LG
Life's Good

INSTALLATION MANUAL

LED TV*

* LG LED TV applies LCD screen with LED backlights.

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

UR64*

UR76*

MFL71684531
(2301-REV01)

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ENGLISH

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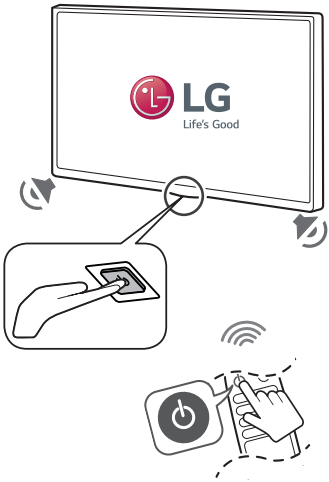
Location and Function of Controls

Parts and Button



Basic functions

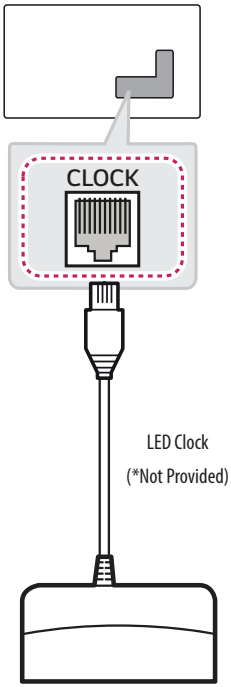
	Power On (Press) Power Off[1] (Press and Hold) Menu Control (Press[2]) Menu Selection (Press and Hold[3])

1 All running apps will close.
2 You can access and adjust the menu by pressing the button when TV is on.
3 You can use the function when you access menu control.

LED Clock Connection

(Depending on model)

This TV can be connected to a LED Clock via the **CLOCK** port.

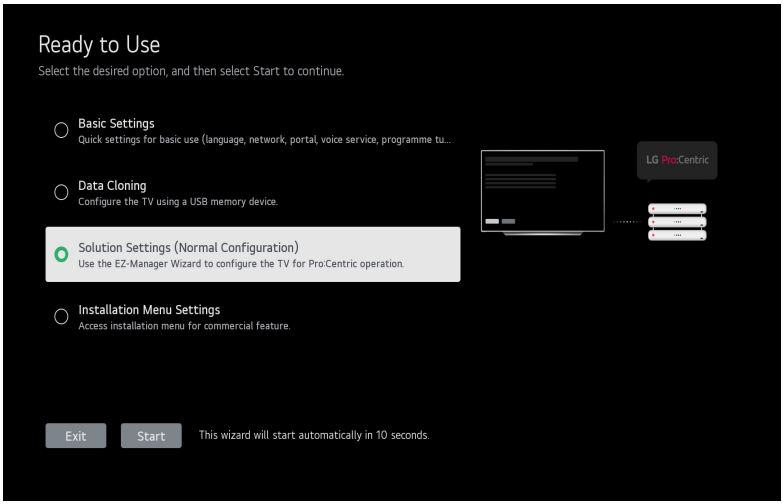


First Use Wizard

* Images shown may differ from your TV.

(Depending on model)

- There are four options - **Basic Settings**, **Data Cloning**, **Solution Settings**, and **Installation Menu Settings**. Each menu can access by **Start** button. (Normal Configuration is the default focus item.)



Basic Settings

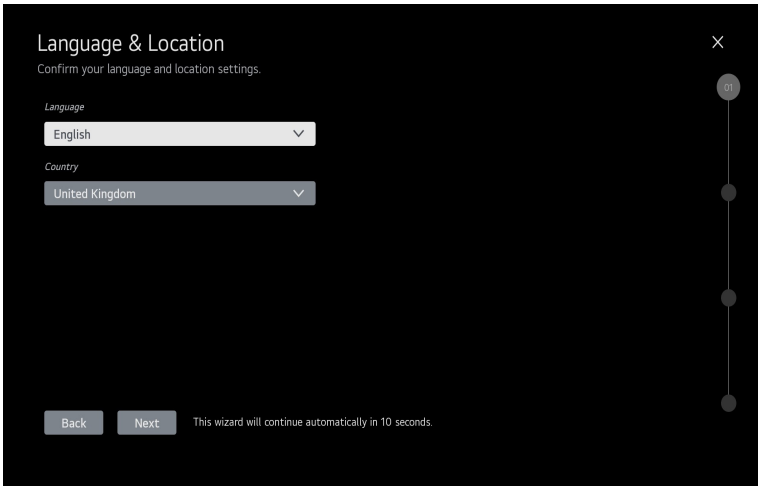
(Depending on model)

This menu is for Basic Settings related to language, network, portal, voice service coverage and programme tuning without SI (Pro:Centric) setting. There are four steps for it.

Language & Location

(Depending on model)

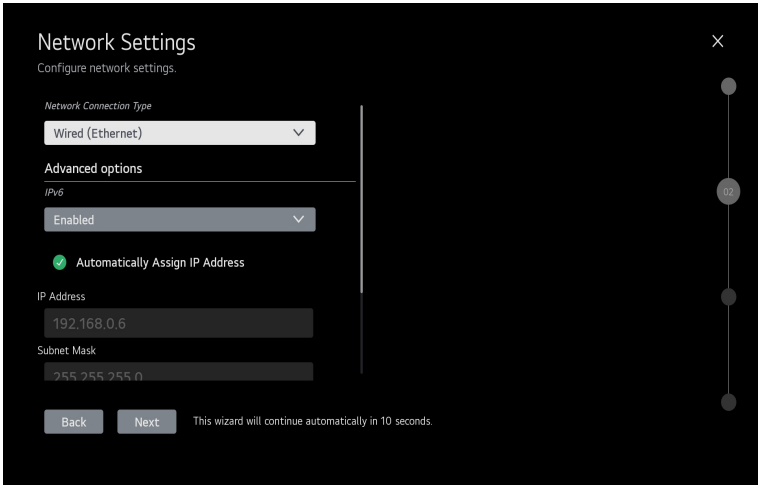
- Select the **Language** and **Country**. Some countries need to select the **Time Zone**.



Network Settings

(Depending on model)

- Set Network connection. You can connect easily to wired/wireless network. ("Network Settings" on page 30)
  Wireless (Auto Wi-Fi) : Connect a default hidden SSID/PW. (SSID : lgwebostv, PW : procentric, Security : WPA/WPA2 PSK)



Portal Settings

(Depending on model)

- Set the Portal Mode and Portal Auto Start.

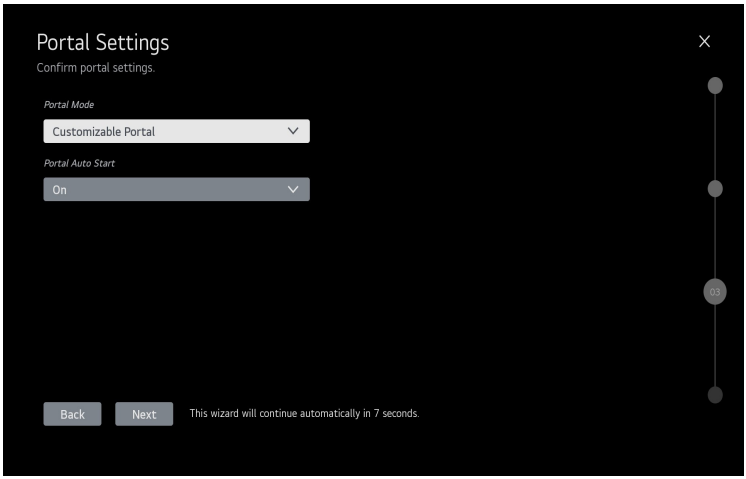
Portal Mode

(Depending on model)

- You can select '**Default Portal**' (Use webOS default portal), '**Customizable Portal**' (Use editable Portal), or '**None**' (Do not use portal).

Portal Auto Start

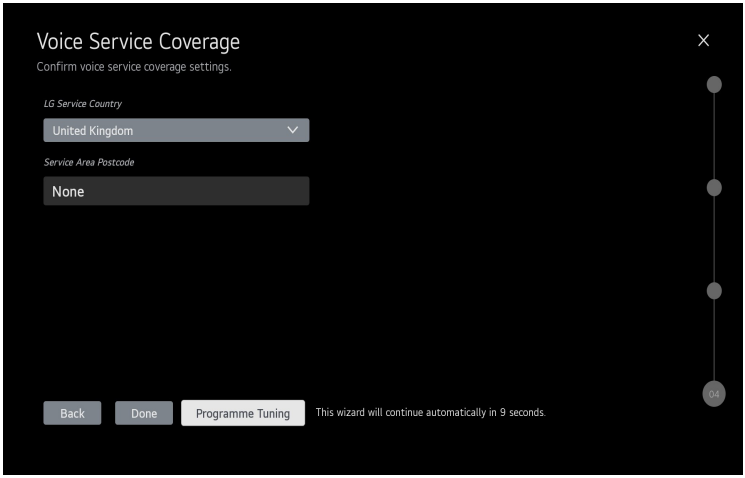
- You can select '**On**' or '**Off**'. If you select '**On**', Portal (Home Launcher) will be execute automatically after TV on.



Voice Service Coverage

(Depending on model)

- Set the voice service coverage. You can set **LG Service Country** and **Service Area Postcode(Depending on model)** for voice service.



Data Cloning

(Depending on model)

Access Data cloning menu of TV Manager application for applying cloning file.

Solution Settings

(Depending on model)

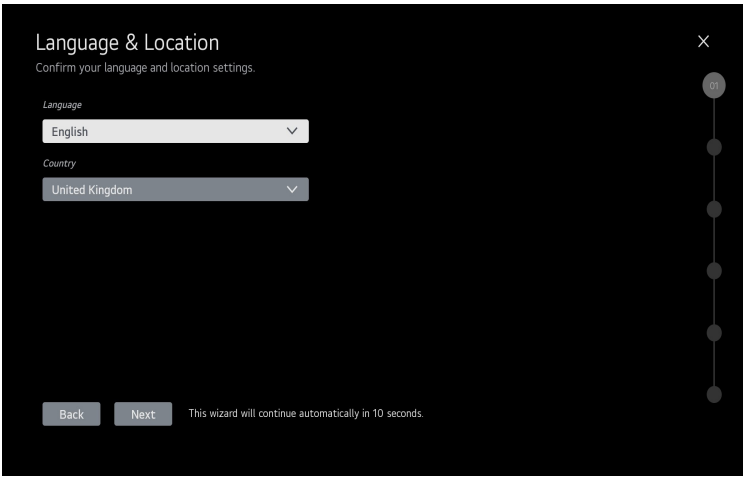
The Pro:Centric Platform enables you to simply install, manage and use guest-centric solutions. The default Domain "procentric.local" and IP Server Address are needed to be registered in DNS TV will contact the IP Server using the default Domain "procentric.local" via IP on server search page. If TV doesn't contact the Server, TV will search the pre-defined programme earlier than all programmes. (Only DVB-C)

The frequencies of pre-defined programmes are below.

- Germany: '51000, 858000, 778000, 698000, 618000, 538000, 458000, 378000, 298000, 218000, 138000 KHz'.
- Philippines 6 MHz: '57000, 651000, 591000, 531000, 471000, 411000, 351000, 291000, 231000, 171000, 111000 KHz'.
- Other Country: '50000, 842000, 762000, 682000, 602000, 522000, 442000, 362000, 282000, 202000, 122000 KHz'.

