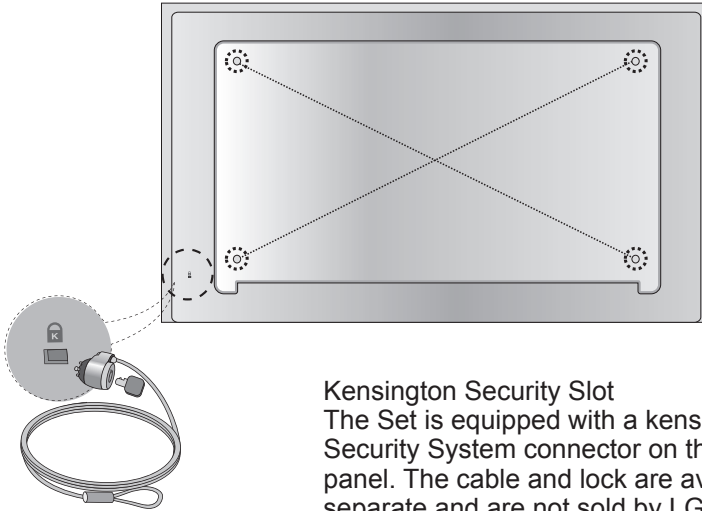
- The number of set that can be connected to one output may vary depending on signal status and cable loss. If the signal status is good, and there is no cable loss, it is possible to connect up to 9 set. If you want to connect more than nine, a distributor is recommended.

Connecting to External Devices

● VESA FDMI Wall Mounting

This set supports a VESA FDMI compliant mounting interface. These mounts are purchased separately and are not available from LG. Refer to the instructions included with your wall mount for more info.

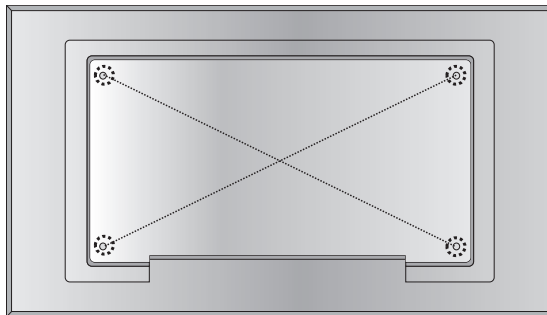
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Kensington Security Slot

The Set is equipped with a Kensington Security System connector on the back panel. The cable and lock are available separate and are not sold by LG. For more info, visit <http://www.kensington.com>, the internet home page of the Kensington company.

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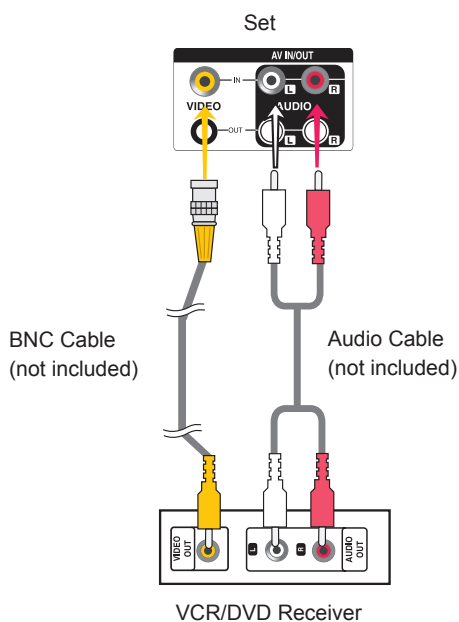
Connecting to External Devices

Video Input

- 1 Connect the video cable as shown below and then connect the power cord (see page 12).

Connecting with a BNC Cable

- Connect the input terminal with a proper color match.



- 2 Select an input signal.
Press **INPUT** on the remote control to select the input signal.

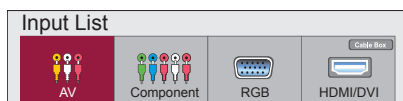
INPUT → < > → **OK**

Or, press **INPUT** on the bottom of the set.

INPUT → ◀ ▶ → **AUTO/SET**

Connecting with a BNC Cable

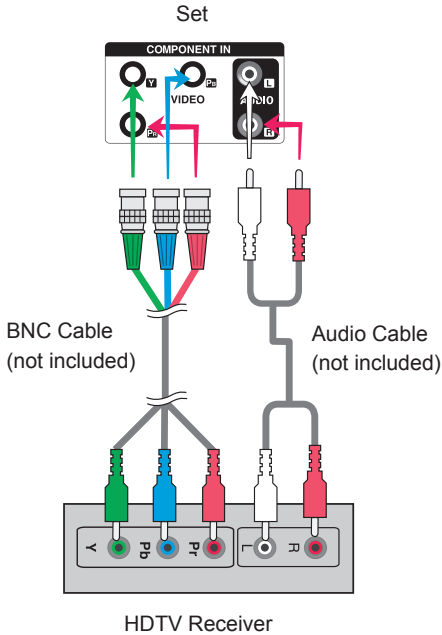
- Select **AV**.



Connecting to External Devices

● Component Input (480i/480p/576i/576p/720p/1080i/1080p)

- 1 Connect the AV cable as shown in the below figure, then connect the power cord (see page 12).
- Connect the input terminal with the matching color.



HDTV Mode/YPbPr

Preset mode		Horizontal Frequency (kHz)	Vertical Frequency (Hz)
1	480i	15.63	60.00
2	480p	31.47	60.00
3	576i	15.625	50.00
4	576p	31.25	50.00
5	720p	45.00	60.00
6	720p	37.5	50.00
7	1080i	31.25	50.00
8	1080i	33.75	60.00
9	1080p	67.5	60.00

Note:

- Some devices may require HDCP in order to display HD signals.
- Component doesn't support HDCP.

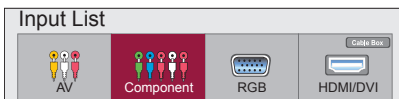
- 2 Select an input signal.
Press **INPUT** on the remote control to select the input signal.

INPUT → < > → **OK**

Or, press **INPUT** on the bottom of the set.

INPUT → ◀ ▶ → **AUTO/SET**

- Select **Component**.

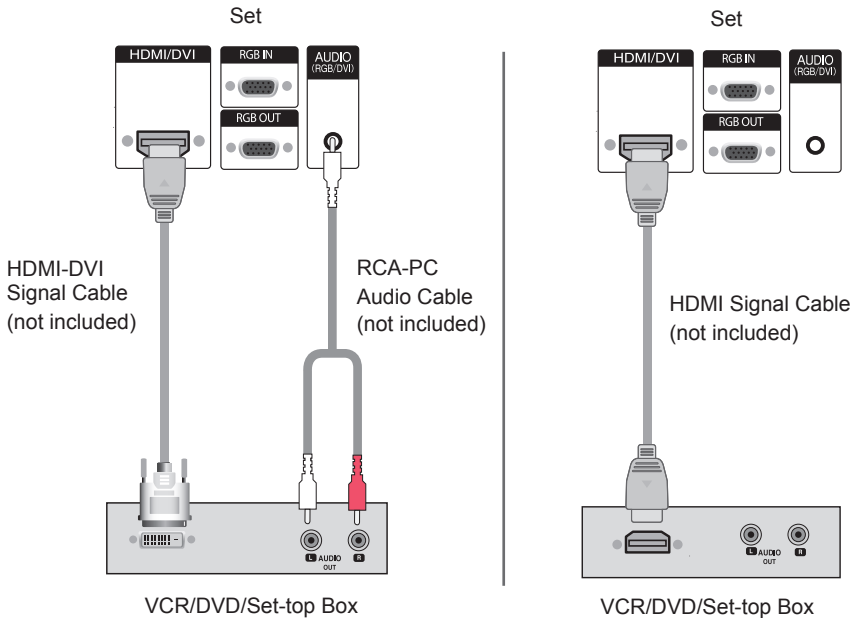


Connecting to External Devices

HDMI Input (480p/576p/720p/1080i/1080p)

HDMI supports high definition input and HDCP (High-bandwidth Digital Content Protection). Some devices require HDCP in order to display HD signals.

- 1 Connect the AV cable as shown below and connect the power cord (see page 12).



Note: Dolby Digital is not supported.

- 2 Select an input signal.
Press **INPUT** on the remote control to select the input signal.

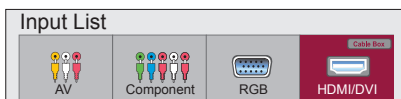
INPUT → < > → **OK**

Or, press **INPUT** on the bottom of the set.

INPUT → ◀ ▶ → **AUTO/SET**

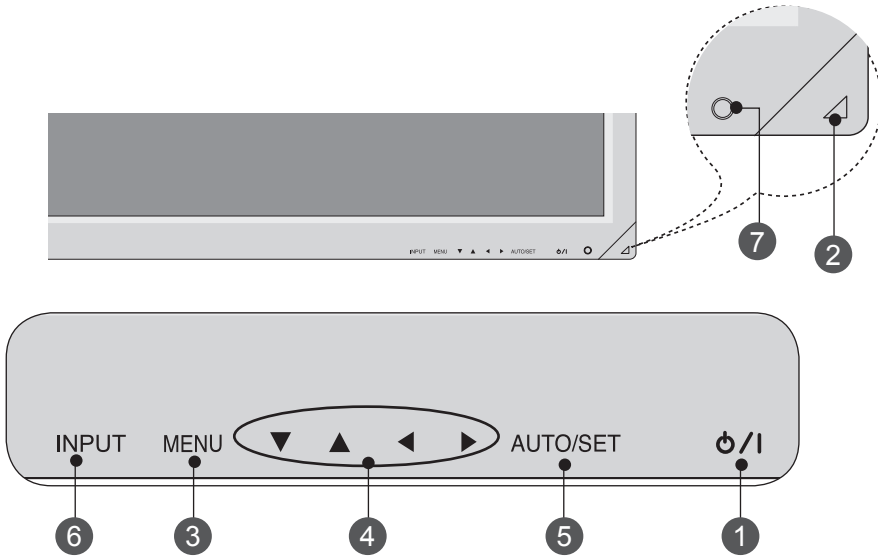
Connecting with an HDMI-DVI Signal Input Cable or an HDMI Signal Input Cable.

- Select **HDMI/DVI**.



User Menus

● Screen Adjustment Options



1 **On/Off Button** Turns the set on/off.

2 **Power Indicator** This Indicator lights up green when the set is operating normally (on mode). If the set is in sleep mode (Energy Saving), the indicator color changes to amber.

3 **MENU Button** Shows/hides the OSD (On-Screen Display) menu.

4 **OSD Select / Adjust Button** Selects an icon or adjusts the setting in the OSD menu.

▼ ▲ Adjusts up and down.

▼ ▲ Adjusts the volume.

Volume 35

User Menus

5 Screen Adjustment Options

5 AUTO/SET Button

[For PC Analog signal]

Auto in progress
For optimal display change
resolution to 1920 x 1080

[When XGA Mode is active and
1920 x 1080 is selected]

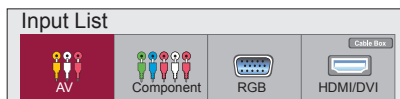
Auto in progress

6 INPUT Button

INPUT → ◀ ▶ → AUTO/SET

- Toggles between inputs

AV	Composite Video
Component	HDTV, DVD
RGB	15-pin D-Sub analog signal
HDMI/DVI	Digital signal









7 IR Receiver

The sensor from which the set receives signals from the remote control.

User Menus

OSD Menu

Icon	Function Description
 Picture	Adjusts screen brightness, contrast and color to your preference.
 Audio	Adjusts the audio.
 Time	Adjusts the timer.
 Option	Adjusts the screen status according to conditions.
 Tile	Adjusts tile options.
 USB	Adjusts USB options.



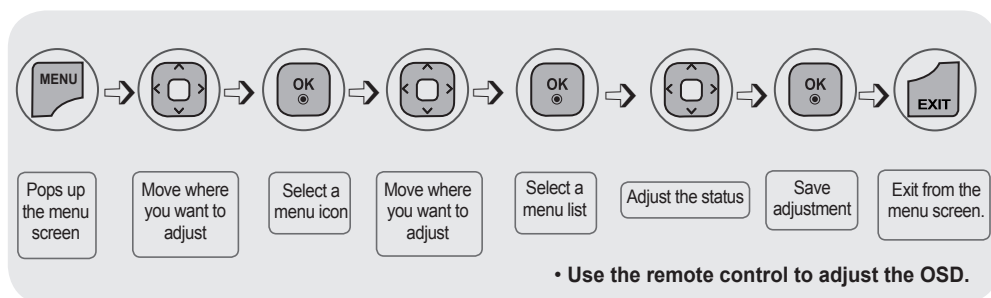
Note

OSD (On-Screen Display)

- The OSD function enables you to adjust the screen status conveniently since it provides graphical menu representation.