Language & Location selection

(Depending on model)

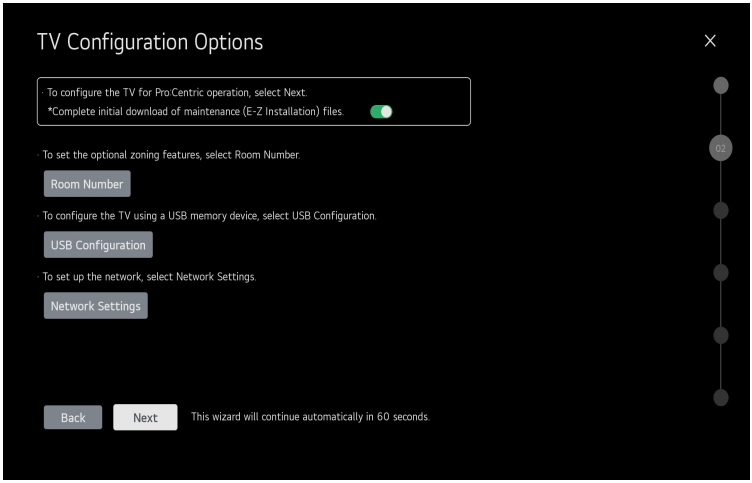


- Please select the **Language** and **Country**. Some countries need to select the **Time Zone.**

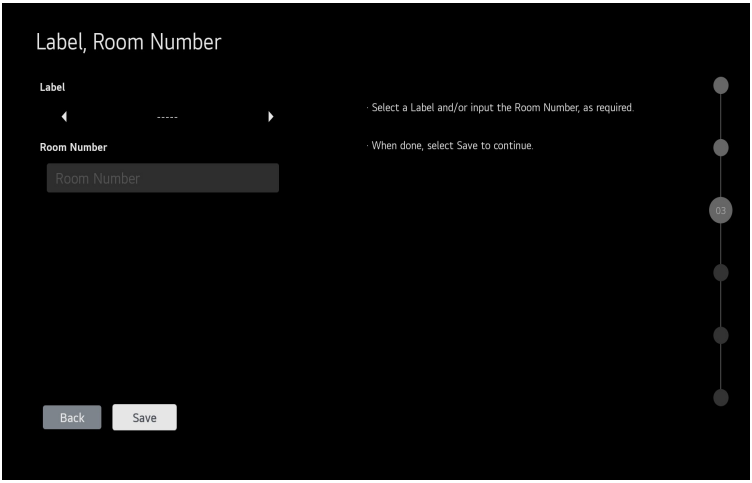
TV Configuration Options

(Depending on model)

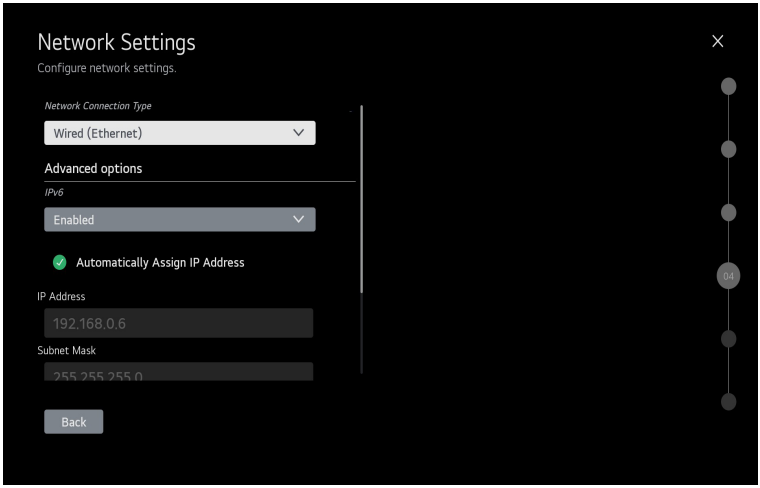
From the TV Configuration Options screen, you can choose how to proceed with the configuration of this TV. Whether you will configure the TV for Pro:Centric operation via the wizard or use a USB memory device to configure the TV, you may first wish to set the Room Number on the TV. Also, you can configure the network environment.

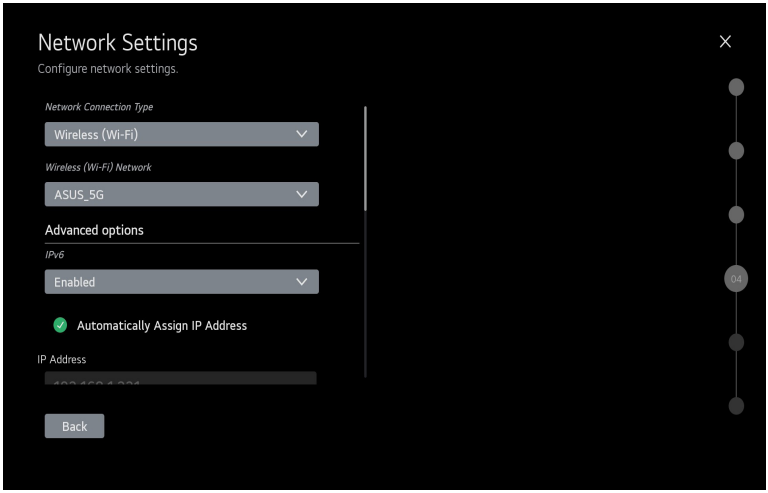


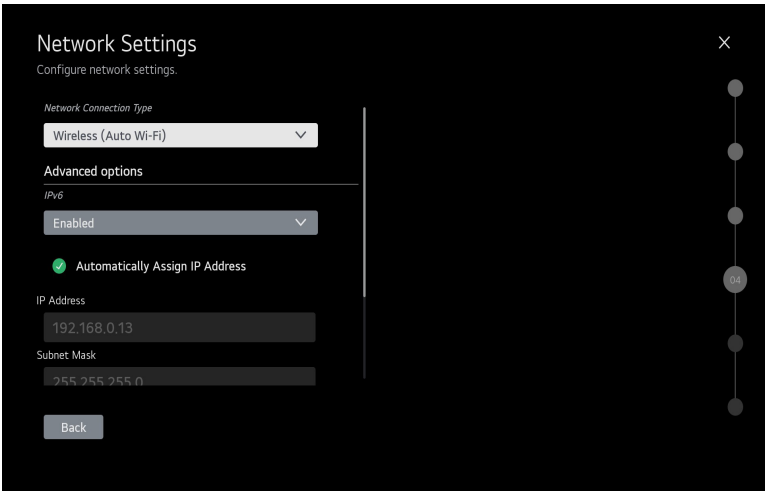
- Complete initial download of maintenance(On/Off Toggle): you can choose the option whether to skip the maintenance files download during the EZ-Manager process.
- If you intend to set Room Number as part of the TV configuration, use the Room Number option to assign the Room # for this TV before you continue with additional configuration.
- In the Label field, use the Left/Right arrow keys to specify a North, South, East, or West designation for this TV.
- In the Room Number field, you can use the number keys on the Installation Remote to direct enter a room number or use the virtual keyboard on the TV screen.



- If you intend to apply the files via USB, use USB Configuration option to access TV Manager app. (“TV Manager” on page 55)
- If you intend to set network, use the Network Settings option. You can connect easily to wired/wireless network by this option. (“Network Settings” on page 30)
  Wireless (Auto Wi-Fi) : Connect a default hidden SSID/PW. (SSID : lgwebostv, PW : procentric, Security : WPA/WPA2 PSK)





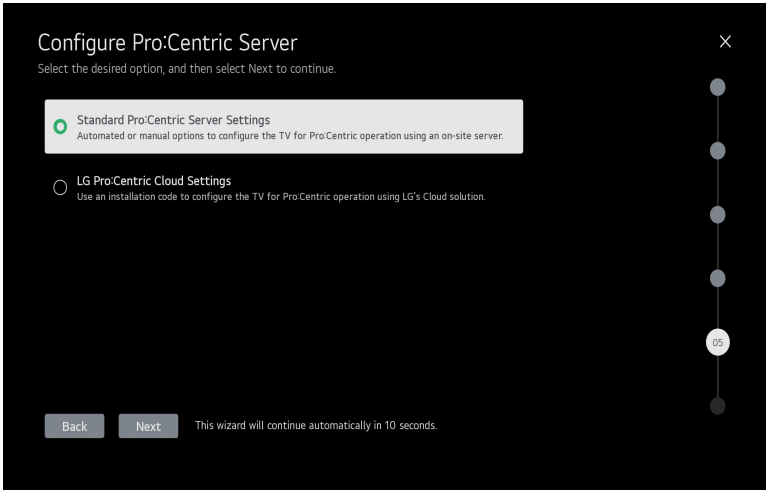

Network Settings
Configure network settings.
Network Connection Type
Wireless (Auto Wi-Fi)
Advanced options
IPv6
Enabled
Automatically Assign IP Address
IP Address
192.168.0.13
Subnet Mask
255.255.255.0
Back
04

Configure Pro:Centric Server

(Depending on model)

You can select two options.

- Standard Pro:Centric Server Settings : Default Automatic / Manual Pro:Centric Server Configuration
- LG Pro:Centric Cloud Settings : Installation Code based simple installation for Cloud solution

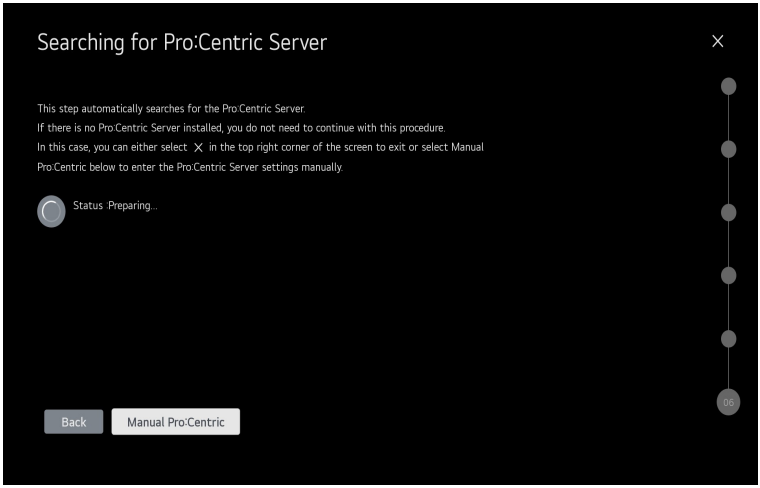


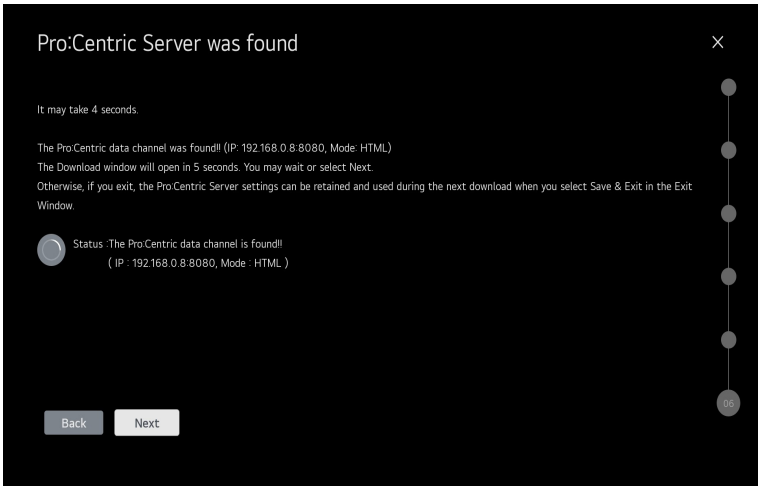
Standard Pro:Centric Server Settings

(Depending on model)

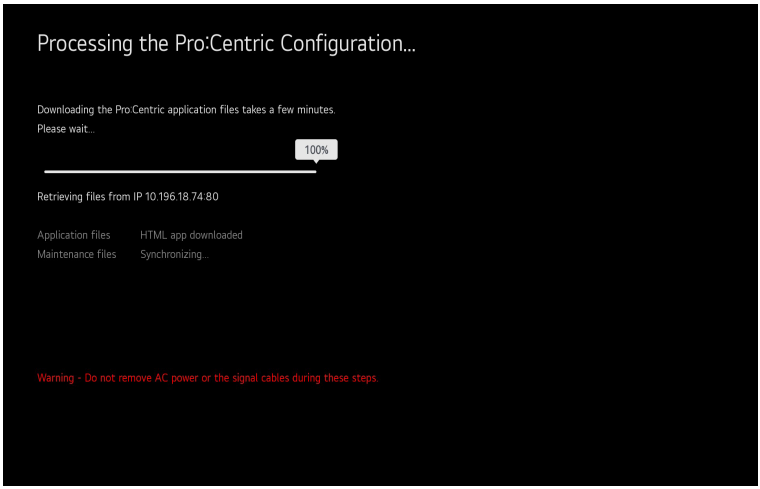
Automatically for Setup

1 This step automatically searches for the Pro:Centric Server. If was found the Pro:Centric data programme, select the **Next**.