User Menus

● Adjusting the OSD (On-Screen Display)



- 1 Press **MENU** to bring up the OSD.
- 2 To access a control, use $\wedge \vee$.
- 3 When the icon you want becomes highlighted, press **OK**.
- 4 To access a control, use $\wedge \vee$.
- 5 When the list you want becomes highlighted, press **OK**.
- 6 Use $\wedge \vee < >$ to adjust the item to the desired level.
- 7 Accept the changes by pressing **OK**.
- 8 Exit the OSD by pressing **EXIT**.

● Adjusting the Screen Automatically

Press **AUTO/SET** (**AUTO** on the remote Control) when viewing a PC analog signal. The optimal screen settings will be selected that suit the current mode. If adjustments are not satisfactory, adjust the screen manually.

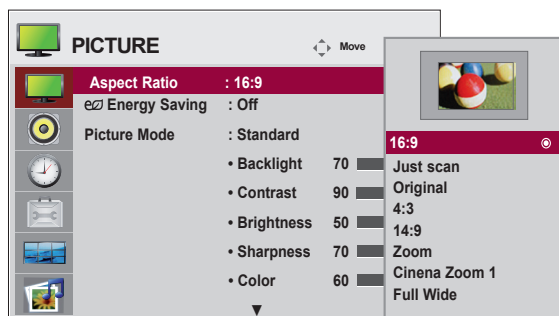
[When XGA Mode is active and 1920 x 1080 is selected]

Auto in progress

User Menus

Adjusting Screen Color

Aspect Ratio



To select the image size of the screen.

16:9: Widescreen mode.

Just Scan: Displays the full signal data without cropping any of the image.

(*This menu is activated only in 720p,1080p,1080i (HDMI/DVI-DTV, Component mode)

Original: The aspect ratio is not adjusted from the original signal and is set by the program being watched.

4:3: Selects a 4:3 aspect ratio image.

1:1: The aspect ratio is not adjusted from the original. Used in PC mode (only HDMI/ DVI PC, RGB PC).

14:9: 14:9 programs are viewed normally in 14:9 with black bars added to the top and bottom.

4:3 programs are magnified on the top/bottom and left/right sides.

Zoom: 4:3 programs are magnified until they fill the 16:9 screen. The top and bottom will be cut off.

Cinena Zoom 1: Choose Cinema Zoom when you wish the picture to be altered, both horizontally extended and vertically cropped. This is a good compromise between signal alteration and screen coverage.

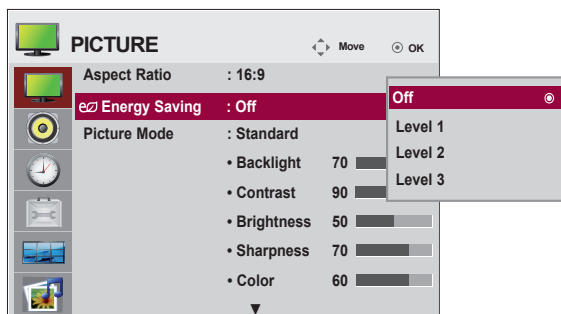
Full Wide: When the set receives a wide screen signal, it causes you to adjust the picture horizontally or vertically, in linear proportion, to fill the entire screen.

ARC	MODE	MODE			HDMI / DVI	
		AV	Component	RGB PC	DTV	PC
16 : 9		●	●	●	●	●
Just Scan		×	●	×	●	×
Original		●	×	×	×	×
4 : 3		●	●	●	●	●
1 : 1		×	×	●	×	●
14 : 9		●	●	×	●	×
Zoom		●	●	×	●	×
Cinena Zoom 1		●	●	×	●	×
Full Wide		●	×	×	×	×

User Menus

Adjusting Screen Color

Energy Saving



The screen brightness adjusting menu helps you save energy.

Level: 4 screen brightness levels are available.

- **Off:** 100% light
- **Level 1:** 80% light
- **Level 2:** 60% light
- **Level 3:** 40% light

Note

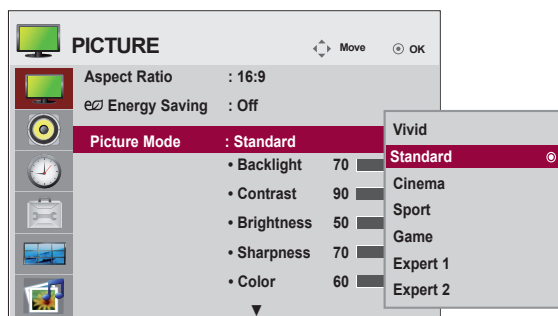


- If the 'Picture Mode' is set to 'Cinema', the 'Energy saving' mode is disabled.

User Menus

Adjusting Screen Color

Picture Mode



The picture mode menu toggles between screen presets.

Standard: This is the optimum viewing condition for general users.

Vivid: Displays a sharp image.

Cinema: This mode optimizes video for watching movies.

Sport: This mode emphasizes dynamic video and primary colors (e.g. white, uniforms, grass, sky blue, etc.) by realizing the optimal image settings for sports.

Game: This is the mode for fast response speeds for video games.

Expert1,2 : Select this option to use the user-defined settings.

Note

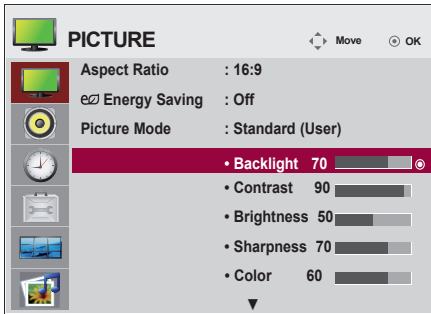


- If the 'Picture Mode' setting in the Picture menu is set to Vivid, Standard, Cinema, Sport or Game, the subsequent menus will be automatically set.

User Menus

Adjusting Screen Color

Picture Mode



Backlight: Adjusts the brightness of LCD panel.

Contrast: Adjusts the difference between light and dark levels.

Brightness: Adjusts the brightness of the screen.

Sharpness: Adjusts the clearness of the screen

(This function can be used only under AV, Component and HDMI/DVI(DTV).)

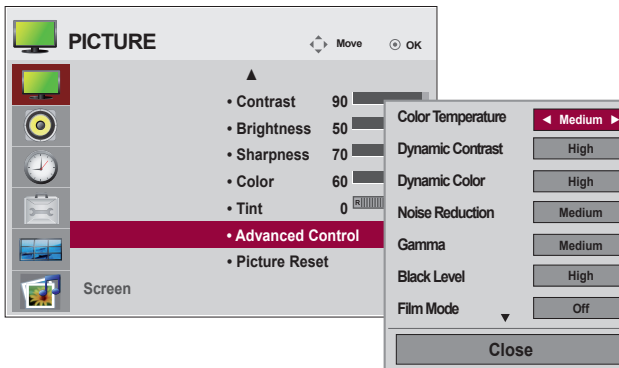
Color: Adjusts the color (This function can be used only under AV, Component and HDMI/DVI(DTV).)

Tint: Adjusts the tint (This function can be used only under AV, Component and HDMI/DVI(DTV).)

User Menus

Adjusting Screen Color

Advanced Control



Color Temperature: Color Settings

Cool: Slightly purple temperature.

Medium: Slightly blue temperature.

Warm: Slightly red temperature.

Dynamic Contrast: Optimizes the contrast automatically according to the brightness of the reflection. (This function can be used only under AV, Component and HDMI/DVI(DTV).)

Dynamic Color: Adjusts the color of the reflection automatically to reproduce natural colors as closely as possible. (This function can be used only under AV, Component and HDMI/DVI(DTV).)

Noise Reduction: Removes noise up to the point where it does not damage the original picture. (This function can be used only under AV, Component and HDMI/DVI(DTV).)

Gamma: Sets your own gamma value.

On the set, high gamma values display whitish images and low gamma values display high contrast images.

Black Level: Adjusts the contrast and the brightness using the black level of the screen (function works in the following modes: AV, Component, HDMI-DTV).

Low: The reflection of the screen gets darker.

High: The reflection of the screen gets brighter.

Film Mode: When you watch a movie, this function adjusts the set to the best picture appearance (function works in the following modes: AV, Component 480i/576i/1080i, HDMI/DTV 480i/576i/1080i).

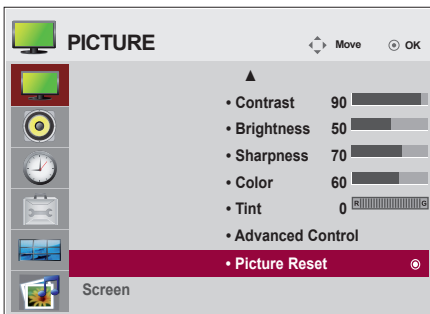
White Balance: Adjusts the overall color of the screen to your preferences (function works in the following modes - Expert 1, Expert 2 Picture mode).

Color Management System: This is an expert tool used to make adjustments by using test patterns. This does not affect other colors but can be used to selectively adjust the 6 color areas (red/green/blue/cyan/magenta/yellow). Color differences may not be distinct even when you make general adjustments for video (function works in the following modes: Expert 1, Expert 2 Picture mode).

User Menus

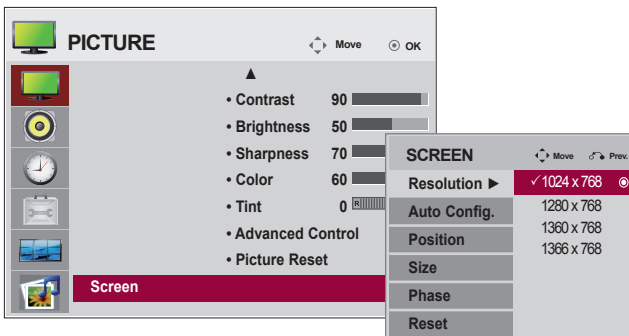
Adjusting Screen Color

Picture Reset



Returns Picture Mode to the default factory settings.

Screen



Adjusts the screen video.

Resolution: Displays a normal picture and matches the resolution of RGB mode and PC mode. This function works in the following mode: RGB[PC] mode.

Auto Config. (RGB input only): Automatically adjusts the screen position, clock and phase. This function is available for analog signals only.

Position: Moves the screen position.

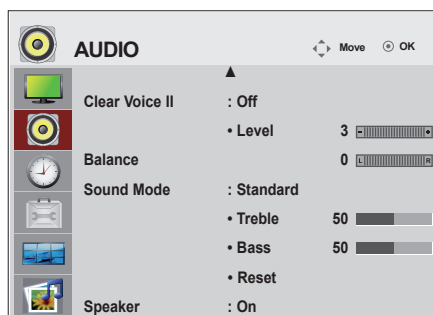
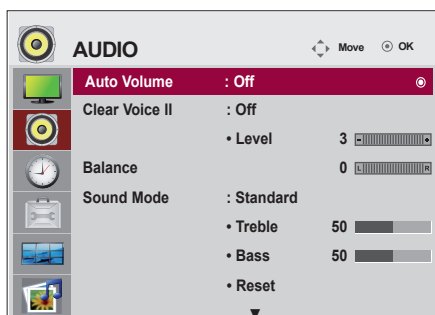
Size: Adjusts the size of the screen.

Phase: Adjusts the focus of the display. This item allows you to remove any horizontal noise and clear or sharpen the image of characters. This function is available for analog signals only.

Reset: Returns Manual config. to the default factory settings.

User Menus

Adjusting Audio



Auto Volume

Automatically adjusts uneven sound volumes across all channels or signals to the most appropriate level. To use this feature, select On.

Clear Voice II

By differentiating the human sound range from others, Clear Voice II improves voice quality.

Balance

Balances the sound from the left and right speakers.

Sound Mode

Selects the best sound tone quality automatically depending on the current video being watched.

Standard: Offers standard-quality sound.

Music: Optimizes sound for listening to music.

Cinema: Optimizes sound for watching movies.

Sport: Optimizes sound for watching sports events.

Game: Optimizes sound for playing video games.

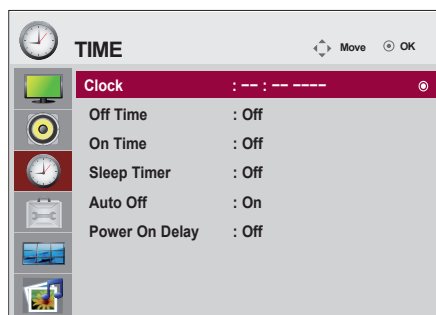
Speaker

Adjusts internal speaker status.

If you want to use your external hi-fi stereo system, turn off the internal speakers of the set.

User Menus

Adjusting the Timer



Clock

If the current time is incorrect, reset the clock manually.