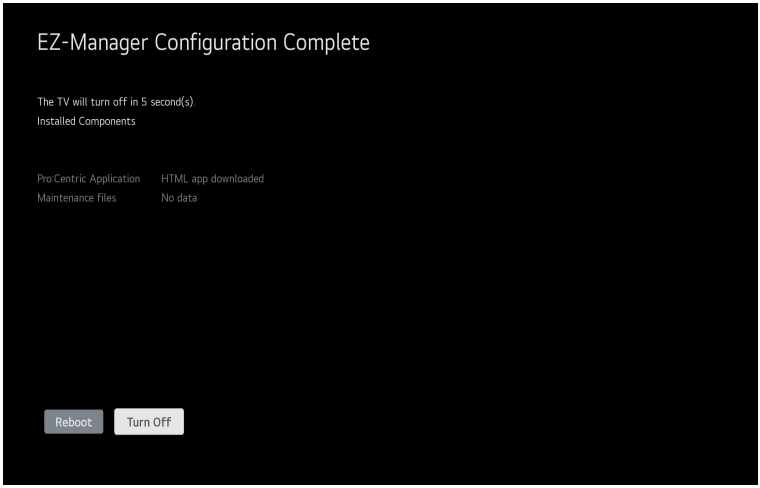




2 Downloading the Pro:Centric application files takes few minutes.

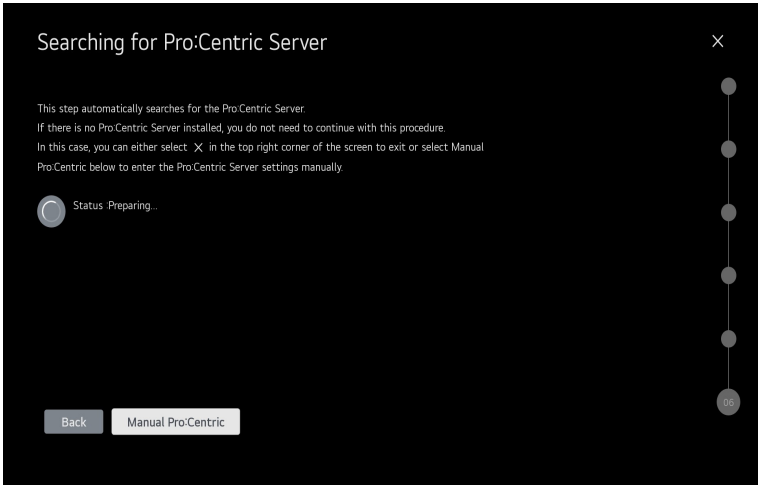


3 After the installation is completed, the following screen will be displayed.

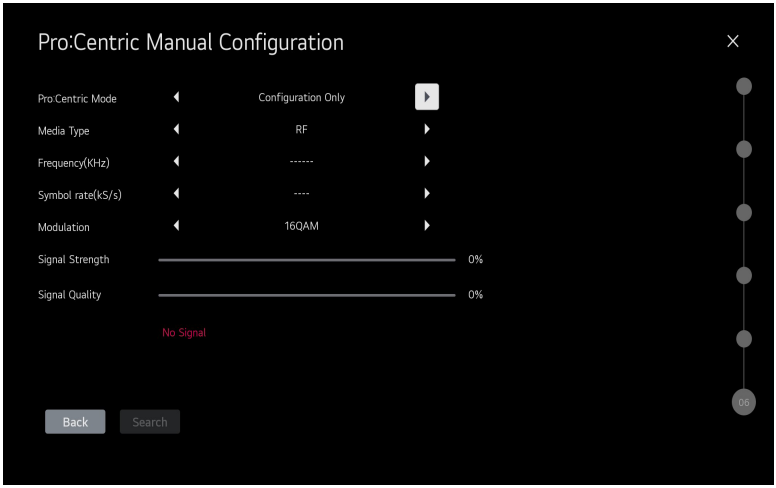


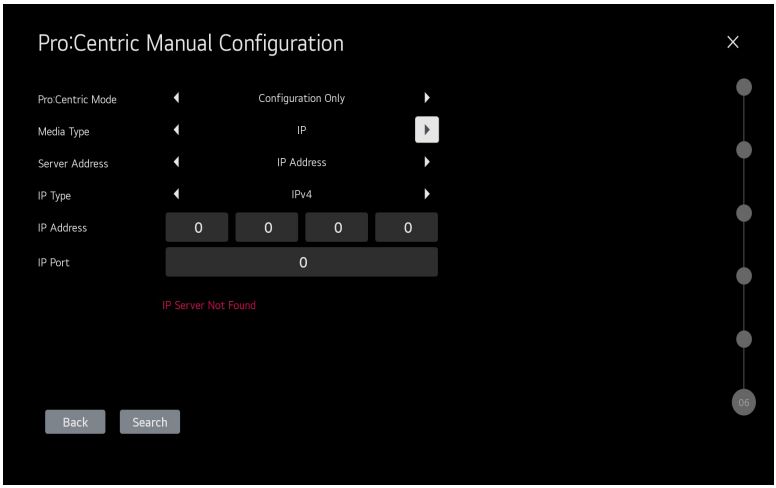
Manually for Setup

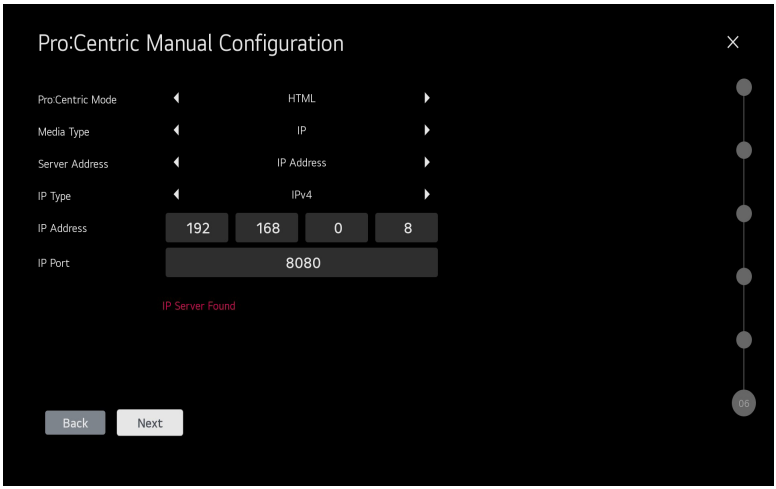
1 Please select the **Manual Pro:Centric**.



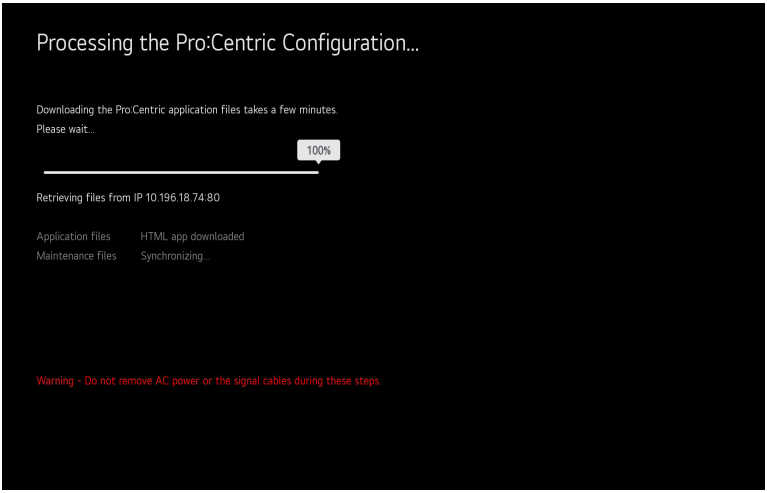
2 Configure the appropriate Pro:Centric settings in the TV. (Taiwan does not support RF)



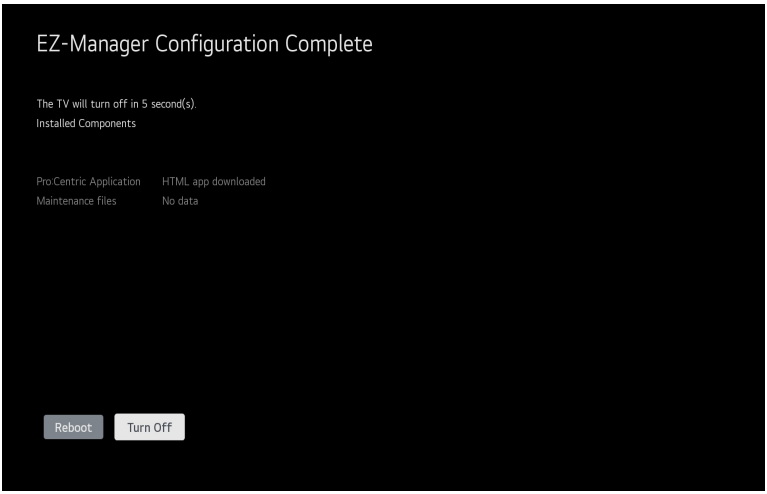

Pro:Centric Manual Configuration
Pro:Centric Mode
Configuration Only
Media Type
IP
Server Address
IP Address
IP Type
IPv4
IP Address
0
0
0
0
IP Port
0
IP Server Not Found
06
Back
Search


Pro:Centric Manual Configuration
Pro:Centric Mode
HTML
Media Type
IP
Server Address
IP Address
IP Type
IPv4
IP Address
192
168
0
8
IP Port
8080
IP Server Found
06
Back
Next

3 Downloading the Pro:Centric application files takes few minutes.



4 After the installation is completed, the following screen will be displayed.

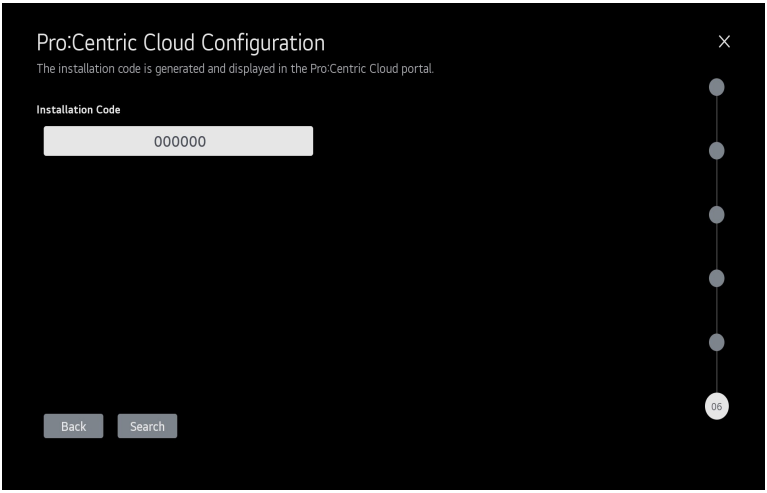


LG Pro:Centric Cloud Settings

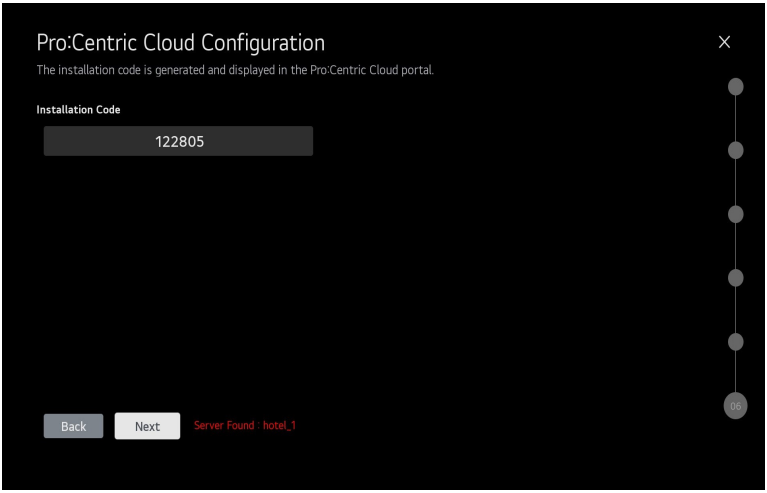
(Depending on model)

From the Pro:Centric Cloud setting screen, You can input the installation code that issued from Pro:Centric Cloud server.

1 Server Searching

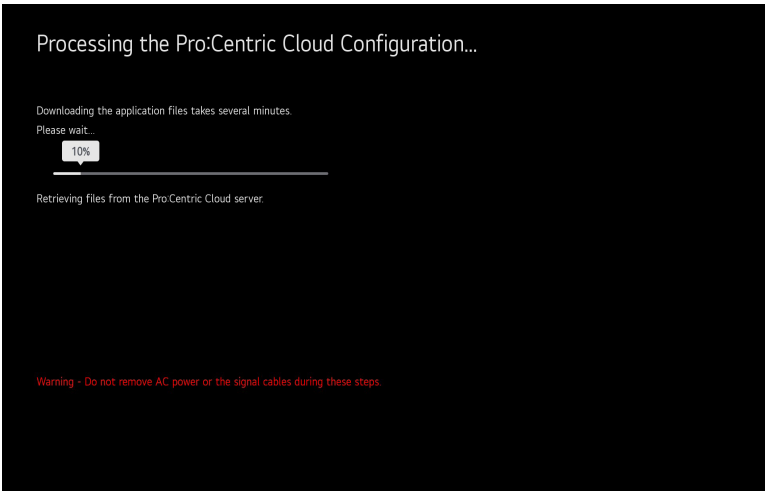


- Server search succeed : The message "Server Found [property name]" is displayed. And the search button changes to the next button.
- In case of invalid code : The message "Invalid Installation Code" is displayed.
- In case of network error : The message "Server Not Found" is displayed.



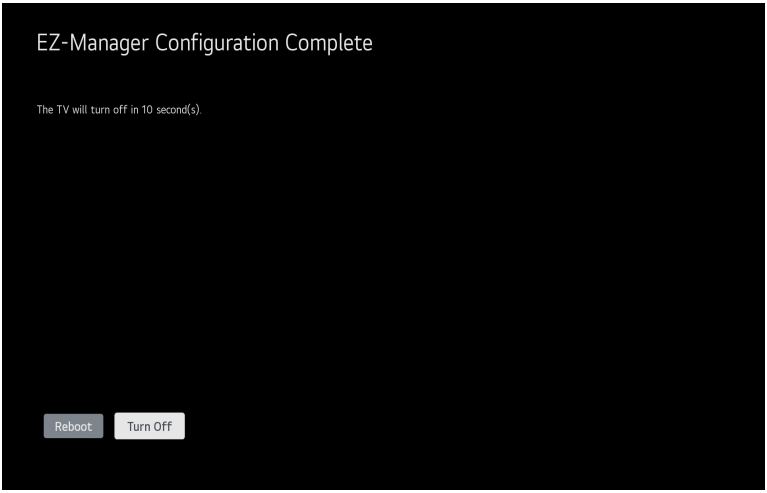
2 Download Pro:Centric App

- After clicking the next button, Downloading the Pro:Centric application files takes few minutes.



3 Download Complete

- After the installation is completed, the following screen will be displayed.



Installation Menu Settings

(Depending on model)

Access Installation menu for commercial feature settings.

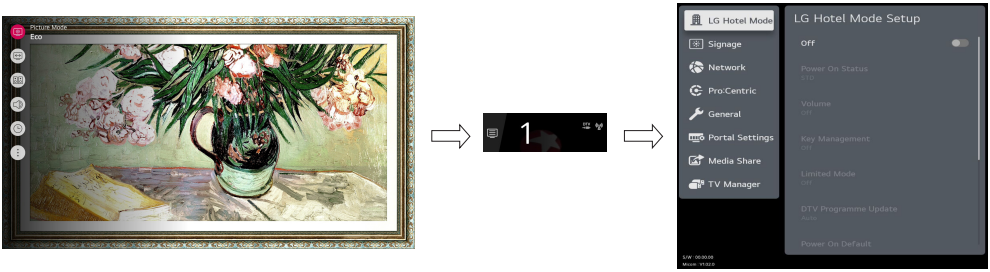
Installation Menu

* Images shown may differ from your TV.

Introduction

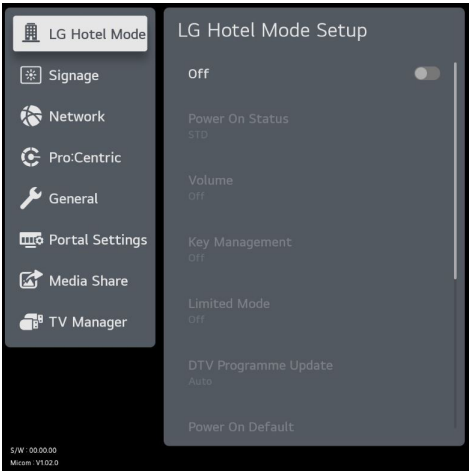
The abundant functions for Hotel TV linked with software installation can be projected on OSD as 'Installation Menu'.

The wide range of hotel features can be performed simply on additional window to enhance the LG hotel TV's easy installation and convenient operation for Hotelier and System Integrators.



1 Press the Setting button for more than 5 seconds using the user remote control, banner will appear at top left on the screen.
2 Enter a four digit password and press **OK** button.
   - The TV is set with the initial password "1-1-0-5".

LG Hotel Mode Setup



When 'LG Hotel Mode Setup' is set to On, all functions of Hotel Mode apply.

Power On Status

- Decide to select working status of TV Set when turn on main power.
- You can select PWR, STD, LST.
- PWR always make TV set On status when turn on main power.
- STD make Stand-by status when turn on main power.
- LST make TV set work like previous power status. As same concept as Power Backup mode; If main power were turned off in Power On status, TV set would work in On status. If main power were turned off in Stand-by status, TV set would work in Stand-by status.
- If there Block All is both IR Operation and Local Key Operation from Key Management, In order to turn on the TV when turned off situation, change the value of the PWR. (Reference the Key Management)

Volume

- Decide to apply volume policy of ‘Start Volume’, ‘Maximum Volume’ and ‘Minimum Volume’ as On or Off.
- (0 ≤ Min ≤ Start ≤ Max ≤ 100)

Start Volume

- This entry sets the start volume level when is power on.
  - The level is specified as a number between minimum volume to maximum value. (Min ≤ Start ≤ Max)
  - The default setting is ‘Off’.
  - When selected to 'On', if the value is lower then the minimum specified in the minimum volume entry, the minimum volume entry must be used.
  - When selected to 'On', if the value is larger then the maximum specified in the maximum volume entry, the maximum volume value must be used.
  - Access to a volume in ‘**Timer Power On**’ must be fixed to start volume when ‘LG Hotel Mode Setup’ (On) and ‘Start Volume’ (Off, 0 ~ 100) were set simultaneously.

Maximum Volume

- This entry sets the maximum volume level the set. The level is specified as a number between ‘Minimum Volume’ to 100. (Min ≤ **Max** ≤ 100).
  - The default value is 100.

Minimum Volume

- This entry sets the minimum volume level the set. The level is specified as a number between 0 to ‘Maximum Volume’. (0 ≤ Min ≤ Max)
  - The default value is 0.

Key Management

- Manage key usability of Local(Front) Key and Remote Control.

IR Operation

- Decide whether work the LG remote control or not.
  - When set to 'Normal', all remote keys are available.
  - 'Use PWR Only' makes block all remote keys except power key.
  - When set to 'Block All', all normal remote keys don’t work.

Local Key Operation

- Decide to operate 'Local Key' working behavior.
  - When set to 'Normal', all local keys are available.
  - 'Use PWR Only' makes block all local keys except power key.
  - When set to 'Block All', all local keys don’t work.

Limited Mode

- Configure TV function's limitation. When selected to 'On', following sub-menus will be worked by below.

Setup Menu

- Permit to tune and manage programmes.

Programme Change

(Depending on model)

- Decide to change programme or not.

Menu Display

- Function to decide whether work with menu of control key or not.
  - Although select Off, the action that press a Menu button for 5 seconds to enter 'Installation Menu' is available.
  - When select On, Menu works.

OSD Display

- Decide to display OSD or not.
  - When set to 'Off', all OSD is not displayed except some exception.
  - Although select 'Off', the action that press a Menu button for 5 seconds to enter 'Installation Menu' and entering service menu are available. (In-Start, Power-Only, Adjust, Installation Menu...)

System Provider Mode

- 'System Provider Mode' allows access to the menu system from the front panel or remote control but access is controlled as follows:
  - When value is 'On', Accessible Items on the menu system, others are not permissible. (Depending on model)
    - » Input select screens
    - » Sleep timer
    - » Aspect Ratio
    - » Subtitles
    - » Programmes (Except for Programme Tuning & Settings and Programme Manager)
    - » Input Manager

DTV Programme Update

- It is a mode to set whether to update DTV Programme automatically or not.
- When set to 'Auto', update programme map according to DTV programme's stream information.
- When set to 'Manual', keep programme map even though DTV programme's information is changed.

Power On Default

- Set the programme to display, etc. when turn on power.
- When set to Off, it is not applied to the subordinate Input, Programme, A/V Setting, Aspect Ratio menu.
- When set to On, it can set by entering the subordinate menu.

Input

- Set whether it is turned on by the set input source or by the last stored input source.

Programme

- Select start programme number if Input is TV.

A/V Setting

- If 'A/V Setting' is changed from 'Off' to 'On', A/V parameters that are set before entering 'Installation Menu' are applied whenever turn on power.

Aspect Ratio

- The aspect ratio determines the default aspect ratio that the set returns to on power up.

Aux Source Setting

- Set to On or Off.
- Set to enable or disable for each external input.
- User cannot disable the current input.

Power Management

- Turn off the TV if no input control command is received from either the Local or IR Key within a selected hours.
  - Activity on either of these inputs shall reset the 'Power Management' timer.
  - This entry can be set to a value which is corresponding to the desired hours (1 hour to 7 hours).
  - Default value is 'Off'.

Radio Video Blank

(Depending on model)

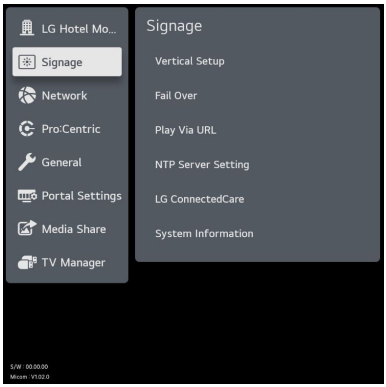
- When set to On, 'Video Blank' works only in case of Radio Programme.
- Although set to On, if there are Video signal, 'Video Blank' wouldn't work. In consideration of case that display background screen and broadcast only with Radio, 'Video Blank 'works only when there is no Video signal.
- When set to Off, 'Video Blank' do not work although it is the Radio Programme.
- This operates only in the Analog TV Mode.

Factory Reset

- Change all settings to their default values.

Signage

(Depending on model)



Vertical Setup

Corporate/Government/Retail

- Lock Mode
  - Refer to Installation Menu ⇨ General ⇨ Security ⇨ Lock Mode. (See p. 45)
- USB Auto Playback (Depending on model)
  - Refer to Installation Menu ⇨ General ⇨ Configuration Setup ⇨ USB Auto Playback. (See p. 36)
- Content Manager
  - Player: Play a variety of content including images, videos, and SuperSign content.
  - Scheduler: Manage schedules for content that will be played at different times.
  - Template: You can create your own content using templates and media files.
  - Group Manager 2.0: Distribute content schedules and setting data to the connected device.
- System Information
  - Refer to Installation Menu ⇨ Signage ⇨ System Information. (See p. 29)
- LG Promota
  - This feature allows connection of promota app on mobile device.
  - For more information on how to use it, please visit the promota website (https://www.promota.net/).
  - Autorun promota App function automatically runs promota after booting.
- On/Off Scheduler
  - Set on/off times for each day of the week.
- SoftAP
  - Refer to Installation Menu ⇨ Media Share ⇨ SoftAP. (See p. 53)
- Screen Share
  - Refer to Installation Menu ⇨ Media Share ⇨ Screen Share. (See p. 52)
- Play Via URL
  - Refer to Installation Menu ⇨ Signage ⇨ Play Via URL. (See p. 28)

Meeting Room

- Input Shortcut
  - Refer to Installation Menu ⇨ Portal Settings ⇨ Input Shortcut. (See p. 47)
- Network Ready
  - Monitor is turned off, but you can control power internally through the network.
- WOL
  - Refer to Installation Menu ⇨ Network ⇨ Wake On LAN. (See p. 31)
- DPM
  - Refer to Installation Menu ⇨ General ⇨ Configuration Setup ⇨ DPM. (See p. 38)

Fail Over

- Set the priority of the input devices when a fault occurs.
  - Fail Over : Turns on or off.
  - Input Priority : Set the priority of input sources for fail over.
  - Reset : Reset to initial settings.
- The input will change to Live TV when all input sources have no signal and AV Jack is not connected.
- SIMPLINK, Auto Sensing and Fail Over cannot work simultaneously. If SIMPLINK or Auto Sensing is set to On, Fail Over is automatically set to Off.

Play Via URL

- Play content you want to play automatically through the built-in web browser.
  - URL Loader: Turns Play via URL on or off.
  - Set URL : Enter the URL address to display automatically.
  - Preview : Preview your desired website by accessing the specified URL.
  - Save : Save the specified URL.
  - Reboot to Apply : Restarts the TV after saving the specified URL.
  - Reset : Reset to initial settings.

NTP Server Setting

- Allows you to set other NTP servers other than the basic NTP server.