- 1) Press the **MENU** button and then use $\wedge \vee < >$ button to select the Time menu, input OK button to enter
- 2) Press the $>$ button and then use $\wedge \vee$ button to select clock menu .
- 3) Press the $>$ button and then use $< >$ button to select date
- 4) Press the $\wedge \vee$ button and then use $< >$ button to set the hour(00h to 23h).
- 5) Press the $\wedge \vee$ button and then use $< >$ button to set the minutes(00 min to 59 min).

On/Off time

The off time automatically switches the set to standby at the pre-set time.

- 1) Press the **MENU** button and then use $\wedge \vee < >$ button to select the Time menu, input OK button to enter
- 2) Press the $>$ button and then use $\wedge \vee$ button to select On/Off Timer.
- 3) Press the $>$ button and then use $< >$ button to select date
- 4) Press the $\wedge \vee$ button and then use $< >$ button to set the hour(00h to 23h).
- 5) Press the $\wedge \vee$ button and then use $< >$ button to set the minutes(00 min to 59 min).
- 6) Press the $\wedge \vee$ button ,According to the personal needs, choose to add.

Sleep timer

The power is automatically turned off when the time set by a user is passed.

- 1) Press the **MENU** button and then use $\wedge \vee < >$ button to select the Time menu, input OK button to enter
- 2) Press the $>$ button and then use $\wedge \vee$ button to select Sleep timer menu .
- 3) Press the $\wedge \vee$ button and then use $< >$ button to select the minutes(Off to 240 min).

Auto off

If Auto off is active and there is no input signal, the set switches to off mode automatically after 10 minutes.

- 1) Press the **MENU** button and then use $\wedge \vee < >$ button to select the Timer menu, input OK button to enter.
- 2) Press the $>$ button and then use $\wedge \vee$ button to select the Auto off menu.
- 3) Press the $>$ button and then use $\wedge \vee$ button to select On or Off.

Power On Delay

When connecting multiple set and turning the power on, the set are turned on individually to prevent overload.

Note

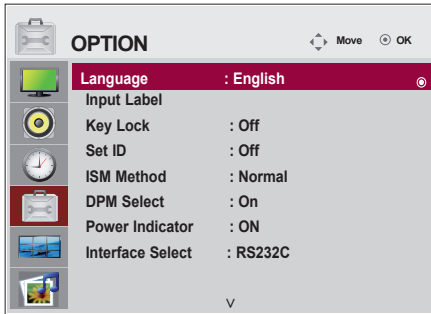


- In the event of power interruption (disconnection or power failure), the clock must be reset.
- Once the on or off time is set, these functions operate daily at the preset time.
- The scheduled power-off function works properly only when the device time is set correctly. When the scheduled power-on and power-off times are the same, the power-off time has priority over the power-on time if the set is turned on, and vice versa if the set is turned off.
- When an On time is set, the input screen turns on as it was when it was turned off.

User Menus



Selecting Options



Language

Chooses the language in which the control names are displayed.

Input Label

Selects a label for each input source. For example, when connecting to PC in RGB mode,

* Select "PC" for the connecting device field. Otherwise, the screen may not display properly.

Key Lock

Use \wedge \vee to select **On** or **Off**. The set can be set up so that it can only be used with the remote control. This feature can prevent unauthorized viewing.

To lock OSD screen adjustment, set the **Key Lock** tab to the 'On' position.

To unlock it, do the following:

Push **MENU** on the remote control and set **Key Lock** to the 'Off' position.

Set ID

You can assign a unique **Set ID** NO (name assignment) to each set when several set are connected for display. Specify the number (1 to 99) using \lt \gt and exit. Use the assigned **Set ID** to individually control each set using the Set Control Program.

ISM Method

Leaving a fixed image on the screen for a long time may cause image burn-in. To use the set for a long period of time, use a screen saver on the PC or utilize the residual image prevention function on the set, and when the set is not used, turn the power off. Burn-in and related problems are not covered by the warranty on this set.

Normal: Leave on normal if you don't foresee image burn in being a problem.

Orbiter: May help prevent ghost images. However, it is best not to allow any fixed image to remain on the screen. To avoid a permanent image on the screen, the screen will move every 2 minutes.

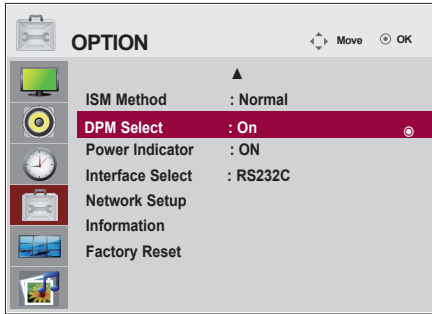
Inversion: This function inverts the panel color of the screen. The panel color is automatically inverted every 30 minutes.

White wash: White wash fills the screen with solid white. This helps removes permanent images burned into the screen. A permanent image may be impossible to clear entirely with white wash.

User Menus



Selecting Options



DPM Select

Turns power saving on/off.

Power Indicator

Sets the power indicator on the front side of the set to On or Off. If you set to Off, it will go Off. If you set On at any time, the power indicator will automatically be turned on.

Interface Select

Sets up network connections.

- **Network:** LAN - Enables communication via Ethernet.
- **RS-232C:** Enables communication via Serial.

Network Setup

- **DHCP:** Allocates and sets up IP automatically.
- **Manual:** Sets up IP address, Gateway, Subnet Mask, Primary DNS and Secondary DNS.
The setup process is complete when you select Execute, and "**IP Setup Completed**" is displayed at the bottom of the screen. While "**Wait for IP Setup**" is displayed, you cannot use the local keys and remote control. "**Wait for IP Setup**" is displayed for up to 40 seconds.

*If Network select is set to RS232C.DHCP and Manual are disabled.**Information**

You can find information about your set serial number, F/W version, IP address and MAC address here.

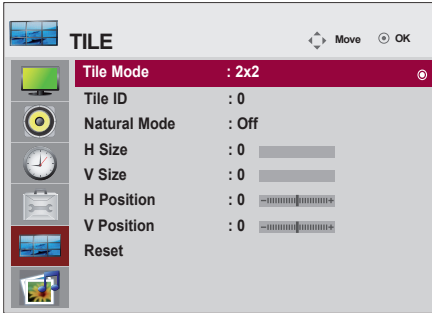
Factory Reset

Returns the set to the default factory settings.

User Menus

Screen Tiling Options

Tile Mode



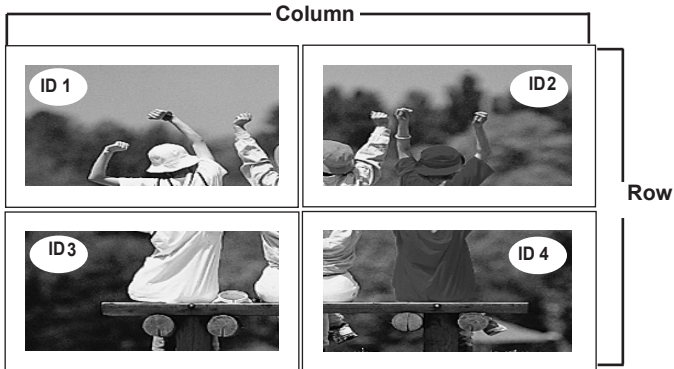
- Must be displayed with various other set.
- Must be in a function that can be connected to RS-232C or RGB Out.
- Tile Mode works with several set to enlarge the screen area.

Select Tile Mode and choose Tile alignment and set the ID of the current set to set the location. Only after pressing OK will the adjustments be saved.

- Tile mode: column x row (c = 1, 2, 3, 4, 5 r = 1, 2, 3, 4, 5)
- 5x5 is the maximum matrix available.
- The configuration of an integration screen is also available as well as configuration of a 1x1 display.



- Tile Mode (set 1 to 4): c(2) x r(2)

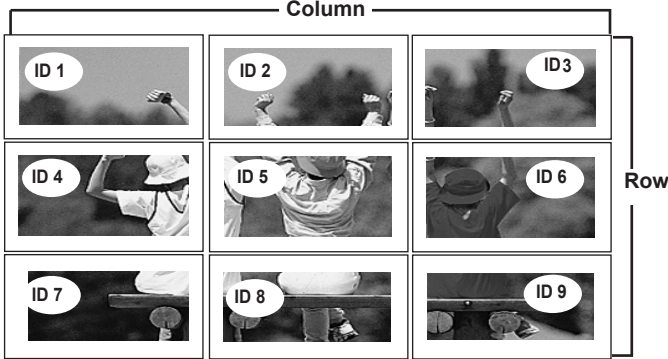


User Menus

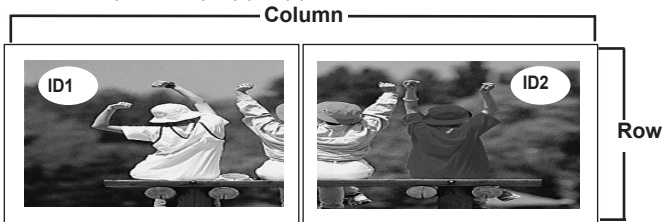


Screen Tiling Options

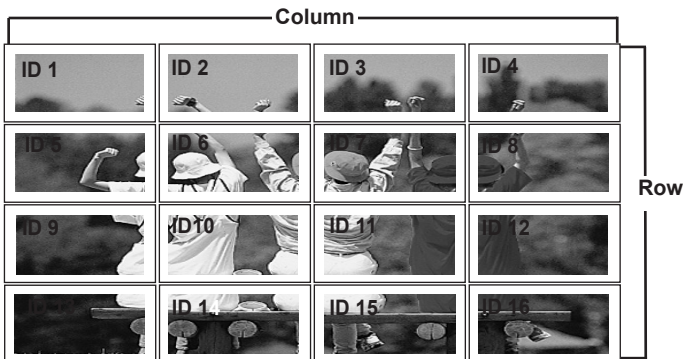
- Tile Mode (set 1 to 9): c(3) x r(3)



- Tile Mode (set 1 to 2): c(2) x r(1)



- Tile Mode (set 1 to 16): c(4) x r(4)



Tile ID: Select the location of the Tile by setting an ID.

Natural: Omits the distance between the screens allowing the image to be displayed naturally.

H-Size: Adjusts the horizontal size of the screen taking into account the size of the bezel.

V-Size: Adjusts the vertical size of the screen taking into account the size of the bezel.

H-Position: Moves the screen horizontally.

V-Position: Moves the screen vertically.

Reset: Initializes and releases current Tile Mode settings.

All Tile settingS are released when selecting Tile recall and the screen returns to Full screen.

User Menus

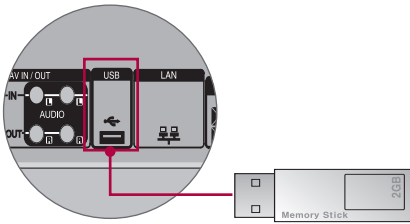


USB Options

Connecting USB Devices

When you connect a USB device, this pop-up menu is displayed, automatically. The pop-up menu will not be displayed while the OSD, EPG or Schedule list is displayed. When the pop-up menu appears, you can select Music List, Photo List or Movie List in the MY MEDIA menu. You cannot add a new folder or delete an existing folder on the USB device while it is connected to the set.

1. Connect the USB device to the **USB** jack on the set.



2. Select **Photo List**, **Music List** or **Movie List**.



User Menus



USB Options

Precautions when using the USB device

- Only a USB storage device is recognizable.
- If the USB storage device is connected through a USB hub, the device is not recognizable.
- A USB storage device using an automatic recognition program may not be recognized.
- A USB storage device that uses its own driver may not be recognized.
- The recognition speed of a USB storage device may depend on each device.
- Please do not turn off the Set or unplug the USB device when the connected USB storage device is working. When such device is suddenly separated or unplugged, the stored files or the USB storage device may be damaged.
- Do not connect a USB storage device that has been artificially written to on the PC. The device may cause the set to malfunction or fail to be played. Never forget to use only a USB storage device that has normal music files or image files.
- Please use only a USB storage device that was formatted as a FAT16, FAT32, NTFS file system provided with the Windows operating system. If a storage device has been formatted as a different utility program that is not supported by Windows, it may not be recognized. Data on a USB storage device cannot be deleted in the NTFS file system.
- Please connect power to a USB storage device that requires an external power supply. If not, the device may not be recognized.
- Please connect a USB storage device with the cable provided by the USB maker. If connected with an aftermarket cable or an excessively long cable, the device may not be recognized.
- Some USB storage devices may not be supported or operate smoothly.
- A maximum of 999 files and folders can be recognized.
- Data on a USB storage device cannot be aligned. Up to 128 English characters can be recognized as a file name.
- Please back up important files because data on the USB device may be damaged. Data management is solely the consumer's responsibility and the manufacturer does not cover the product bearing data damage.
- If the USB is connected in Standby Mode, the device will automatically be loaded when the set is turned on.
- The recommended capacity is 1TB or less for an external USB hard disk and 32GB or less for USB memory.
- Any device with more than the recommended capacity may not work properly.
- If an external USB hard disk with a "Power Saving" function does not work, turn the hard disk off and on again to make it work properly.
- Names and subtitles of some language files may not display properly.(Korean, Chinese, Japanese)
- When using Korean, Japanese or Chinese subtitles or file names, it is recommended to set the language to the corresponding one.