LG ConnectedCare

- You can install the LG ConnectedCare (fault diagnosis) solution for fault diagnosis and prediction service.
- Install : Installs the LG ConnectedCare solution.
  1. Enter Account Number : Enters the 6-digit account number to install LG ConnectedCare solution.
     - Account Number : The number assigned when the LG ConnectedCare solution is registered. When the accountnumber is entered, the account name corresponding to the number is obtained.
  2. Confirm Account Number : Displays the account number and the account name corresponding to the account number.
     - If the account number is registered, the account name corresponding to the account number is displayed, and youcan continue to install the LG ConnectedCare solution.
- Enable/Disable : Sets whether to Enable/Disable the LG ConnectedCare solution.
- Account : Displays user's currently connected account number and name.
- Version : Displays the version of the LG ConnectedCare solution.
- Check for Update : Checks for available updates in the server.
- Update : Updates the LG ConnectedCare solution to the latest version.
- Server Status : Displays the status of connection between the set and server.
  - Connected : Displayed when the set and server are connected.
  - Not Connected : Displayed when the set and server are disconnected.
  - Waiting for Approval : Displayed when the server is waiting for approval.
  - Rejected : Displayed when the server rejected the connection.
- Reset : Deletes the installed LG ConnectedCare solution.

System Information

- You can check the System information.

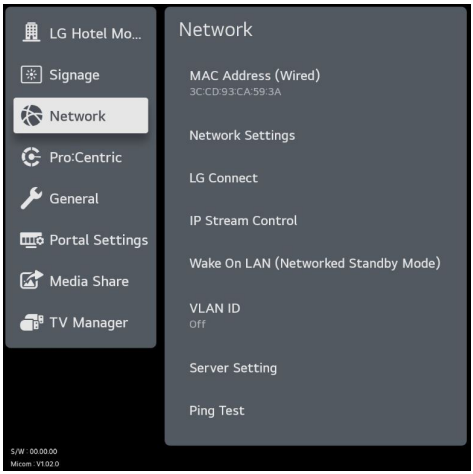
Meeting Room Solution

(Depending on model)

- Set to 'On' or 'Off'.
- This mode sets whether to include the Office Meeting Mode Application in Home Launcher.
- If the SoftAP at Media Share is set to "Off", the Meeting Room Solution is set to "Off" and disabled.

Network

(Depending on model)



MAC Address

- Displays the MAC address (not customizable).

Network Settings

One-click network connection

- Connects easily to a network.
- This menu supports to connect to an available network.

To connect to a network through Set Expert

- For use in special circumstances such as in offices (in cases where a static IP is used).
  1. Select a network connection, either Wired or Wireless. (Wireless is supported depending on model)
  2. When connecting via Wired, Configures the IP settings of the TV set. You can set the IP address, subnet mask, gateway and DNS server.
  3. When connecting via Wi-Fi, use the one of the following network connection methods.

AP List	Connects to the network selected from the AP List.
Enter the SSID	Connects to the wireless AP typed in.
WPS-PBC	Connects easily when the button of a wireless AP supporting PBC is pressed.
WPS-PIN	Connects easily when the PIN of the wireless AP that you wish to connect to is entered in to the AP website.
Advanced Wi-Fi Settings	After connects Wi-Fi, you can set the IP address, subnet mask, gateway and DNS server.

LG Connect

(Depending on model)

- Sets the 'LG Connect' function to On or Off.
  - You can connect TV via 'LG ThinQ' app in smart device.
  - Default setting is 'On'.

IP Stream Control

(Depending on model)

Audio PTS Offset

- Controlling output stream timing of audio.

Video PTS Offset

- Controlling output stream timing of video.

IGMP

- You can set IGMP version. (2 or 3)

Wake On LAN

(On Europe models, it is indicated by Wake On LAN (Networked Standby Mode))

- Sets the Wake On LAN function.
  - The Wake On LAN feature enables the TV to receive software updates and/or be powered ON upon receipt of Magic Packet data via the wired LAN. To facilitate use of this feature, note that the appropriate wired connection must be made.

VLAN ID

(Depending on model)

- This menu provides TV with VLAN settings.
- Recommend that the network manager set this menu.
- If you set different ID between switch and TV, you cannot use network.

LAN ID

- Set VLAN ID for TV network.

Aux LAN ID

(Depending on model)

- Set AUX LAN ID for devices connected via **AUX LAN** port.

Server Setting

(Depending on model)

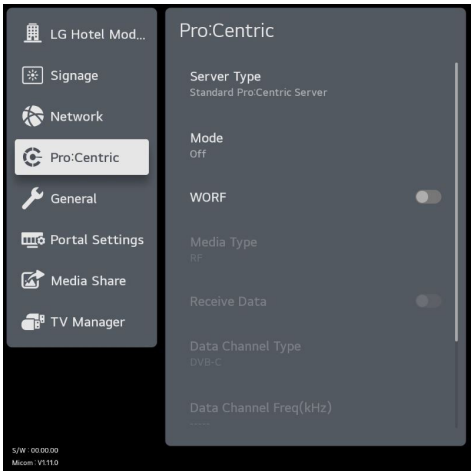
- Set up to connect your TV to a SuperSign server.

Ping Test

- Check your network status with the ping test.

Pro:Centric

(Depending on model)



Mode

- Sets whether or not enable Pro:Centric and the service method.
- You can set to Off, Configuration Only, GEM or HTML. The default value is Off.

Server Type

(Depending on model)

- You can set to 'Standard Pro:Centric Server', 'LG Pro:Centric Cloud'.
- If you select 'LG Pro:Centric Cloud', you can configure Cloud.

Installation Code

(Depending on model)

- If you input the 6-digit installation code, the server is automatically searched.
- The results of the server search are displayed in a pop-up.
- If the server is not found or is an invalid code, a "Server Not Found" message is displayed.
- If the server is found correctly, the message "Server Found [property name]" is displayed.
- If you click the 'Confirm' button in the popup, the installation code is saved.
- If you click the 'Cancel' button in the popup, the installation code is restored to previous value.

WORF

- When set to 'Enable', Hour and Minute items are enabled and then the WORF function is enabled.
- When set to 'Disable', 'Hour' and 'Minute' items are disabled and then the WORF function is disabled.

Room Number Setting

- You can set Label and Room Number using the Room Number Setting.

Media Type

(Depending on model)

- Sets the media type to RF or IP.
- The default value is RF.

RF

(Depending on model)

- **Data Channel Freq (KHz)**
  - Sets the RF frequency at which the Pro:Centric data is received.
- **Data Channel Type**
  - Sets the RF modulation type to DVB-T or DVB-C.
    The default value is DVB-C.

IP

- P:C IP Setting
  - Server Address is set to IP Address.
  - Can select IPv4 or IPv6 type using 'IP Type'. (Depending on model)

(IP Address)	Set IPv4 or IPv6 address.
(Port Number)	Sets the actual port or number where the Pro:Centric server is running.

  - Server Address is set to Domain Name.

(Domain Name)	Sets the domain name where the Pro:Centric server is running.
(Port Number)	Sets the actual port or number where the Pro:Centric server is running.

  - The default value of IP(IPv4) is 0 and the range is between 0 and 255.
  - The default value of IP(IPv6) is 0 and the range is between 0 and FFFF.
  - The default value of Port is 0 and the range is between 0 and 65535.

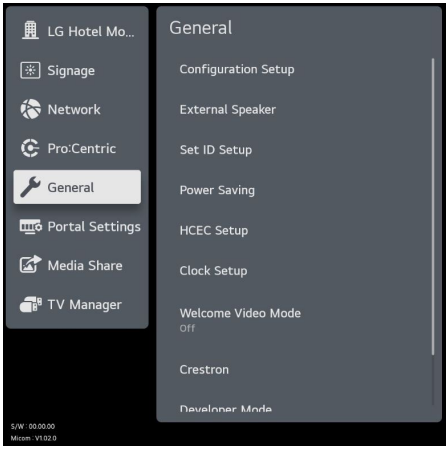
Receive Data

- Sets Enable or Disable.

Native EPG

- When Pro:Centric Mode is set to 'Off' or 'Configuration Only', 'Native EPG' is forced to be 'Enable' and unable to change.
- When set to 'Enable', You can use the TV Guide Application.

General



Configuration Setup

Select RCU

- It is a mode to set whether to use Select RCU or not. When set to 'Enable', You can adjust 'Number of RCU' menu.

Number of RCU

- Number of RCU value range 1~16. (When 'Select RCU' is set to 'Enable')
- Number of RCU value range 0. (When 'Select RCU' is set to 'Disable')
  - RCU (Remote Control Unit) : It is special RCU that operates only setted number of RCU in TV.

⚠ Please refer to below "How to set Multi IR" (Remote Control)

- **How to set Multi IR (Remote Controller)**
  - 2.1 : When the Mute key is pressed for more than 5 seconds, the LED on the top right of the remote control will blink.
  - 2.2 : When LED blinks, press the number you want to set, then press OK key.
  - 2-3 : LED will stop blinking.
  - 2-4 : If you do not press OK key within one minute, the LED stops blinking and maintains the previously set value.

Splash Offset Time

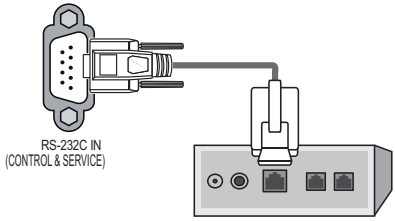
(Depending on model)

- Set the splash image display time.Number of RCU value range 0. (When 'Select RCU' is set to 'Disable')
- When Splash Offset Time is set to Off, logo(splash image) do not display.
- The time can be set to between 0 and 10 seconds.

RS232 DC Power Outlet

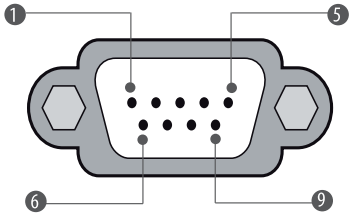
(Depending on model)

- It is a mode to decide whether to output DC or not for power supply to IB Box in Installation Menu. We offer a output terminal in one Pin of RS232C Jack for the use of communication.
- 5 V DC Power Outlet and 12 V DC Power Outlet must operate mutually exclusively. That is, only one of the two sides must be turned on.
  - You can select **Off**, '5 V' or '12 V'.
    - » When select '5 V' the 5 V is forwarded through the port. when select '12 V' the 12 V is forwarded through the port.



Interface box

» Type of Connector: D-Sub 9-Pin Male



Male connector on box, viewed towards connector.

No.	Signal	Signal requirements
1	VCC	
2	RX RS232	Standard RS232 specification
3	TX RS232	Standard RS232 specification
4	IR from TV	
5	GND	Power ground
6, 8	Not connected	
7	2 A	+5 V DC 10 %, max 100 mV ripple
9	1.5 A	+12 V DC 10 %, max 100 mV ripple

One Channel Map

(Depending on model)

- If set to 'Enable', the TV will operate as below.
  - When the TV is auto-scanning, it searches both air and cable channels.
  - User can assign a channel number him/herself by manual scan.
  - In 'Programme Edit' window, all channels are shown in a single list regardless of input source.
  - Automatically scanned channels may not have the user-desired channel numbers.
- If user change the 'Enable/Disable' value, an pop-up window will be displayed to warn that all channel will be deleted. The Default value is 'Enable'.

DTV Programme Update

- It is a mode to set whether to update DTV programme automatically or not.
- When set to 'Auto', update programme map according to DTV programme's stream information.
- When set to 'Manual', keep programme map even though DTV programme's information is changed.

On Timer Operation

- It is a mode to select **Timer Power On** working one time or repeatedly.
- 'Once': '**Timer Power On**' in the user menu operates only one time.
- 'Repeat' : '**Timer Power On**' operates repeatedly.

Radio Name Display

- Instead of "Audio Only", the name of a radio programme is displayed on the screen when a radio broadcast is playing.
- If the setting is "On", the name of a radio programme is displayed for the radio programme.
- If the setting is "Off", the text "Audio Only" is displayed for the radio programme.

USB Auto Playback

(Depending on model)

- When set to 'Movie', TV finds and plays the USB's movie files located at the root(top) directory Movies if USB is plugged in.
- When set to 'Photo', TV finds and plays the USB's photo files located at the root(top) directory Photos if USB is plugged in.
- If it reaches the last file, it starts the first file again

Teletext

(Depending on model)

- If set to On, the teletext mode stays enabled even when the programme signal disappears on the teletext screen.
- If set to Auto, the teletext mode is disabled when the programme signal disappears on the teletext screen.

15Min Auto Off

- When set to 'Enable', TV will turn off if there is no signal in 15Min.

DVB-C

(Depending on model)

- DVB-T/C programmes are searchable and selectable if DVB-C is "Enable".

DVB-C Bandwidth

(Depending on model)

- If country is 'Philippines', 'DVB-C Bandwidth' menu will be shown.
- Select the bandwidth of cable tuning (6 MHz/8 MHz). The default is 6 MHz.

Additional Pixel Refresher

(Depending on model)

- If set to Power Plug In, TV always does pixel refresh when AC power on.
- If set to Off, TV does pixel refresh on time.

Auto Sensing

- If set to 'On', the input is automatically switched when the input signal that you set to "ON' is received.
- If set to 'Disable', the input is not switched when the input signal is received.
  - SIMPLINK and Auto Sensing cannot work simultaneously. If SIMPLINK is set to On, Auto Sensing is automatically set to Disable.
  - If the signal is removed while Auto Sensing (automatic input switch) is enabled, the input returns to the previous setting.
    If the several input are connected by enabling Auto Sensing and the automatic input returns to the previous setting.
    If the several inputs are connected by enabling Auto Sensing and the automatic input switch is performed several times, the input returns to the previous setting only for the last input and does not repeat the operation for the rest.

Quick Start+

(Depending on model)

- This setting puts your TV in standby mode when it's turned off so it will start up more quickly the next time it's turned on.

InStant On

(Depending on model)

- Set to 'Instant On Mute Mode' or 'Instant On Reboot mode' to enable the Instant On feature. The Instant On feature allows the TV to turn On when AC power is applied, but with video and audio muted (Muted On). The TV retains its On status while appearing to be Off. Pressing the POWER button toggles Off/On the video and audio mutes, so that the TV appears to turn On instantly.
  - If this item is set to Instant On Mute Mode, the TV will not reboot to check for and download updates at turn Off. TV seems to be turned off to user(panel is off), but both micom and chipset are on.
  - If this item is set to Instant On Reboot mode, the TV will reboot to check for and download updates from the Pro:Centric server at every turn Off.
  - If this item is set to Instant On Mute mode or Instant On Reboot mode when 'WORF' is 'Disable', 'WORF' is set to 'Enable' and 'Update Time' is set to auto(random) time. (Depending on model)

Insert Image

(Depending on model)

- Set to On or Off.
- It is a mode to decide whether to display background image when using Clock app, Bluetooth Sound Sync app, Audio Programme app, No Signal state and watching Radio programme.
- You can download the background image at TV Manager app.

No Signal Image

(Depending on model)

- You can set to 'Off', 'Default Image' or 'Downloaded'.
- It is a mode to decide whether to use no signal image when there is no signal.
- When set to 'Off', do not use no signal image.
- When set to 'Default Image', use no signal image using the default image.
- When set to 'Downloaded', use no signal image using the downloaded image. (Depending on model)

No Signal text

(Depending on model)

- Set to 'On' or 'Off'.
- It is a mode to decide whether to use no signal text when there is no signal.

DPM

(Depending on model)

(On Europe models, it is indicated by DPM (Standby Mode))

- You can configure the DPM (Display Power Management) function.
- If this option is not set to Off, the TV set enters the DPM mode when there is no input signal.
- If you set this option to Off, the DPM function is disabled.

PM Mode

(Depending on model)

- Power Off (Default)
  - Set the normal DC Off mode.
- Sustain Aspect Ratio
  - Set the power mode of the HDMI Switching IC, which detects HDMI external input signals in the TV Standby state after DPM Power Off turns off the TV.
- Network Ready
  - Set the Active Standby mode when TV turns off.
  - TV seems to be turned off but it keeps to be on.
  - TV goes through the normal DC On process when it turns on.

Healthcare Headphone Mode

(Depending on model)

- **Healthcare Headphone On**
  - Mute is always applied to TV Speaker.
  - Sound Out menu is displayed as Internal TV Speaker + Wired Headphone, and all Sound Out submenus are gray out (Disable).
  - Internal TV Speaker / Headphone Simultaneous output, Volume key is adjust TV volume (Mute off).
  - Select TV Speaker User Interface. Volume key adjusts the internal TV Speaker volume.
  - Select Headphone User Interface. Volume key adjusts the headphone volume.
- **Healthcare Headphone Off**
  - Sound Out Normal Scenario on Commercial Hotel TV.
  - Sound Out has Menu in default mode (Internal TV Speaker + Audo Out (Optical)).

Screen Saver

(Depending on model)

- When the currently displayed app has not received any user input for an hour, it will be replaced by a Screen Saver.
- If you turn this option 'Off', the current picture may create an afterimage burned onto your screen, possibly permanently.

Default Sound Out

- You can configure the Sound Out to be set after power on.
- You can select Off, TV Speaker, Optical, LG Sound Sync., HDMI ARC
- If you set this option to Off, the TV maintains Sound Out after power on.
- If you set this option to HDMI ARC, SIMPLINK is enabled.
- If a SIMPLINK-enabled device is connected to the TV and item SIMPLINK is enabled, the SIMPLINK device Audio Mode will have priority over the setting of this item when the TV is turned ON.

USB Power

(Depending on model)

- You can control the power status of USB port according to the mode.
  - Default: When the TV is turned on, the USB device is powered. USB devices can be used regardless of 'Instant On' state.
  - Warm Off: When the TV is turned on, the USB device is powered. USB devices are available. However, if 'InStant On' is 'Instant On Mute Mode' or 'Instant On Reboot' mode and TV State is 'Instant On', the USB device is powered off.
  - Always Off: No power is supplied to the USB device. However, USB port power may be temporarily supplied when the TV is turned on.

- Please do not turn off the display when the connected USB storage device is working.
- When Turned off the power of USB storage device is suddenly, the stored files or the USB storage device may be damaged.

Mobile Remote

(Depending on model)

- User can use mobile device as the TV's virtual remote.
- Set to 'On' to use this function, and 'Mobile Remote' will be added to Portal (Home launcher).
- Show Notification of Remote App : If on, connection guide will be shown automatically when user turns on TV.

How to use

- Launch 'Mobile Remote' in Portal (Home launcher).
- Scan the QR code or enter URL in mobile device.
- Enter 6-digit PIN code shown on TV.
- User can use mobile device as the TV's virtual remote.
- This feature is optimized for Chrome browser.

External Speaker

(Depending on model)

Volume Control

- Selects the volume control method of an external speaker.
- You can select 'Off', 'Int Variable', 'Fixed' or 'Ext Variable'. (Depending on model)
- Ext Variable uses the External Vol Up/Down Control Line to change the volume up to 2 Watts.
- Int variable is linked to the main volume OSD and change the volume up to 2 Watts.
- Fixed produces a fixed output. The default is Off.

Output

- This item is enabled when Volume Control is set to 'Int Variable', 'Fixed' or 'Ext Variable'.
- You can choose one of 7 steps. (0.01/0.03/0.05/0.1/0.2/0.5/1/1.5/2 Watts).
- The default is 2 Watt.

- Some models support the volume up to 1Watt.

TV Speaker Off

- You can turn off TV speaker to hear sound from only external speaker.

Audio Line Out

(Depending on model)

Volume Control

- Selects the volume control method of an audio line out.
- You can select 'Off', 'Int Variable', 'Fixed', 'Ext Variable'. (Depending on model)
- Ext Variable uses the External Vol Up/Down Control Line to change the volume up to 0.02 Watts.
- Int variable is linked to the main volume OSD and change the volume 0 - 0.02 Watts.
- Fixed support fixed volume only - 0.02 Watts

TV Speaker Off

- You can turn off TV speaker to hear sound from only audio line out.

Set ID Setup

Set ID Lock

- Set the 'Set ID' item in the user menu whether to activate or not.
- Set to On (Work) or Off (Do Not Work).

Set ID

- Set the 'Set ID' of TV Set with 1~1000.

Power Saving

Static Saving

- It is the item for setting the level to reduce the backlight control from the items for saving the consuming power, which is increased or decreased by 10 steps from 0 to 100. 100 makes the consuming power set to the same one from the TV. 0 reduces the consuming power to the minimum. The default value is 100.
  - The value displayed at the OSD is not changed and only the actual setting value is converted to percentage based on the static saving value to set.
  - 0 ~ 30 : HIGH, 40 ~ 60 : MID, 70 ~ 90 : LOW, 100 : OFF.

Minimum Backlight

- This function controls the minimum backlight in case of using the Ambient Light sensor.

Keyless Off Hours

- Automatically TV will be turned off if there is no key input for the preset time period.

HCEC Setup

(Depending on model)

CEC Mode

(Depending on model)

- You will have 2 modes to choose [Default], [HCEC] and [TVLink-CEC].
- If [Default] is selected, you can use SIMPLINK which is provided in LG TV. Also you can enable and disable SIMPLINK through SIMPLINK MENU.
- If [HCEC] is selected, you can use TVLink-HCEC Protocol. (For more detailed information, please refer to TVLink-HCEC Protocol document)
- If [TVLink-CEC] is selected, TV will not directly work for key input except for power key. And volume related keys will work just in case of Follower volume control mode. (For more detailed information regarding the scenario of volume control, please refer to "TVLink-CEC protocol" document)

IR Decoding

- When 'IR Decoding' is set to 'Enable', the TV decodes and changes it into a CEC Message and sends it to Command via the HDMI CEC Line. The default value is Disable.

Device ID

- Sets the ID of a device(Logical Address) connected to the CEC Line. You can choose 'All' and from '0 x 01' to '0 x 0E'(All, 0 x 01 ~ 0 x 0e).
- The default value is 'All'.

StandBy

- Set the sending and receiving scenario of OpStandBy(0 x 0c) command.
- Ths detailed scenario is described on the table below.

	Send	Receive
Send Only	O	X
Receive Only	X	O
All	O	O
Off	X	X

Forced Initialize

(Depending on model)

- This setting will be enabled When CEC mode is set as 'TVLink-CEC'.
- If "Enable" is selected, TV will change its input source to HDMI1 by any HDMI-CEC simulation from a device.

HTNG Hotel Mode

- If you use following functions via TVLink-HCEC, HTNG Hotel mode will be set as "Yes" automatically.
  - Power On Default, Start Volume, Maximum Volume, Minimum Volume, or Start Volume.
- Even if 'LG Hotel Mode Setup' is set as No, above settings are still effective.

Clock Setup

(Depending on model)

Mood Display Setup

(Depending on model)

- You can setup Mood Display features.

Clock Display

(Depending on model)

- You can select 'Enable' or 'Disable'.
- After selecting 'Enable', you can see the LED Clock TV.

Dimming Standby

(Depending on model)

- Standby Dimming value Range : 1~2

Dimming PowerOn

(Depending on model)

- PowerOn Dimming value Range: 1~5

Clock Source

- You can select 'Off', 'Pro:Centric', 'TV', 'NTP', 'Admin'.
- NTP : Clock is synchronized using Network Time Protocol. It's only enabled when network cable is connected. (Depending on model)
- Admin : It's automatically set to Admin when clock is updated by commercial protocols like TVLink-HCEC, TVLink-Interactive, or HCAP API.
- Off : Clock is synchronized using any available clock source.
- Pro: Centric : Clock is synchronized using Pro:Centric server. (Depending on model)
- TV : Clock is synchronized using particular TV programme.
  - **Input** (Depending on model)
    - » You can select 'Input' according to 'Clock Source'.
    - » You can select 'RF' or 'IP' when Clock Source is 'Pro:Centric'.
    - » You can select TV source when Clock Source is 'TV'.
    - » Input is set to 'None', 'HCAP', 'Protocol', 'HTNG' automatically when Clock Source is 'Admin'.
  - **Programme / Frequency** (Depending on model)
    - » Sets the Frequency to get the time information when Clock Source is 'Pro:Centric'.
    - » You can select programme when Clock Source is 'TV'.
  - **Timezone (City) / Timezone (Custom) / Timezone (Offset)** (Depending on model)
    - » In the case when there is difference between the time information received from the Teletext and the time of the current area, it can be set up to correct this. The initial value is 0, and it can be changed in the range of -12 Hrs ~ +14 Hrs. (Timezone (Offset) range is -12 Hrs ~ +12 Hrs)

Crestron

(Depending on model)

Crestron Connected V1

- This function enables synchronization with applications provided by Crestron.
- Server: This menu sets the server's IP address for the network connection with the server (equipment provided by Crestron).
- Port (1024~65535): This menu sets the port for the network connection with the server. The default port number is 41794.
- IP ID (3-254): This menu sets a unique ID for synchronizing with the application.

Crestron Connected V2

- The connection status of the server type shall be indicated by pictures and phrases. (Disconnected, Connecting, Connected)
- Type: You can select the server type you want to connect to (Off, Control System, Virtual Control, Fusion)
- CONNECT: If you press the button once, a set tries to connect to the server and the button phrase is changed into DISCONNECT. In this case, the upper items are immutable. To disconnect and change upper items, pressing the button again is needed.
- Information for connecting with the server
  - Type: Control System
    - » Server: Enter the IP information of the server
    - » Port: Enter the Port information for the server
    - » IP ID: A unique ID that distinguishes crestron equipment from server
  - Type: Virtual Control
    - » Room ID: A unique ID that distinguishes room from server. If the IP ID is the same, but the Room ID is different, the server recognizes it as a different crestron equipment.
    - » Server, Port, IP ID are the same as Control System's.