User Menus



USB Options

Photo List

You can view photo files on USB storage devices.

The On-Screen Display may be different from your set. Images are an example to assist with set operation.

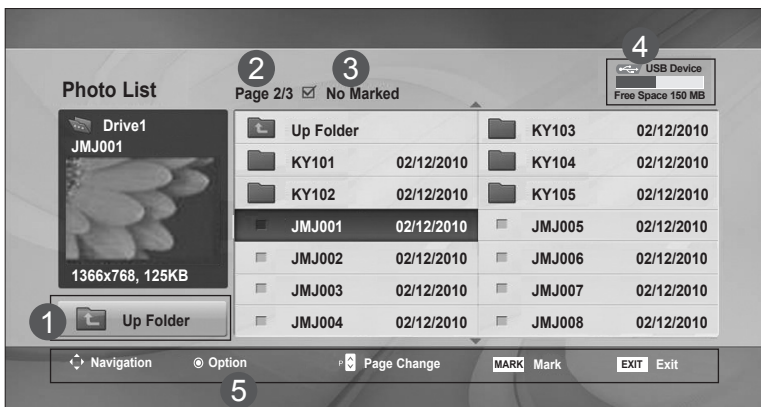
Supported JPG Photo File Types

Baseline: 15360 x 8640

Progressive: 1024 x 768

- You can view JPG files only.
- Non-supported files are displayed in the form of bitmap.

Screen Components



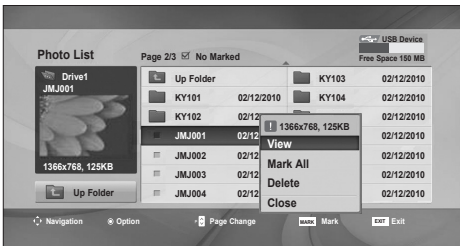
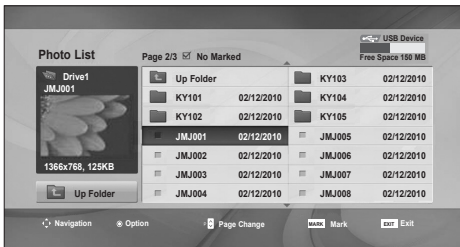
- 1 Moves to the Upper Level Folder
- 2 Current Page/Total Pages
- 3 Total Number of Marked Photos
- 4 Usable USB Memory
- 5 Corresponding Buttons on the Remote Control

User Menus



USB Options

Photo Selection and Pop-Up Menu



- View:** Displays the selected item.
- Mark All:** Marks all photos on the screen.
- Unmark All:** Deselects all marked photos.
- Delete:** Deletes the selected photo.
- Close:** Closes the pop-up menu.

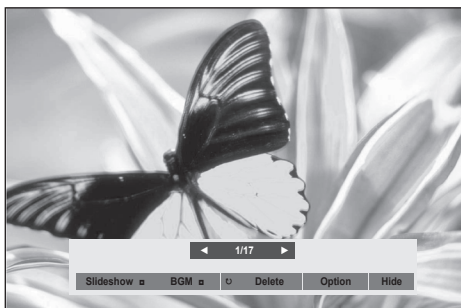
User Menu



USB Options

Viewing Photos

Detailed operations are available on the full-sized photo view screen.



The aspect ratio of a photo may change the size of the photo displayed on the screen in full-size. Press **EXIT** to move to the previous menu.

► Slideshow

When no picture is selected, all photos in the current folder are displayed during slide show. If some photos are selected, those photos are displayed in a slide show.

- Set the time interval of the slide show in **Option**.

► BGM (Background Music)

Listen to music while viewing photos in full size.

- Set the Music Folder for **BGM** in Options before using this function.

► (Rotate)

- Rotates the photo 90°, 180°, 270°, 360° clockwise.

► Delete

Deletes photos.

► Option

Sets values for **Slide Speed** and **Music Folder** for **BGM**.

- Use $\wedge \vee < >$ and **OK** to set values. Press OK to save the settings.
- You cannot change the **Music Folder** while **BGM** is **playing**.

► Hide

Hides the menu on the full-sized screen. To see the menu again on the full-sized screen, press **OK**.

User Menus



USB Options

Music List

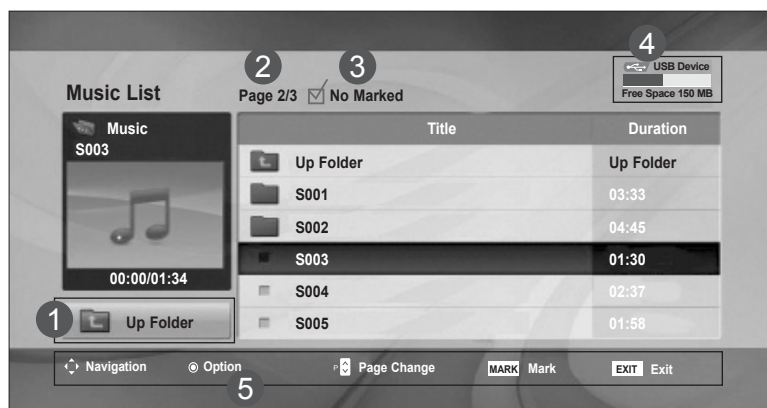
You can play music files stored on USB storage devices. Purchased music files (*.MP3) may have copyright restrictions. Playback of these files may not be supported by this set. The On-Screen Display may be different from your set. Images are an example to assist with set operation.

Supported MP3 Audio File Types

Bit rate 32 to 320kbps

- Sampling rate MPEG1 layer 3: 32 kHz, 44.1 kHz, 48 kHz.

Screen Components



- 1 Moves to the Upper Level Folder
- 2 Current Page/Total Pages
- 3 Total Number of Marked Music Files
- 4 Usable USB Memory
- 5 Corresponding Buttons on the Remote Control

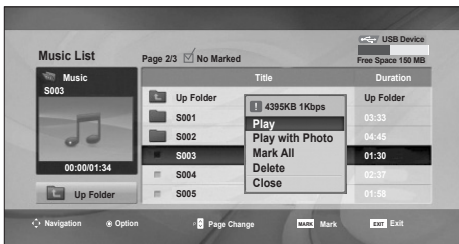
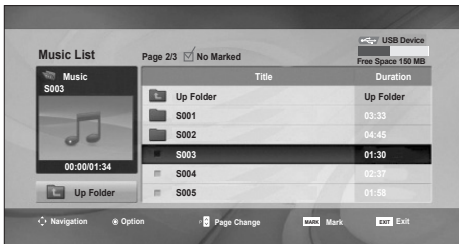
User Menus



USB Options

Music Selection and Pop-Up Menu

Up to 6 music files are listed per page.



Play (During stop): Plays the selected music files. When playback of a file stops, the next selected file will be played. When there are no selected music files left to play, the next file in the current folder will be played. If you go to a different folder and press OK, the current file being played will stop.

Play Marked: Plays the selected music files. Once a file finishes playing, the next selected one will be played automatically.

Stop Play (During playback): Stops the music file playing.

Play with Photo: Starts playing the selected music files and then moves to the Photo List.

Mark All: Marks all music files in the folder.

Unmark All: Deselects all marked music files.

Delete: Deletes the selected music files.

Close: Closes the pop-up menu.

User Menus

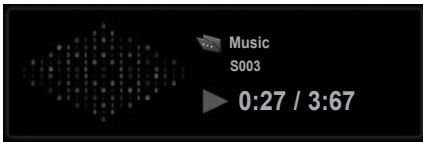


USB Options

If you don't press any button for a while during playback, the play information box (as shown below) will display as a screen saver.

What is the '**Screen Saver**'?

The screen saver prevents screen pixel damage due to a fixed image remaining on the screen for an extended period of time.



Note



- Damaged or corrupted music cannot be played and displays 00:00 in playtime.
- Music downloaded from a paid service with copyright protection does not play but displays inappropriate information in playtime.
- If you press OK, the screen saver stops.
- PLAY(▶), Pause(⏸), ■, ▶▶, ◀◀ are available on the remote control in this mode.
- You can use ▶▶ to select the next file and ◀◀ to select the previous file.

User Menus



USB Options

Movie List

The movie list is activated once a USB device is detected. It is used when playing movie files on the set. Movies in the USB folder can be played. Video editing is not supported but files can be deleted. It is a movie list that displays folder information and DivX files. The movie list supports up to four drives.

Supported AVI/DivX Movie File Types

Video format: MPEG1, MPEG2, MPEG4 (Microsoft MPEG 4-V2, V3 file types are not supported), DivX3.xx, DivX, 4.xx, DivX5.xx, DivX VOD (DRM), XviD, DivX6.xx (playback)

Audio Format: Mpeg, Mp3, PCM, Dolby Digital

Sampling Frequency: 32k–48 kHz

Bit rate: 32k–320 kbps

Subtitle Format: *.smi/ *.srt/ *.sub (MicroDVD, SubViewer 2.0)/ *.ass/ *.ssa/*.txt (DVD Subtitle System)

- DivX may not be played depending on its type or recording method.
- If the video and audio structure is not interleaved, either video or audio is output.
- The maximum FPS (Frames Per Second) can be reached only at SD level. FPS is 25 FPS (720x576) or 30 FPS (720x480) depending on resolution.
- The maximum bitrate of playable DivX files is 4Mbps.
- Files more than 25 FPS or 30 FPS or higher may not play properly.
- A DivX movie file and its subtitle file must be located in the same folder.
- A video filename and its subtitle filename must be identical for it to be displayed.
- Playing a video via a USB connection that doesn't support high speed may not work properly.
- USB storage devices below USB 2.0 are supported, but they may not work properly in the movie list.
- Files encoded with GMC (Global Motion Compensation) may not play.

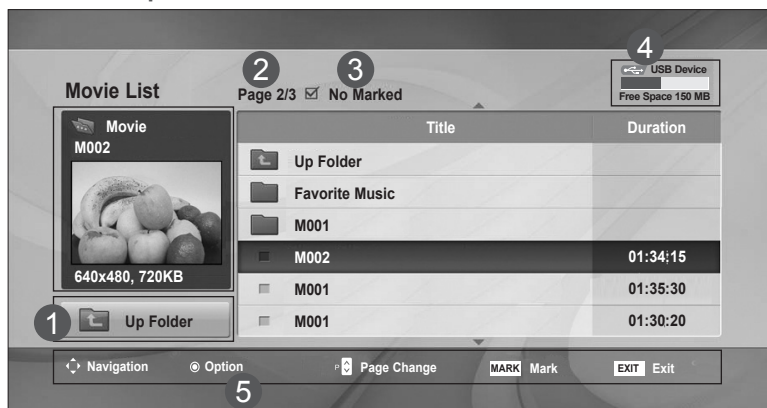
Extension name	Video Decoder	Audio Codec	Max Resolution
mpg, mpeg, vob, dat	MPEG1, MPEG2	AC3,MPEG,MP3,PCM	720x576@25p 720x480@30p
Avi, DivX, m4v	MPEG4-SP, MPEG4-ASP, DivX3.xx, DivX4.xx, DivX5.xx, DivX6.xx(Playback), Xvid	AC3,MPEG,MP3,PCM	

User Menus



USB Options

Screen Components



- 1 Moves to the Upper Level Folder
- 2 Current Page/Total Pages
- 3 Total Number of Marked Movie Files
- 4 Usable USB Memory
- 5 Corresponding Buttons on the Remote Control



Note

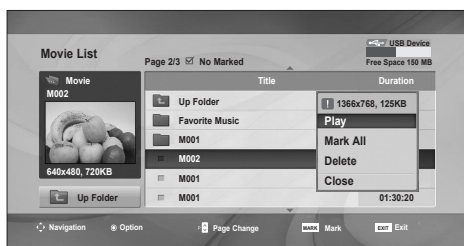
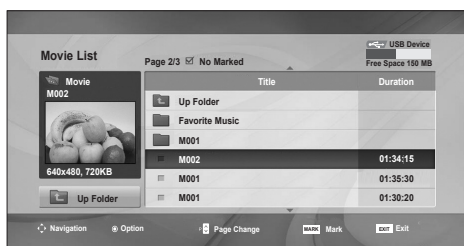
- Use <, > to move forward or backward to a specific frame while playing a movie. (<, > may not work properly for some files while playing a movie.)