- Type: Fusion
  - » Method: Connection direction can be selected. (Device to Fusion, Fusion to Device)
  - » Device to Fusion: How to connect from set to server
    URL: Server URL
    Port: Server Port
  - » Fusion to Device : How to connect from server to set

- Auto Discovery: The ability to locate other Crestron equipment in the network
- SSL: Communication security with server can be established. The following items are meaningful only at SSL on
  - User, Password: When the Authentication function is turned on on the server, User and Password must be entered to connect with the server.
  - Verify Certificate: A feature that checks whether a certificate installed on a server is valid. If it is not valid, it does not connect to the server
  - Certificate Download: The certificate must be stored in the set to perform the Verify Certificate function. Only certificates with extensions .pem, .crt in the USB root directory are recognized and can be added or deleted through the menu. All certificates stored at the time of Factory Reset are deleted.

XiO Cloud

- The connection status with XiO Cloud is displayed. (Disconnected, Connecting, Connected)
- CONNECT: If you press the button once, a set tries to connect to the server and the button phrase is changed into DISCONNECT. To disconnect, pressing the button again is needed.

Welcome Video Mode

(Depending on model)

- You can set to Off, Once or Repeat.

Operation

- The video displays after your TV is turned on and the boot logo appears.
- If Welcome Video is enabled and a video is downloaded on the TV, the video plays.
- The time it takes a video to be displayed may differ depending on the decoding time of the video.
- Controls for playing the video are not available. (Pause, stop, fast forward, etc.)
- Videos in any file format that the TV supports can be downloaded and displayed.

Developer Mode

(Depending on model)

- This feature provides great convenience to the app developers.
- Set up to install the Developer mode app.

Security

Port Control

(Depending on model)

- Unused ports can be blocked for network security.

Lock Mode

- USB
  - If set to 'Enable', USB devices do not work in relative features. (Updates via USB are possible regardless of the 'USB' lock. However, some models cannot be updated via USB.)
- Factory Reset
  - If set to 'Enable', 'Reset to Initial Settings' item in the user menu is disabled.

Password Change

- To ensure more security, Password can be changed by Installations' own design.

TV Information

- You can check the TV information.

Check Items

- You can Inspect the TV status.

TV Manager Password Protection

- You can set password for protect access to TV Manager.
- When TV Manager password protection is activated, the password is required for access to TV Manager.

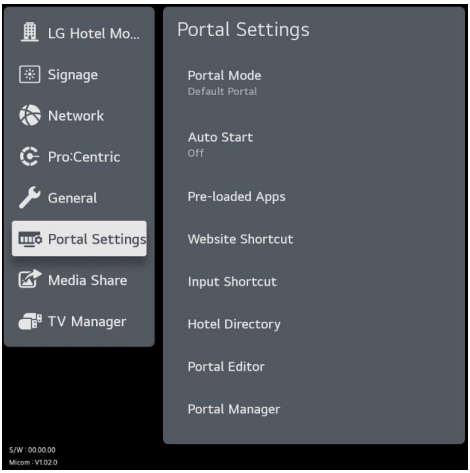
SW Update

(Depending on model)

- You can update TV software by Network Software Update(NSU) server.

Portal Settings

(Depending on model)



Portal Mode

(Depending on model)

- You can select 'Default Portal' (Use webOS default portal), 'Customizable Portal' (Use editable Portal), or 'None' (Do not use portal).

Auto Start

(Depending on model)

- You can select 'Off', 'Website Shortcut', or 'Portal Mode'.
- If you select 'Website Shortcut', Shortcut app will be excute automatically after TV on.
- If you select 'Portal Mode', Portal(Home Launcher) will be excute automatically after TV on.

PreLoaded App

(Depending on model)

- If you want to use a particular app, you can choose from the menu. you can setting each apps activation.

Website Shortcut

(Depending on model)

Shortcut

- Sets Enable or Disable. When it is set to Enable, Website Shortcut app is displayed at launcher bar.

Shortcut Name

- You can set Website Shortcut app name (title).

Shortcut URL

- Sets URL to connect when excute Website Shortcut app.

Shortcut Icon

- You can select default icon, fav icons, downloaded icon or Download(Go to TV Manager).
- You can download the shortcut icon at TV Manager app.

Tile Color (Color Code)

- You can change Website Shortcut app tile color using RGB color code.

Input Shortcut

(Depending on model)

Shortcut

- Sets Enable or Disable. When it is set to Enable, Input Shortcut app is displayed at launcher bar.

Shortcut Name

- You can set Input Shortcut app name (title).

Shortcut Icon

- You can select default icon, downloaded icon or Download(Go to TV Manager).
- You can download the shortcut icon at TV Manager app.

Tile Color (Color Code)

- You can change Input Shortcut app tile color using RGB color code.

Hotel Directory

(Depending on model)

- Set the information to display at Hotel Directory app.

Facility or Service Name

- Set the facility or service name.

Details or Extension

- Set the detailed information.

Related Photo

- You can select None, downloaded images or Download (Go to TV Manager).
- You can download the directory images at TV Manager app.

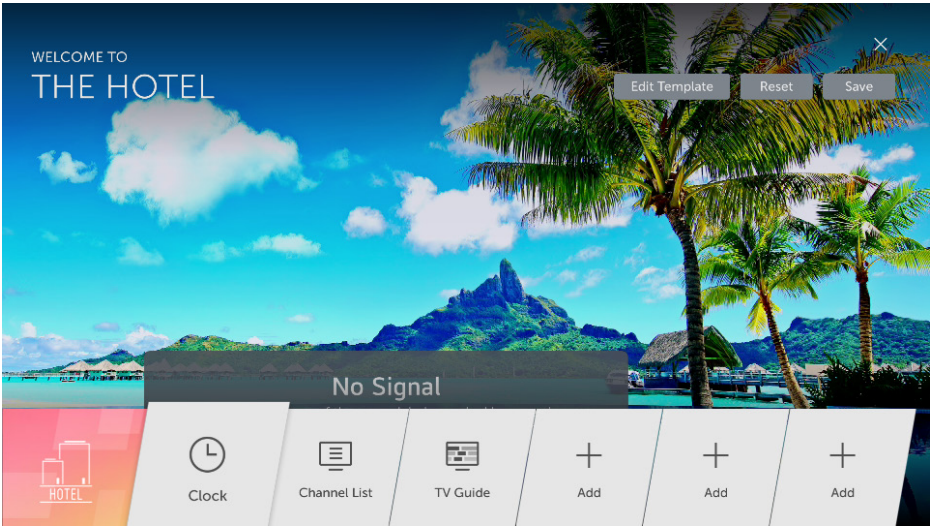
Portal Editor

(Depending on model)

- If you press 'Portal Editor' menu, each portal editor is launched according to 'Portal Mode'.

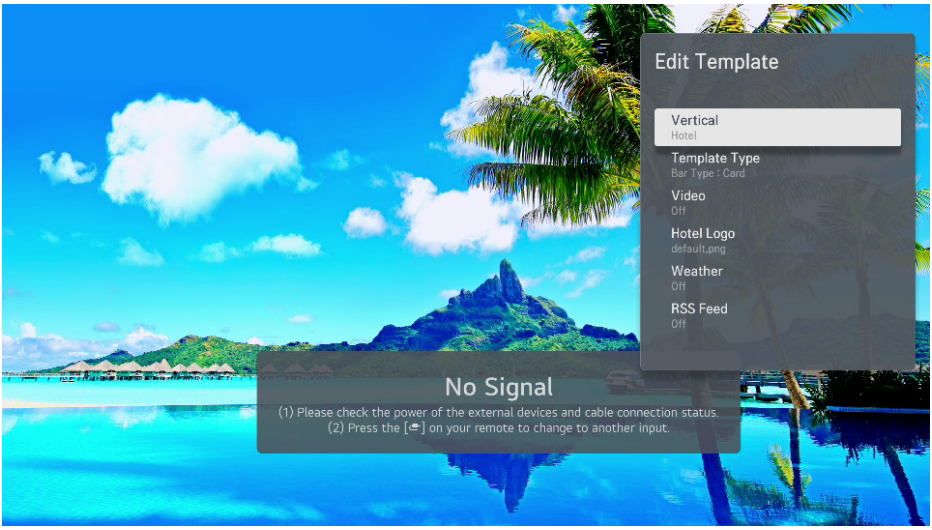
Customizable Portal

* Images shown may differ from your TV.



- Welcome Message, Hotel Name
  - You can set the welcome message and hotel name by selecting the upper left area.
- App List
  - You can add an application by selecting the Add button from the list at the bottom.
  - You can replace another application by selecting an already added application tile.

- Edit Template



- Vertical
  - » You can set Vertical when selecting focus. Select between Hotel or Hospital.
- Template
  - » You can set Template when selecting focus. Select between Bar Type or Tile Type.
- Video
  - » You can set this mode to On/Off when selecting Customizable Portal.
  - » You can download the video at TV Manager app.
- Logo
  - » You can select images for Default/Downloaded image.
  - » You can download the icon at TV Manager app.
- Weather
  - » You can set whether or not to show weather information.
  - » You can set the city.
- RSS Feed
  - » You can set whether or not to show RSS feed.
  - » You can set the URL to get the RSS feed information.
  - » You can set scroll speed of RSS feed.

Portal Manager

(Depending on model)

This feature enables you to group together multiple monitor sets on a single network into the same group and copy portal setting data on a group basis. This feature has two modes, Master and Slave.

Master

- Add, edit, and delete group.
- Distribute your device's portal data.
- All monitor sets initially come in Master mode.

Slave

- Remove monitor sets for their groups.
- Monitor sets that have been added to a group are automatically switched to Slave mode. Conversely, when a monitor set has been deleted from a group, it is automatically initialized and switched to Master mode.
- If a new Slave has been added to an existing group, or if the portal data has not been properly distributed from master, the Cloning button will be activated.
- You can duplicate the master device's portal setting data by using Cloning.

Group Management

- Creating a New Group
  1. Click Add New Group.
  2. Enter a group name.
  3. Click Add Device, select the devices you wish to add to the group, and add them.
  4. Click Done, and you will see that a new group has been created.
- Editing a Group
  1. Click the group you wish to edit.
  2. Add a new device by using Add Device.
  3. Delete a device by using Delete Device.
  4. Check whether the devices in the group are connected to a network by using Device Check.
  5. If there are any sets of devices in the group that are not portal data synchronized, Distribute button will be activated.
  6. You can re-distribute the master device's portal setting data to the group by using Distribute.
- Deleting a Group
  1. Click Delete Group.
  2. Select the group you wish to delete and click Delete.
  3. Check that the group you selected has been deleted.
- All Devices View: This page enables you to manage all slave monitor sets that are connected to the same network.
  1. Click All Devices View.
  2. Click Reset Device Mode.
  3. Select the slave monitor set whose device mode you wish to change and click Initializing.

Portal Distribution

1 Select your desired group and click Distribute.
2 Set power off on the slave sets by using remote controller after distribution is completed.
3 Check that the data have been copied on the slave sets after a 1 minute.

How to Use

- Monitor: Run, add, delete or edit app on the portal setting of the installation menu
- You can create up to 25 groups.
- You can add up to 12 slave devices to a group.
- A list of devices you can add to your desired group appears only when the following conditions have been met:
  - The devices you wish to add must be on the same network as the master device.
  - The devices you wish to add must be in Master mode, and they must not belong to any existing group.
  - The UPnP feature must be enabled.
    - » Hotel : You must do one of the things listed below.
      - i. Enable SmartShare(dlna) ⇨ reboot
      - ii. Enable DIAL ⇨ reboot
      - iii. Enable Media Renderer(DMR) ⇨ reboot
      - iv. Enable LG connect ⇨ reboot
- It may not work properly in wireless network environments. It is recommended you use a wired network.

Media Share

(Depending on model)

Smart Share

(Depending on model)

- Smart Share enables DLNA function. If this value is enabled, TV acts as Media Player and displays Media Server contents through Smart Share app.

Screen Share

(Depending on model)

- Screen Share enables WiFi p2p functions. If this value is enabled, Screen Share app is displayed at launcher bar and TV candisplay the screen of mobile phone or laptop.
- If you want Completely Exit Screen Share App, Click 'X' Button on right top side.