User Menus



USB Options

Movie Selection and Pop-Up Menu



- Play:** Plays the selected movie. DivXplay is executed while the screen changes.
- Mark All:** Marks all movies in the folder.
- Unmark All :** Deselect all marked movies.
- Delete:** Deletes the selected movie.
- Close:** Closes the pop-up menu.

Using the remote control

	When playing, repeatedly, press REW (◀◀) to speed up ◀◀(x2) -> ◀◀◀◀(x4) -> ◀◀◀◀◀◀(x8) -> ◀◀◀◀◀◀◀◀(x16) -> ◀◀◀◀◀◀◀◀◀(x32). Repeatedly, press FF (▶▶) to speed up ▶▶(x2)-> ▶▶▶▶(x4) -> ▶▶▶▶▶▶(x8) -> ▶▶▶▶▶▶▶▶(x16) -> ▶▶▶▶▶▶▶▶▶▶(x32). Pressing these buttons repeatedly increases the fast forward/reverse speed.
	During playback, press Pause () and the still screen is displayed.
	During playback, stops the screen.
	Press Play(▶) to return to normal playback.



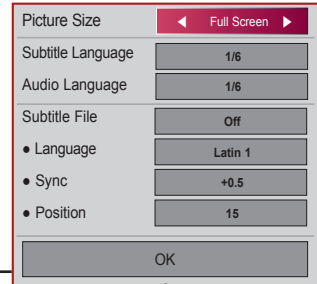
- If a file is not supported, an error message is displayed.

User Menus



Adjusts the USB options.

When you select the Set Video Play,



Picture Size : Sets to [Full Screen] or [Original Size].

Subtitle Language : Allows to select the language you want for the file with multiple subtitle tracks.

This option is not available if the file has only one subtitle track.

Audio Language : Allows to select the language you want for the file with multiple audio tracks.

This option is not available if the file has only one audio track.

Subtitle File : Sets to **On** or **Off**.

Language : Sets to one of Latin1, Latin2, Latin4, Latin5, Cyrillic, Greek, Hebrew, Chinese, Japanese and Korean.

Sync : Adjusts the subtitle delay from 0 and +5.0 in 0.5 second increments.

Position : Moves the subtitle position from 0 to 16.

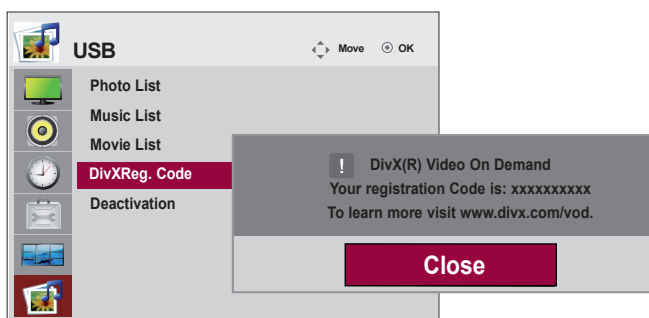
* You can move the video back or forward by clicking < or > key.

User Menus



USB Options

DivX Registration Code



Confirm the DivX registration code of the set. Using the registration code, movies can be rented or purchased at www.divx.com/vod. With a DivX registration code from another set, playback of rented or purchased DivX files is not allowed. (Only DivX files matched with the registration code of the purchased set are playable.)



ABOUT DivX VIDEO: DivX[®] is a digital video format created by DivX, Inc. This is an official DivX Certified device that plays DivX video. Visit www.divx.com for more information and software tools to convert your files into DivX video.

ABOUT DivX VIDEO-ON-DEMAND: This DivX Certified[®] device must be registered in order to play DivX Video-on-Demand (VOD) content. To generate the registration code, locate the DivX VOD section in the device setup menu. Go to vod.DivX.com with this code to complete the registration process and learn more about DivX VOD.

"DivX Certified to play DivX video, including premium content"

"Pat. 7,295,673; 7,460,668; 7,515,710; 7,519,274"



Note

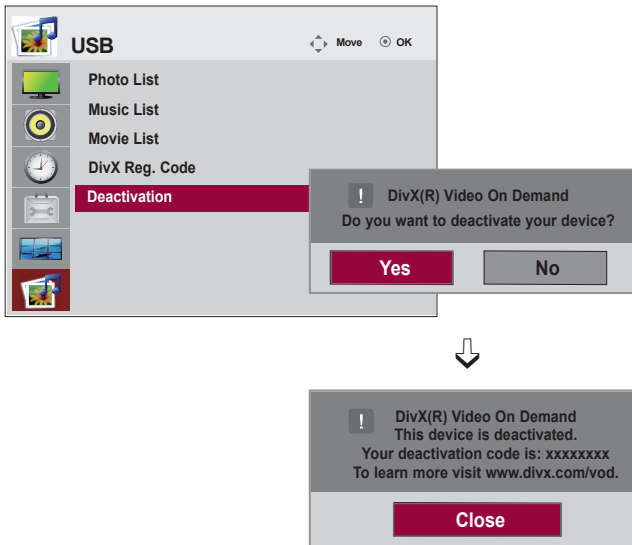
- Supported Movie File Types
Resolution: under 25 frames/sec (720x576 WxH pixels).
Frame rate : under 30 frames/sec (720x480)
- Video Codec: MPEG1, MPEG2, MPEG4 (doesn't support Microsoft MPEG4-V2, V3), DivX3.xx, DivX4.xx, DivX5.xx, DivX VOD (DRM), XviD, DivX6.xx (playback).
- When loading, some buttons may not work.

User Menus



USB Options

Deactivation



Deactivating devices allows users who have activated all the available devices through the web server and are blocked from activating more devices. DivX VOD allows the consumer to activate up to 6 devices under one account, but to replace or deactivate any of those devices, the consumer needs to contact DivX Support and request deletion. With this added feature, consumers will be able to deactivate the device themselves and manage their DivX VOD devices better.

Troubleshooting

No Image is Displayed

- Is the power cord connected?
 - See if the power cord is properly connected to the outlet.
- Is the power indicator light on?
 - See if the power switch is turned on.
 - May need service.
- Power is on, power indicator is Blue but the screen appears extremely dark.
 - Adjust brightness and contrast again.
 - Backlight may need repair.
- Is the power indicator amber?
 - If the set is in power saving mode, move the mouse or press any key.
 - Turn both devices off and then back on.
- Does the 'Out of range' message appear?
 - The signal from the PC (video card) is out of the vertical or horizontal frequency range of the set. Adjust the frequency range by referring to the specifications in this manual.
 - * **Maximum Resolution**
 - RGB : 1920 x 1080 @ 60 Hz**
 - HDMI/DVI : 1920 x 1080 @ 60 Hz**
- Does the 'Check signal cable' message appear?
 - The signal cable between PC and set is not connected. Check the signal cable.
 - Press INPUT on the remote control to check the input signal.

'Unknown Set' Message Appears When the Television is Connected

- Did you install the driver?
 - Install the television driver provided with the television, or download it from <http://www.lg.com>.
 - See if the plug & play function is supported by referring to your video card user manual.

'Key Lock On' Message Appears

- The 'Key Lock On' message appears when pressing MENU.
 - The control locking function prevents unintentional OSD changes due to careless usage. To unlock the controls, simultaneously press MENU and ► for several seconds. (You cannot set this function using the remote control. You can set this function on the set only.)

Troubleshooting

The Screen Image Looks Abnormal

- Is the screen position wrong?
 - Do thin lines appear in the background?
 - Horizontal noise appears or the characters look blurred.
 - The screen is displayed abnormally.
- D-Sub analog signal - Press AUTO on the remote control to automatically select the optimal screen status that fits the current mode. If adjustment is not satisfactory, use the OSD Position menu.
 - See if the video card resolution and frequency are supported by the television. If the frequency is out of range, set to the recommended resolution in the Control Panel "Display" Setting menu
 - D-Sub analog signal - Press "AUTO" on the remote control to automatically select an optimal screen status that fits into the current mode. If adjustment is not satisfactory, use the Clock OSD menu.
 - D-Sub analog signal - Press AUTO on the remote control to automatically select an optimal screen status that fits into the current mode. If adjustment is not satisfactory, use the OSD Phase menu.
 - The proper input signal is not connected to the signal port. Connect the signal cable that matches with the source input signal.

Ghost Image Appears on the Screen

- After-image appears when the set is turned off.
- If you display a fixed image for a long time, the pixels may be damaged quickly. Use the screen-saver function.

Note



- **Vertical frequency:** To enable the user to watch the set, the screen image should be changed tens of times every second like a fluorescent lamp. The vertical frequency or refresh rate is the times per second the image changes. The unit is Hz.
- **Horizontal frequency:** The horizontal interval is the time to display one vertical line. When 1 is divided by the horizontal interval, the number of horizontal lines displayed every second can be tabulated as the horizontal frequency. The unit is kHz.

Troubleshooting

The Audio Does Not Work

- No sound?
 - See if the audio cable is connected properly.
 - Adjust the volume.
 - See if the sound is set properly.
- Sound is too dull.
 - Select the appropriate equalizer setting.
- Sound is too low.
 - Adjust the volume.

Screen Color is Abnormal

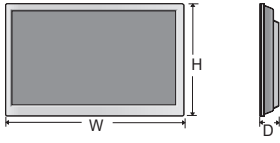
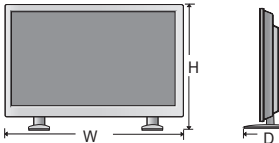
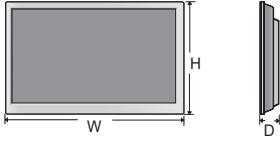
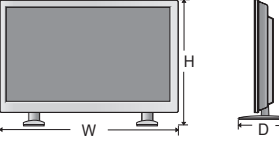
- Screen has poor color resolution (16 colors).
 - Set the number of colors to more than 24 bits (true color)
Select Control Panel - Display - Settings - Color Table menu in Windows.
- Screen color is unstable or mono-colored.
 - Check the connection status of the signal cable. Or, re-insert the PC video card.
- Do black spots appear on the screen?
 - Several pixels (red, green, white or black color) may appear on the screen, which can be attributable to the unique characteristics of the LCD panel. This is not a malfunction of the LCD.

Abnormal Operation

- The power suddenly turned off.
 - Is the sleep timer set?
 - Check the power control settings. Power interrupted.
 - "CAUTION! FAN STOP!"
If the power is turns off after this message appears, it means that the fan has malfunctioned. Contact your local service center.

Specifications

M4720C

LCD Panel	119.28 cm (46.96 inch) TFT (Thin Film Transistor) LCD (Liquid Crystal Display) Panel Visible diagonal size : 119.28 cm 0.5415 mm x 0.5415 mm X RGB (Pixel Pitch)				
Power	<table border="0"> <tr> <td>Rated Voltage</td> <td>AC 100-240 V~ 50 / 60 Hz 3.0 A</td> </tr> <tr> <td>Power Consumption</td> <td> On Mode : 260 W Typ. Sleep Mode : ≤ 1 W (RGB) / 2 W (HDMI/DVI) (If LAN OFF is selected) Off Mode : ≤ 0.5 W </td> </tr> </table>	Rated Voltage	AC 100-240 V~ 50 / 60 Hz 3.0 A	Power Consumption	On Mode : 260 W Typ. Sleep Mode : ≤ 1 W (RGB) / 2 W (HDMI/DVI) (If LAN OFF is selected) Off Mode : ≤ 0.5 W
Rated Voltage	AC 100-240 V~ 50 / 60 Hz 3.0 A				
Power Consumption	On Mode : 260 W Typ. Sleep Mode : ≤ 1 W (RGB) / 2 W (HDMI/DVI) (If LAN OFF is selected) Off Mode : ≤ 0.5 W				
Dimensions & Weight	<div style="display: flex; flex-wrap: wrap; justify-content: space-around;"> <div style="text-align: center;"> <p>[1]</p>  </div> <div style="text-align: center;"> <p>[2]</p>  </div> <div style="text-align: center;"> <p>[3]</p>  </div> <div style="text-align: center;"> <p>[4]</p>  </div> </div> <p>Width x Height x Depth</p> <p>[1] 107.95 cm (42.50 inch) x 62.46 cm (24.59 inch) x 12.29 cm (4.83 inch) [2] 107.95 cm (42.50 inch) x 69.77 cm (27.46 inch) x 29.83 cm (11.74 inch) [3] 107.95 cm (42.50 inch) x 62.46 cm (24.59 inch) x 12.92 cm (5.08 inch) [4] 107.95 cm (42.50 inch) x 69.77 cm (27.46 inch) x 29.83 cm (11.74 inch)</p>				
	<p>Net</p> <table border="0"> <tr> <td>[1] 22.2 kg (48.94 lb)</td> <td>[2] 23.6 kg (52.02 lb)</td> </tr> <tr> <td>[3] 23.0 kg (50.70 lb)</td> <td>[4] 24.4 kg (53.79 lb)</td> </tr> </table>	[1] 22.2 kg (48.94 lb)	[2] 23.6 kg (52.02 lb)	[3] 23.0 kg (50.70 lb)	[4] 24.4 kg (53.79 lb)
[1] 22.2 kg (48.94 lb)	[2] 23.6 kg (52.02 lb)				
[3] 23.0 kg (50.70 lb)	[4] 24.4 kg (53.79 lb)				

Note



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

Specifications

M5520C

LCD Panel	138.78 cm (54.64 inch) TFT (Thin Film Transistor) LCD (Liquid Crystal Display) Panel Visible diagonal size : 138.78 cm 0.630 mm x 0.630 mm X RGB (Pixel Pitch)										
Power	<table border="0"> <tr> <td>Rated Voltage</td> <td>AC 100-240 V~ 50/60 Hz 3.3 A</td> </tr> <tr> <td>Power Consumption</td> <td>On Mode : 320 W Typ.</td> </tr> <tr> <td></td> <td>Sleep Mode : ≤ 1 W (RGB) / 2 W (HDMI/DVI)</td> </tr> <tr> <td></td> <td>(If LAN OFF is selected)</td> </tr> <tr> <td></td> <td>Off Mode : ≤ 0.5 W</td> </tr> </table>	Rated Voltage	AC 100-240 V~ 50/60 Hz 3.3 A	Power Consumption	On Mode : 320 W Typ.		Sleep Mode : ≤ 1 W (RGB) / 2 W (HDMI/DVI)		(If LAN OFF is selected)		Off Mode : ≤ 0.5 W
Rated Voltage	AC 100-240 V~ 50/60 Hz 3.3 A										
Power Consumption	On Mode : 320 W Typ.										
	Sleep Mode : ≤ 1 W (RGB) / 2 W (HDMI/DVI)										
	(If LAN OFF is selected)										
	Off Mode : ≤ 0.5 W										
Dimensions & Weight	<div style="text-align: center;"> </div> <p>Width x Height x Depth</p> <p>[1] 125.1 cm (49.3 inch) x 72.2 cm (28.4 inch) x 10.4 cm (4.1 inch) [2] 125.1 cm (49.3 inch) x 79.5 cm (31.3 inch) x 29.8 cm (11.7 inch) [3] 125.1 cm (49.3 inch) x 72.2 cm (28.4 inch) x 10.4 cm (4.1 inch) [4] 125.1 cm (49.3 inch) x 79.5 cm (31.3 inch) x 29.8 cm (11.7 inch)</p> <p>Net</p> <table border="0"> <tr> <td>[1] 34.5 kg (76.05 lb)</td> <td>[2] 35.9 kg (79.14 lb)</td> </tr> <tr> <td>[3] 35.2 kg (77.60 lb)</td> <td>[4] 36.6 kg (80.68 lb)</td> </tr> </table>	[1] 34.5 kg (76.05 lb)	[2] 35.9 kg (79.14 lb)	[3] 35.2 kg (77.60 lb)	[4] 36.6 kg (80.68 lb)						
[1] 34.5 kg (76.05 lb)	[2] 35.9 kg (79.14 lb)										
[3] 35.2 kg (77.60 lb)	[4] 36.6 kg (80.68 lb)										

Note



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

Specifications

Video Signal	Max. Resolution	RGB : 1920 x 1080 @ 60 Hz HDMI/DVI : 1920 x 1080 @ 60 Hz - It may not be supported depending on the OS or video card type.
	Recommended Resolution	RGB : 1920 x 1080 @ 60 Hz HDMI/DVI : 1920 x 1080 @ 60 Hz - It may not be supported depending on the OS or video card type.
	Horizontal Frequency	RGB: 30 kHz to 83 kHz HDMI/DVI: 30 kHz to 83 kHz
	Vertical Frequency	RGB: 56 Hz to 75 Hz HDMI/DVI: 56 Hz to 60 Hz
	Synchronization Type	Composite/Separate/Digital
Input Connector		15-pin D-Sub type, HDMI/DVI(digital) Composite Video, Component, RS-232C, LAN, USB
Environmental Conditions	Operational Condition	Temperature: 0 °C to 40 °C , Humidity: 10 % to 80 %
	Storage Condition	Temperature: -20 °C to 60 °C , Humidity: 5 % to 95 %

Audio specifications are applicable only for models that support speakers.

Audio	RMS Audio Output	10 W + 10 W (R + L)
	Input Sensitivity	0.7 Vrms
	Speaker Impedance	8 Ω

Note



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

Specifications

● PC Mode - Preset Mode

Preset mode		Horizontal Frequency (kHz)	Vertical Frequency (Hz)	Preset mode		Horizontal Frequency (kHz)	Vertical Frequency (Hz)
1	640 x 350	31.469	70.8	*11	1280 x 768	47.7	60
2	720 x 400	31.468	70.8	*12	1360 x 768	47.72	59.799
*3	640 x 480	31.469	59.94	*13	1366 x 768	47.7	60
4	640 x 480	37.5	75	*14	1280 x 1024	63.981	60.02
*5	800 x 600	37.879	60.317	15	1280 x 1024	79.98	75.02
6	800 x 600	46.875	75	*16	1680 x 1050	65.290	59.954
7	832 x 624	49.725	74.55	*17	1920 x 1080	67.5	60
*8	1024 x 768	48.363	60				
9	1024 x 768	60.123	75.029				
*10	1280 x 720	44.772	59.855				

1 to 17: RGB mode

*: HDMI/DVI mode

● DTV Mode

	Component	HDMI/DVI (DTV)
480i	o	x
576i	o	x
480p	o	o
576p	o	o
720p	o	o
1080i	o	o
1080p	o	o

● Power Indicator

Mode	Set
On Mode	Blue
Sleep Mode	Amber
Off Mode	-

Note



- DTV/PC selection on HDMI/DVI inputs is available for PC resolutions: 640x480/60 Hz, 1280x720/60 Hz, 1920x1080/60 Hz and DTV resolutions: 480p, 720p, 1080p.

Use this method to connect several products to a single PC. You can control several products at a time by connecting them to a single PC.

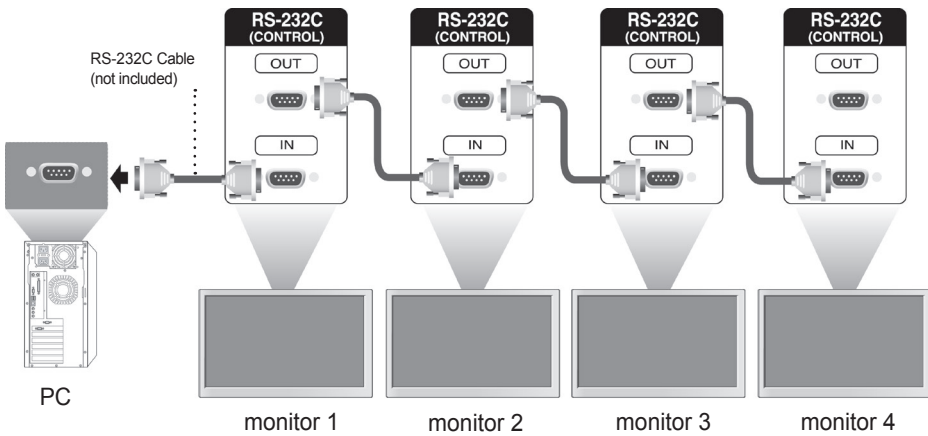
If the [Set ID] menu in [Option] is set to OFF, the monitor ID value should be set between 1 and 99.

Connecting the cable

Connect the RS-232C cable as shown in the picture.

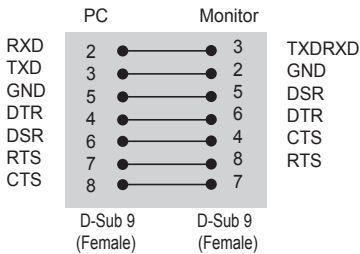
You need to purchase a cable to connect the RS-232C socket as it is not provided as the accessory.

The RS-232C protocol is used for communication between the PC and product. You can turn the product on/off, select an input source or adjust the OSD menu from your PC.

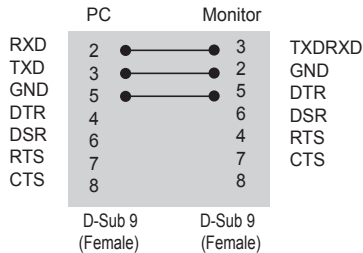


RS-232C Configurations

7-Wire Configurations (Standard RS-232C cable)



3-Wire Configurations (Not Standard)



Communication Parameter

- ▶ Baud Rate : 9600 buad Rate (UART)
- ▶ Data Length : 8 bit
- ▶ Parity Bit : None
- ▶ Stop Bit : 1bit
- ▶ Flow Control : None
- ▶ Communication Code : ASCII code
- ▶ Use a crossed (reverse) cable

 Command Reference List

	COMMAND 1	COMMAND 2	DATA1	DATA2	DATA3
01. Power	k	a	00H to 01H		
02. Input Select	k	b	02H to 09H		
03. Aspect Ratio	k	c	01H to 1FH		
04. Screen Mute	k	d	00H to 01H		
05. Volume Mute	k	e	00H to 01H		
06. Volume Control	k	f	00H to 64H		
07. Contrast	k	g	00H to 64H		
08. Brightness	k	h	00H to 64H		
09. Color	k	i	00H to 64H		
10. Tint	k	j	00H to 64H		
11. Sharpness	k	k	00H to 64H		
12. OSD Select	k	l	00H to 01H		
13. Remote Lock/ key Lock	k	m	00H to 01H		
14. Balance	k	t	00H to 64H		
15. Color Temperature	k	u	00H to 02H		
16. Abnormal state	k	z	FFH		
17. ISM mode	j	p	01H to 08H		
18. Auto configuration	j	u	01H		
19. Key	m	c	Key Code		
20. Tile Mode	d	d	00H to 55H		
21. Tile H Position	d	e	00H to 14H		
22. Tile V Position	d	f	00H to 14H		
23. Tile H Size	d	g	00H to 64H		
24. Tile V Size	d	h	00H to 64H		
25. Tile ID Set	d	i	00H to 19H		
26. Natural Mode (In Tile mode)	d	j	00H to 01H		
27. Picture mode(PSM)	d	x	00H to 06H		
28. Sound mode	d	y	01H to 05H		
29. Fan Fault check	d	w	FFH		
30. Elapsed time return	d	l	FFH		
31. Temperature value	d	n	FFH		
32. Lamp fault check	d	p	FFH		
33. Auto Volume	d	u	00H to 01H		
34. Speaker	d	v	00H to 01H		
35. Time	f	a	00H to 06H	00H to 17H	00H to 3BH
36. On Timer (On/Off Timer) Time	f	d	F1H to F4H E0H to E4H 01H to 80H	00H to 17H	00H to 3BH
37. Off Timer (On/zOff Timer) Time	f	e	F1H to F4H E0H to E4H 01H to 80H	00H to 17H	00H to 3BH

Controlling Multiple Set

	COMMAND 1	COMMAND 2	DATA1	DATA2	DATA3
38. Scheduling input select	f	u	F1H to F4H	02H to 09H	
39. Sleep Time	f	f	00H to 08H		
40. Auto Sleep	f	g	00H to 01H		
41. Power On Delay	f	h	00H to 64H		
42. Language	f	i	00H to 09H		
43. DPM Select	f	j	00H to 01H		
44. Reset	f	k	00H to 02H		
45. Power Saving	f	l	00H to 03H		
46. Power Indicator	f	o	00H to 01H		
47. Serial no.	f	y	FFH		
48. S / W Version	f	z	FFH		
49. Input Select	x	b	20H to A0H		

● Transmission / Receiving Protocol

Transmission

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

- * [Command 1]: First command. (k, j, m, d, f, x)
- * [Command 2]: Second command.(a to u)
- * [Set ID]: Set up the Set ID number of product.
range : 01H to 63H. by setting '0', server can control all products.
- * In case of operating with more than 2 sets using set ID as '0' at the same time, it should not be checked the ack message. Because all sets will send the ack message, so it's impossible the check the whole ack messages.
- * [DATA]: To transmit command data.
Transmit 'FF' data to read status of command.
- * [Cr]: Carriage Return
ASCII code '0 x 0 D'
- * []: ASCII code Space (0 x 20)

OK Acknowledgement

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

- * The Product 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.

Error Acknowledgement

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

- * If there is error, it returns NG

● Transmission / Receiving Protocol

01. Power(Command : a)

- ▶ To control Power On / Off of the Set.

Transmission

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

Data 0 : Power Off 1 : Power On

Acknowledgement

```
[a][ ][Set ID][ ][OK][Data][x]
```

- ▶ To show the status of Power On / Off.

Transmission

```
[k][a][ ][Set ID][ ][FF][Cr]
```

Acknowledgement

```
[a][ ][Set ID][ ][OK][Data][x]
```

Data 0 : Power Off 1 : Power On

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

- ▶ To select input source for the Set.
You can also select an input source using the INPUT button on the remote control.

Transmission

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

Data 2 : AV
4 : Component
7 : RGB (PC)
8 : HDMI (DTV)
9 : HDMI (PC)

Acknowledgement

```
[b][ ][Set ID][ ][OK][Data][x]
```

Data 2 : AV
4 : Component
7 : RGB (PC)
8 : HDMI (DTV)
9 : HDMI (PC)

● Transmission / Receiving Protocol

03. Aspect Ratio(Command : c) (Main picture format)

- ▶ To adjust the screen format.

You can also adjust the screen format using the ARC (Aspect Ratio Control) button on remote control or in the Screen menu.

Transmission

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

Data 1 : Normal Screen (4 : 3)

2 : Wide Scran (16 : 9)

4 : Zoom (AV)

6 : Original (AV)

7 : 14 : 9 (AV)

9 : Just Scan (HD DTV) * When the RGB, HDMI / DVI PC mode(1:1)

10 to 1F : Cinema Zoom 1 to 16

B : Full Wide

Acknowledgement

```
[c][ ][Set ID][ ][OK][Data][x]
```

04. Screen Mute(Command : d)

- ▶ To select screen mute on / off.

Transmission

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

Data 0 : Screen mute off (Picture on)

1 : Screen mute on (Picture off)

Acknowledgement

```
[d][ ][Set ID][ ][OK][Data][x]
```

● Transmission / Receiving Protocol

05. Volume Mute(Command : e)

- ▶ To control On/Off of the Volume Mute.

Transmission

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

Data 0 : Volume Mute On (Volume Off)
 1 : Volume Mute Off (Volume On)

Acknowledgement

```
[e][ ][Set ID][ ][OK][Data][x]
```

Data 0 : Volume Mute On (Volume Off)
 1 : Volume Mute Off (Volume On)

06. Volume Control(Command : f)

- ▶ To adjust Volume

Transmission

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

Data Min : 00H to Max : 64H
 (Hexadecimal code)

Acknowledgement

```
[f][ ][Set ID][ ][OK][Data][x]
```

Data Min : 00H to Max : 64H

* Real Data Mapping

0 : STEP 0
 :
 A : STEP 10
 :
 F : STEP 15
 10 : STEP 16
 :
 64 : STEP 100

● Transmission / Receiving Protocol

07. Contrast(Command : g)

- ▶ To adjust screen contrast.

You can also adjust the contrast in the Picture menu.

Transmission

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

Data Min : 00H to Max : 64H

Acknowledgement

```
[g][ ][Set ID][ ][OK][Data][x]
```

* Refer to 'Real data mapping' page A7.

08. Brightness(Command : h)

- ▶ To adjust screen brightness.

You can also adjust the brightness in the Picture menu.

Transmission

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

Data Min : 00H to Max : 64H

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

Acknowledgement

```
[h][ ][Set ID][ ][OK][Data][x]
```

* Refer to 'Real data mapping' page A7.

● Transmission / Receiving Protocol

09. Color(Command : i) (Video Timing only)

▶ To adjust the screen color.

You can also adjust the color in the Picture menu.

Transmission

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

Data Min : 00H to Max : 64H
(Hexadecimal code)

* Refer to 'Real data mapping' page A7.

Acknowledgement

```
[i][ ][Set ID][ ][OK][Data][x]
```

Data Min : 00H to Max : 64H

10. Tint(Command : j) (Video Timing only)

▶ To adjust the screen tint.

You can also adjust the tint in the Picture menu.

Transmission

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

Data Red : 00H to Green: 64H
(Hexadecimal code)

* Refer to 'Real data mapping' page A7.

Acknowledgement

```
[j][ ][Set ID][ ][OK][Data][x]
```

Data Red : 00H to Green : 64H

* Tint Real data mapping

0 : Step 0 to Red

:

64 : Step 100 to Green

● Transmission / Receiving Protocol

11. Sharpness(Command : k) (Video Timing only)

- ▶ To adjust the screen Sharpness.

You can also adjust the sharpness in the Picture menu.

Transmission

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

Data Min : 00H to Max : 64H

(Hexadecimal code)

* Refer to 'Real data mapping' page A7.

Acknowledgement

[k][][Set ID][][OK][Data][x]

Data Min : 00H to Max : 64H

12. OSD Select(Command : l)

- ▶ To control OSD on/off to the set.

Transmission

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

Data 0 : OSD Off 1 : OSD On

Acknowledgement

[l][][Set ID][][OK][Data][x]

Data 0 : OSD Off 1 : OSD On

13. Remote Lock /Key Lock (Command : m)

- ▶ To control Remote Lock on/off to the set.

This function, when controlling RS-232C, locks the remote control and the local keys.

Transmission

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

Data 0 : Off 1 : On

Acknowledgement

[m][][Set ID][][OK][Data][x]

Data 0 : Off 1 : On

● Transmission / Receiving Protocol

14 Balance(Command : t)

▶ To adjust the sound balance.

Transmission

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

Data Min : 00H to Max : 64H

(Hexadecimal code)

00H : Step L50

64H : Step R50

Acknowledgement

```
[t][ ][Set ID][ ][OK][Data][x]
```

Data Min : 00H to Max : 64H

00H : Step 0 to L50

64H : Step 100 to R50

* Balance : L50 to R50

15. Color Temperature (Command : u)

▶ To adjust the screen color temperature.

Transmission

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

Data 0 : Medium

1 : Cool

2 : Warm

Acknowledgement

```
[u][ ][Set ID][ ][OK][Data][x]
```

Data 0 : Medium

1 : Cool

2 : Warm

● Transmission / Receiving Protocol

16. Abnormal state (Command : z)

▶ Abnormal State : Used to Read the power off status when Stand-by mode.

Transmission

```
[k][z][ ][Set ID][ ][Data][Cr]
```

Data FF : Read

Acknowledgement

```
[z][ ][Set ID][ ][OK][Data][x]
```

- 0 : Normal (Power on and signal exist)
- 1 : No signal (Power on)
- 2 : Turn the monitor off by remote control
- 3 : Turn the monitor off by sleep time function
- 4 : Turn the monitor off by RS-232C function
- 8 : Turn the monitor off by off time function
- 9 : Turn the monitor off by auto off function

17. ISM mode(Command: j p)

▶ Used to select the afterimage preventing function.

Transmission

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

- Data
- 1H : Inversion
 - 2H : Orbiter
 - 4H : White Wash
 - 8H : Normal

Acknowledgement

```
[p][ ][Set ID][ ][OK][Data][x]
```


● Transmission / Receiving Protocol

18. Auto Configure(Command: j u)

- ▶ To adjust picture position and minimize image shaking automatically. it works only in RGB(PC) mode.

Transmission

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

Data 1 : To set

Acknowledgement

[u][][Set ID][][OK][Data][x]

19. Key(Command : m c)

- ▶ To send IR remote key code.

Transmission

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

Data Key code : Refer to page A 32.

Acknowledgement

[c][][Set ID][][OK][Data][x]

● Transmission / Receiving Protocol

20. Tile Mode(Command : d d)

▶ Change a Tile Mode.

Transmission

[d][d][][Set ID][][Data][x]

Data	Description
00 or 11	Tile mode is off.
12	1 x 2 mode(column x row)
13	1 x 3 mode
14	1 x 4 mode
...	...
55	5 x 5 mode

* The data can not be set to 0X or X0 except 00.

Acknowledgement

[d][][00][][OK/NG][Data][x]

● Transmission / Receiving Protocol

21. Tile H Position(Command : d e)

▶ To set the Horizontal position.

Transmission

[d][e][][Set ID][][Data][x]

Data Min : 00H to Max : 14H

00H : Step -10(Left)

14H : Step 10(Right)

Acknowledgement

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

22. Tile V Position(Command : d f)

▶ To set the Vertical position.

Transmission

[d][f][][Set ID][][Data][x]

Data Min : 00H to Max : 14H

00H : Step -10(Down)

14H : Step 10(Up)

Acknowledgement

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

● Transmission / Receiving Protocol

23. Tile H Size(Command : d g)

▶ To set the Horizontal size.

Transmission

[d][g][][Set ID][][Data][x]

Data Min : 00H to Max : 64H

* Refer to 'Real data mapping' page A7.

Acknowledgement

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

24. Tile V Size(Command : d h)

▶ To set the Vertical size.

Transmission

[d][h][][Set ID][][Data][x]

Data Min : 00H to Max : 64H

* Refer to 'Real data mapping' page A7

Acknowledgement

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

● Transmission / Receiving Protocol

25. Tile ID Set(Command : d i)

▶ To assign the Tile ID for Tiling function .

Transmission

[d][i][][Set ID][][Data][x]

Data Min : 00H to Max : 19H
(Hexadecimal code)

Acknowledgement

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

26 Natural Mode (In Tile mode) (Command : d j)

▶ To assign the Tile Natural mode for Tiling function .

Transmission

[d][j][][Set ID][][Data][x]

Data 0 : Natural Off
1 : Natural On
ff : Read Status

Acknowledgement

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

27. Picture Mode (Command : d x)

▶ To adjust the picture mode.

Transmission

[d][x][][Set ID][][Data][x]

Data Structure

Data(Hex)	MODE
00	Vivid
01	Standard
02	Cinema
03	Sport
04	Game
05	Export 1
06	Export 2

Acknowledgement

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

● Transmission / Receiving Protocol

28. Sound Mode (Command : d y)

▶ To adjust the Sound mode.

Transmission

[d][y][][Set ID][][Data][X]

Data Structure

Data(Hex)	Mode
01	Standard
02	Music
03	Cinema
04	sport
05	Game

Acknowledgement

[y][][Set ID][][OK/NG][Data][x]

29. Fan Fault check (Command : d w)

▶ To check the Fan fault of the TV.

Transmission

[d][w][][Set ID][][Data][x]

* The data is always FF(in Hex).

Data ff: Read Status

Acknowledgement

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

* Data is the status value of the Fan fault.

Data 0: Fan fault

1: Fan OK

2: N/A(Not Available)

● Transmission / Receiving Protocol

30. Elapsed time return(Command : d l)

▶ To read the elapsed time.

Transmission

```
[d][l][ ][Set ID][ ][Data][x]
```

* The data is always FF(in Hex).

Acknowledgement

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

* The data means used hours.
(Hexadecimal code)

31. Temperature value (Command : d n)

▶ To read the inside temperature value.

Transmission

```
[d][n][ ][Set ID][ ][Data][x]
```

* The data is always FF(in Hex).

Acknowledgement

```
[n][ ][Set ID][ ][OK/NG][Data][x]
```

* The data is 1 byte long in Hexadecimal.

32. Lamp fault Check(Command : d p)

▶ To check lamp fault.

Transmission

```
[d][p][ ][Set ID][ ][Data][x]
```

* The data is always FF(in Hex).

Acknowledgement

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

Data 0 : Lamp Fault

1 : Lamp OK

2 : N/A(DPM/Power Off)

● Transmission / Receiving Protocol

33. Auto volume (Command : d u)

- ▶ Automatically adjust the volume level.

Transmission

```
[d][u][ ][Set ID][ ][Data][x]
```

Data 0 : Off

1 : On

Acknowledgement

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

34. Speaker (Command : d v)

- ▶ Turn the speaker on or off.

Transmission

```
[d][v][ ][Set ID][ ][Data][x]
```

Data 0 : Off

1 : On

Acknowledgement

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


● Transmission / Receiving Protocol

35. Time (Command : f a)

▶ Set the current time.

Transmission

[f][a][Set ID][Data1][Data2][Data3][Cr]

[Data1]

- 0 : Monday
- 1 : Tuesday
- 2 : Wednesday
- 3 : Thursday
- 4 : Friday
- 5 : Saturday
- 6 : Sunday

[Data2]

0H to 17H (Hours)

[Data3]

00H to 3BH (Minutes)

Acknowledgement

[a][Set ID][OK/NG][Data1][Data2][Data3][x]

*When reading data, FFH is inputted for [Data1], [Data2] and [Data3].
In other cases, all are treated as NG.

● Transmission / Receiving Protocol

36. On Timer (On/Off Timer) Time (Command : f d)

▶ Set On Timer.

Transmission

[f][d][Set ID][Data1][Data2][Data3][Cr]

[Data1]

1. f1h to f4h(read one index)

f1: read 1st index of On Time List,

f2: read 2nd index of On Time List

f3: read 3rd index of On Time List

f4: read 4th index of On Time List

2. e1h~e4h(delete one index), e0h(delete all indexes)

e0: delete all indexes of On Time List

e1: delete 1st index of On Time List

e2: delete 2nd index of On Time List

e3: delete 3rd index of On Time List

e4: delete 4th index of On Time List

3. 01h to 80h (write) (Day of Week)

bit0 (01h) : Monday

bit1 (02h) : Tuesday

bit2 (04h) : Wednesday

bit3 (08h) : Thursday

bit4 (10h) : Friday

bit5 (20h) : Saturday

bit6 (40h) : Sunday

bit7 (80h) : Everyday

(1fh) : Monday to Friday

(3fh) : Monday to Saturday

(60h) : Saturday to Sunday

[Data 2]

00h to 17h (Hours)

[Data 3]

00h to 3bh (Minutes)

*When you read/delete the current on time list, all of [Data2][Data3] are have to be FFh.

ex1: fd 01 f1 ff ff - when you read 1st index of On Time List

ex2: fd 01 e1 ff ff - when you delete 1st index of On Time List

ex3: fd 01 3f 02 03 - when you write one On Time Data, "Monday to Saturday, 02:03"

Acknowledgement

[d][Set ID][OK][Data1][Data2][Data3][x]

● Transmission / Receiving Protocol

37. Off Timer (On/Off Timer) Time (Command : f e)
 ▶ Set Off Timer.

Transmission

```
[f][e][Set ID][Data1][Data2][Data3][Cr]
```

[Data 1]

1. f1h to f4h(read one index)
 - f1: read 1st index of Off Time List
 - f2: read 2nd index of Off Time List
 - f3: read 3rd index of Off Time List
 - f4: read 4th index of Off Time List

2. e1h to e4h(delete one index), e0h(delete all indexes)
 - e0: delete all indexes of Off Time List
 - e1: delete 1st index of Off Time List
 - e2: delete 2nd index of Off Time List
 - e3: delete 3rd index of Off Time List
 - e4: delete 4th index of Off Time List

3. 01h to 80h (write) (Day of Week)
 - bit0 (01h) : Monday
 - bit1 (02h) : Tuesday
 - bit2 (04h) : Wednesday
 - bit3 (08h) : Thursday
 - bit4 (10h) : Friday
 - bit5 (20h) : Saturday
 - bit6 (40h) : Sunday
 - bit7 (80h) : Everyday
 - (1fh) : Monday to Friday
 - (3fh) : Monday to Saturday
 - (60h) : Saturday to Sunday

[Data 2]

00h to 17h (Hours)

[Data 3]

00h to 3bh (Minutes)

*When you read/delete the current on time list, all of [Data2][Data3] are have to be FFh.

ex1: fd 01 f1 ff ff - when you read 1st index of Off Time List

ex2: fd 01 e1 ff ff - when you delete 1st index of Off Time List

ex3: fd 01 3f 02 03 - when you write one Off Time Data, "Monday to Saturday, 02:03"

Acknowledgement

```
[e][Set ID][OK][Data1][Data2][Data3][x]
```

● Transmission / Receiving Protocol

38. Scheduling Input select (Command : f u) (Main Picture Input)

► To select input source for TV depending on day.

Transmission

[f][u][][Set ID][][Data1][][Data2][Cr]

[Data 1]

1. f1h to f4h(write/read one index)

f1: read 1st index of On Time Input

f2: read 2nd index of On Time Input

f3: read 3rd index of On Time Input

f4: read 4th index of On Time Input

[Data 2]

Input

Data(Hex)	INPUT
02	AV
04	Component
07	RGB - PC
08	HDMI/DVI - HD-DVD
09	HDMI/DVI - PC

*When you read/delete the current On Time Input, [Data2] needs to be FFh.

(ex1: fu 01 f1 ff - when you read 1st index of On Time Input

ex2: fu 01 f3 02 - when you write one On Time Input Data in to 3rd index, "AV")

Acknowledgement

[u][][Set ID][][OK][Data1][Data2][x]
--

● Transmission / Receiving Protocol

39. Sleep Time (Command : f f)

▶ Set Sleep Time.

Transmission

[f][f][Set ID][Data][Cr]

Data

0 : Off

1 : 10

2 : 20

3 : 30

4 : 60

5 : 90

6 : 120

7 : 180

8 : 240

Acknowledgement

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

40. Auto Sleep (Command : f g)

▶ Set Auto Sleep.

Transmission

[f][g][Set ID][Data][Cr]

Data 0 : Off

1: On

Acknowledgement

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

● Transmission / Receiving Protocol

41. Power On Delay (Command : f h)

▶ Set the schedule delay when the power is turned on (Unit: second).

Transmission

```
[f][h][ ][Set ID][ ][Data][Cr]
```

Data : 00H to 64H (Data value)

* Refer to 'Real data mapping' page A7

Acknowledgement

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

42. Language (Command : f i)

▶ Set the OSD language.

Transmission

```
[f][i][ ][Set ID][ ][Data][Cr]
```

Data

- 0 : English
- 1 : French
- 2 : German
- 3 : Spanish
- 4 : Italian
- 5 : Portuguese
- 6 : Chinese
- 7 : Japanese
- 8 : Korean
- 9 : Russian

Acknowledgement

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

● Transmission / Receiving Protocol

43. DPM Select (Command : f j)

- ▶ Set the DPM (Display Power Management) function.

Transmission

```
[f][j][Set ID][Data][Cr]
```

Data 0 : Off

1 : On

Acknowledgement

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

44. Reset (Command : f k)

- ▶ Execute the Picture, Screen and Factory Reset functions.

Transmission

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

Data

0 : Picture Reset

1 : Screen Reset

2 : Factory Reset

Acknowledgement

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

● Transmission / Receiving Protocol

45. Power saving(Command : f l)

▶ To set the Power saving mode.

Transmission

```
[f][l][Set ID][Data][Cr]
```

Data 0 : Off

1: (static level 1)

2: (static level 2)

3: (static level 3)

Acknowledgement

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

46. Power Indicator (Command : f o)

▶ To set the LED for Power Indicator

Transmission

```
[f][o][Set ID][Data][Cr]
```

Data 0 : Off

1: On

Acknowledgement

```
[o][Set ID][OK/NG][Data][x]
```


● Transmission / Receiving Protocol

47. Serial no.Check (Command : f y)

▶ To read the serial numbers

Transmission

```
[f][y][ ][Set ID][ ][Data][Cr]
```

Data FF (to read the serial numbers)

Acknowledgement

```
[y][ ][Set ID][ ][OK/NG][Data1] ~ [Data13] [x]
```

* The data format is ASCII Code.

48. S/W Version (Command : f z)

▶ Check the software version.

Transmission

```
[f][z][ ][Set ID][ ][Data][Cr]
```

Data FFH : Read

Acknowledgement

```
[z][ ][Set ID][ ][OK/NG][Data][x]
```

● Transmission / Receiving Protocol

49. Input Select (Command : x b)

▶ To select input source for the Set.

Transmission

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

Data 20H : AV
 40H : Component
 60H : RGB (PC)
 90H : HDMI/DVI (DTV)
 A0H : HDMI/DVI (PC)

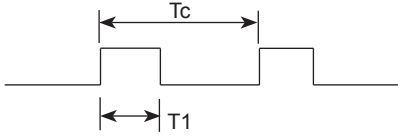
Acknowledgement

[b][][Set ID][][OK][Data][x]

Data 20H : AV
 40H : Component
 60H : RGB (PC)
 90H : HDMI/DVI (DTV)
 A0H : HDMI/DVI (PC)

Remote Control IR Code

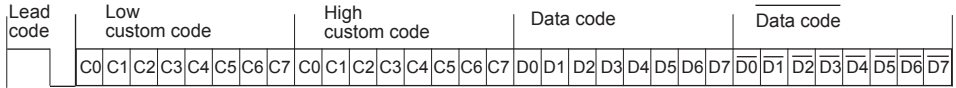
Output waveform
single pulse, modulated with 37.917kHz signal at 455kHz



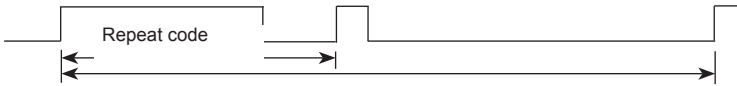
Carrier frequency
 $FCAR = 1 / T_c = f_{osc} / 12$
 Duty ratio = $T_1 / T_c = 1 / 3$

► Configuration of frame

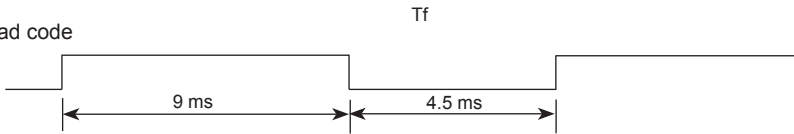
▪ 1st frame



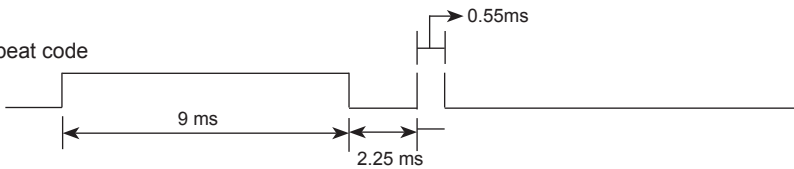
▪ Repeat frame



► Lead code

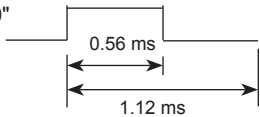


► Repeat code

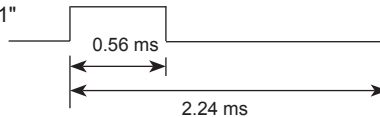


► Bit description

▪ Bit "0"

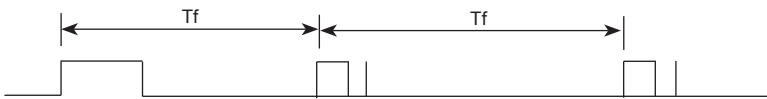


▪ Bit "1"



► Frame interval : T_f

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



$T_f = 108 \text{ ms @ } 455 \text{ kHz}$

Code(Hex)	Function	Note
40	UP(∧)	R/C Button
41	DOWN(∨)	R/C Button
06	RIGHT(>)	R/C Button
07	LEFT(<)	R/C Button
08	POWER ON/OFF	R/C Button
C4	MONITOR ON	R/C Button (Discrete IR Code)
C5	MONITOR OFF	R/C Button (Discrete IR Code)
09	MUTE	R/C Button
95	Energy Saving	R/C Button
0B	INPUT	R/C Button
43	MENU	R/C Button
5B	EXIT	R/C Button
4D	PSM	R/C Button
44	OK	R/C Button
10	Number Key 0	R/C Button
11	Number Key 1	R/C Button
12	Number Key 2	R/C Button
13	Number Key 3	R/C Button
14	Number Key 4	R/C Button
15	Number Key 5	R/C Button
16	Number Key 6	R/C Button
17	Number Key 7	R/C Button
18	Number Key 8	R/C Button
19	Number Key 9	R/C Button
79	ARC(MARK)	R/C Button (Discrete IR Code)
02	Vol+	R/C Button
03	Vol-	R/C Button

Code(Hex)	Function	Note
E0	Bright ^ (Page UP)	R/C Button
E1	Bright v (Page Down)	R/C Button
28	BACK	R/C Button
99	AUTO CONFIC	R/C Button (Discrete IR Code)
72	ID ON(Red Color)	R/C Button
71	ID OFF(Green Color)	R/C Button
63	(Yellow Color)	R/C Button
61	(Blue Color)	R/C Button
7B	TILE	R/C Button
B0	▶	R/C Button
B1	■	R/C Button
BA	II	R/C Button
8F	◀◀	R/C Button
8E	▶▶	R/C Button
5A	AV	Discrete IR Code (Input AV Selection)
BF	COMPONENT	Discrete IR Code(Input COMPONENT Selection)
D5	RGB PC	Discrete IR Code (Input RGB PC Selection)
C6	HDMI/DVI	Discrete IR Code (Input HDMI/DVI Selection)
76	ARC (4:3)	Discrete IR Code (Only 4 : 3 mode)
77	ARC (16:9)	Discrete IR Code (Only 16 : 9 mode)
AF	ARC (ZOOM)	Discrete IR Code (Only ZOOM, Cinena ZOOM mode)



Make sure to read the Safety Precautions before using the product. Keep the Owner's Manual(CD) in an accessible place for future reference. The model and serial number of the SET is located on the back and one side of the SET. Record it below should you ever need service.

MODEL _____

SERIAL _____

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



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

Temporary noise is normal when powering ON or OFF this device.

CHILD SAFETY:

It Makes A Difference How and Where
You Use Your Flat Panel Display

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 MANUFACTURER 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 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

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