LG Presenter

(Depending on model)

- LG Presenter uses wired/wireless connection to share PC screen(Windows or Mac OS). If this value is enabled, LG Presenter app is displayed at launcher bar and TV can display the screen of PC or laptop.

Media Renderer

(Depending on model)

- Media Renderer enables the TV to act as a Media Renderer device to receive contents from devices on the same network.

DIAL

(Depending on model)

- With this DIAL service, you can launch the target app at Smart Home Launcher bar without select the target app by remote controller. Before this function enables, the target app should be selected at Installation Menu ⇨ **Portal Settings** ⇨ **Preloaded App**.

Device Name

- When media devices(ex: smart phone, desktop, laptop) are searching TV, this string will be displayed.

SoftAP

(Depending on model)

- SoftAP is similar to Access Point. When this value is On, Wi-Fi Service application is displayed at the launcher bar. SoftAP is activated when user selects On in the Wi-Fi Service application.
- Regardless of the Instant On mode, the SoftAP setting stays unchanged after power off/on. (Depending on model)

Use Default

- If you want to use default password(this password was generated randomly), you must select 'Enable' in this item.

Security Key

- If you want to change default password, you need to change 'Use Default' value into 'Disable'.

Wi-Fi Signal Strength

- You can control wireless signal strength on SoftAP. This is controlled by 5 step. If you select 'Not Used', wireless signal strength will be set to Max value.

Wi-Fi Channel

- You can control the wireless channel in SoftAP mode. It is controlled by 1 to 11 channels(2.4GHz). The 5GHz channel is controlled by the channel supported by the country where it is set. However, DFS channels cannot be set. If you select'Auto', the SoftAP's wireless channel is set to a random channel.

Mode

(Depending on model)

- You can select NAT(Network address translation) mode and Bridge mode for Soft AP.

Security Type

(Depending on model)

- This menu is activated only when Bridge mode is selected.
- Type of security authentication protocol required for wireless connectivity
- WPA2-PSK, 802.1X EAP, and OPEN are available from this menu.

Radius Server IP, Radius Server Port, Radius Server Key

(Depending on model)

- This menu is activated only when Bridge mode is selected and 802.1X EAP is selected.
- If you want to use 802.1X, you must enter the IP address of the authentication server that manages the user's credentials, as well as the Port and Key information.

VLAN ID

(Depending on model)

- This menu is activated only when Bridge mode is selected.
- SoftAP VLAN ID is needed when you want to separate TV packets and SoftAP packets.
- The packets via SoftAP are tagged when the packets go through LAN port to external network.
- It is not compatible with Network ⇨ VLAN ID. (SoftAP VLAN is not available if LAN port or AUX port in VLAN ID is set.)

Beacon

(Depending on model)

- This option enables BLE Beacon, one of Bluetooth 4.0's features.
- Beacon Mode (On/Off Toggle): enables the Beacon feature.
- The iBeacon/Eddystone Type Beacon features are supported.

iBeacon

- Beacon UUID (hex): Set the UUID.
  - Field1: 4byte hex value (8 digits)
  - Field2: 2byte hex value (4 digits)
  - Field3: 2byte hex value (4 digits)
  - Field4: 2byte hex value (4 digits)
  - Field5: 6byte hex value (12 digits)
- Major (0–65535): Sets the Major value.
- Minor (0–65535): Sets the Minor value.

Eddystone

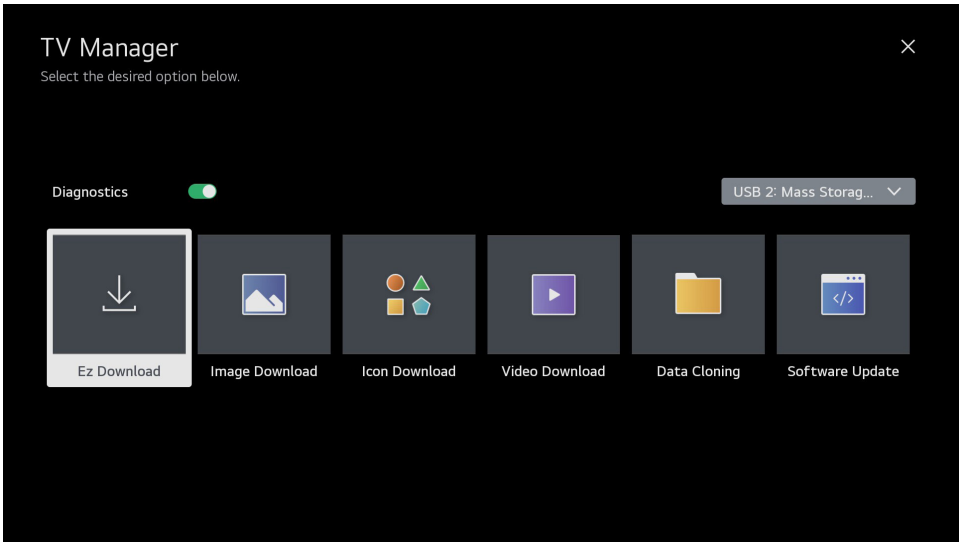
- Frame: Set UUID or URL.
  - Beacon UUID (hex): Set the UUID
    - » Field1: 10 byte hex value (20 digits)
    - » Field2: 6 byte hex value (12 digits)
  - Setting the URL method
    - » URL Prefix: Sets the prefix of the URL.
    - » URL Suffix: Set the suffix of the URL.
    - » URL: Enter the part of the URL that excludes the prefix and suffix.
    - » URL string length is limited to 15 characters.

- Some models do not support background screening services in iOS.
- A reboot is recommended for the settings to be applied properly.
- The UUID value is hexadecimal and the exact number of digits must be entered.
- The distance of the beacon may vary depending on the external device.
- Beacon's distance may vary depending on the app you use on your external device.
- The Beacon feature uses Bluetooth Low Energy (BLE) technology and is therefore susceptible to radio waves. 2.4 GHz environment if not, normal operation may not be possible.

TV Manager

* Images shown may differ from your TV.

You can update files from USB to TV through the TV manager.

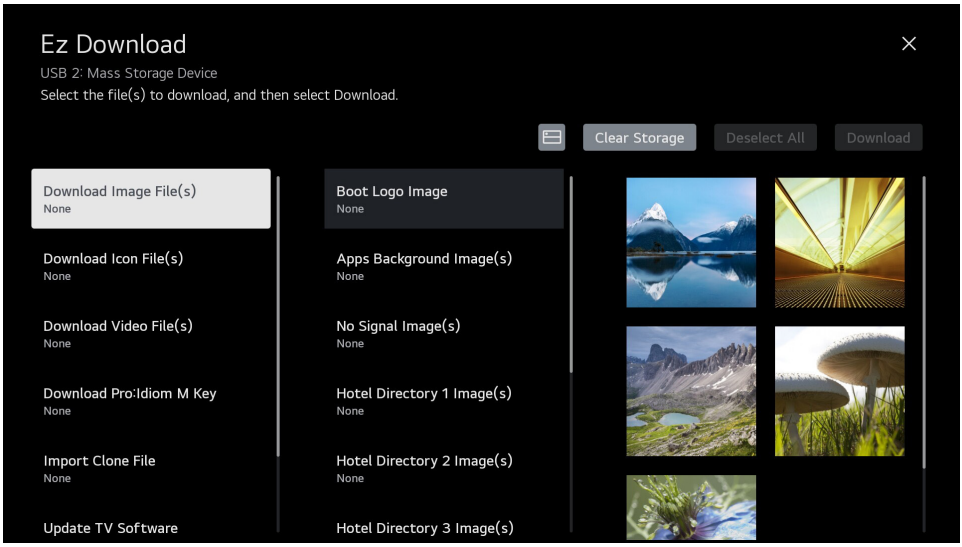


Diagnostics

(Depending on model)

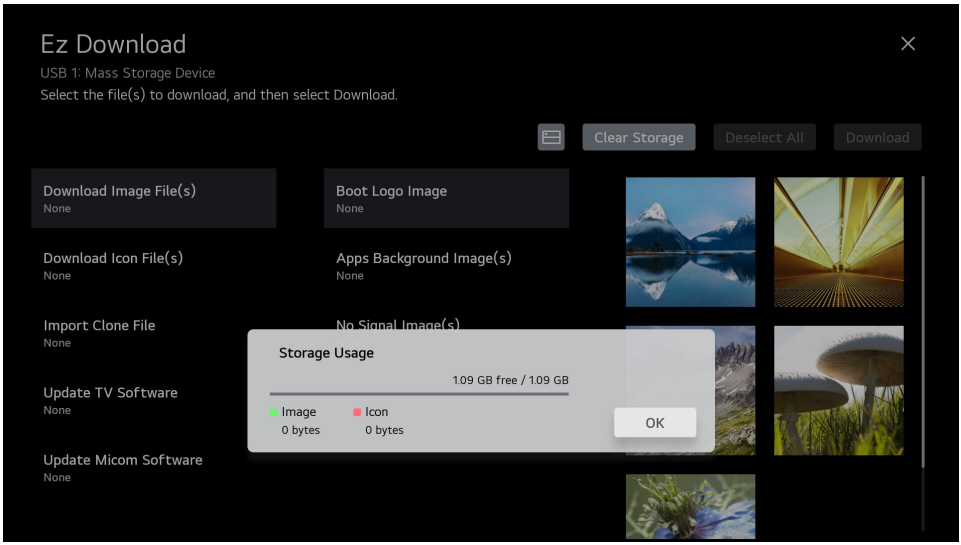
- Sets Enable or Disable. When it is set to Disable, user can't control TV via RMS. The changed setting is applied after reboot.

Ez Download

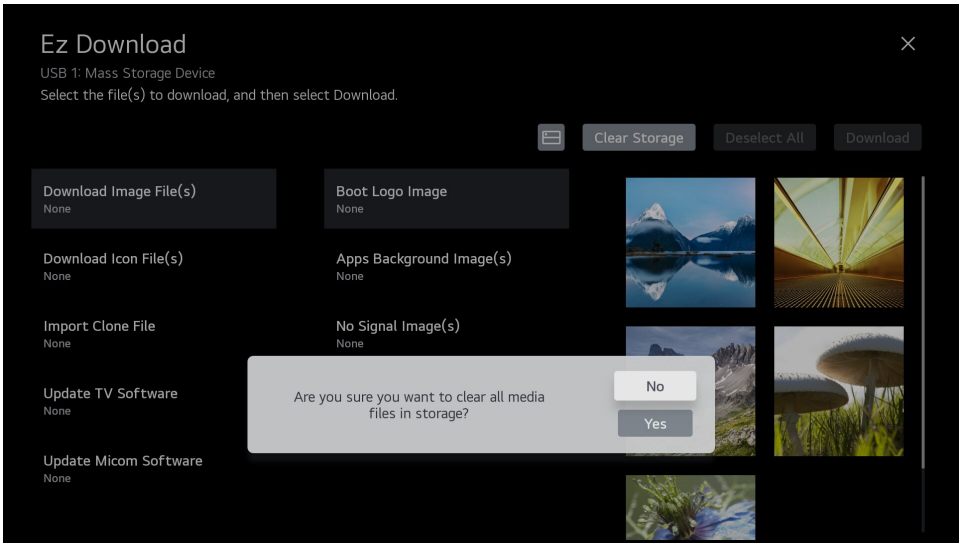


- Ez Download is a function that enables users to download the desired items all at once, such as EPK (software update file), TLL, Media files, Micom, Pro:Idiom M Key. (Depending on model)
  - Images, Icon, Pro:Idiom M Key file and Software Update files should be copied into the folder named LG_DTV on the USB.
    - » TLL files should be copied to the root folder of the USB.
    - » If you press 'EZ Download' menu, EZ Download is launched.
    - » If .DZM file exist file will be selected previously download file.
    - » For Pro:Idiom M key to appear, "pim" file must exist in USB.
    - » Pro:Idiom M key file name should be specified as checksum with MD5 and extension should be specified as "pim". (case-insensitive)
    - » Pro:Idiom M Key file should be encoded by ANSI(ASCII).
    - » Pro:Idiom M Key file length should be 1024 bytes. (32 bytes * 32)
    - » If file name or the length are wrong, the file download will be failed.
    - » If you do "Factory Reset", Pro:Idiom M Key will return back to default Key.

- If the DZM file is still in the USB after the download is complete:
  An Ez Download pop-up window will appear and list the file types, such as EPK (software update file), TLL, Image, Icon, Micom, Pro:Idiom M key with the previously downloaded lists checked automatically.



- Press button to display storage usage information.



- Press the "Clear Storage" button to delete the downloaded media files.

USB Download Menu

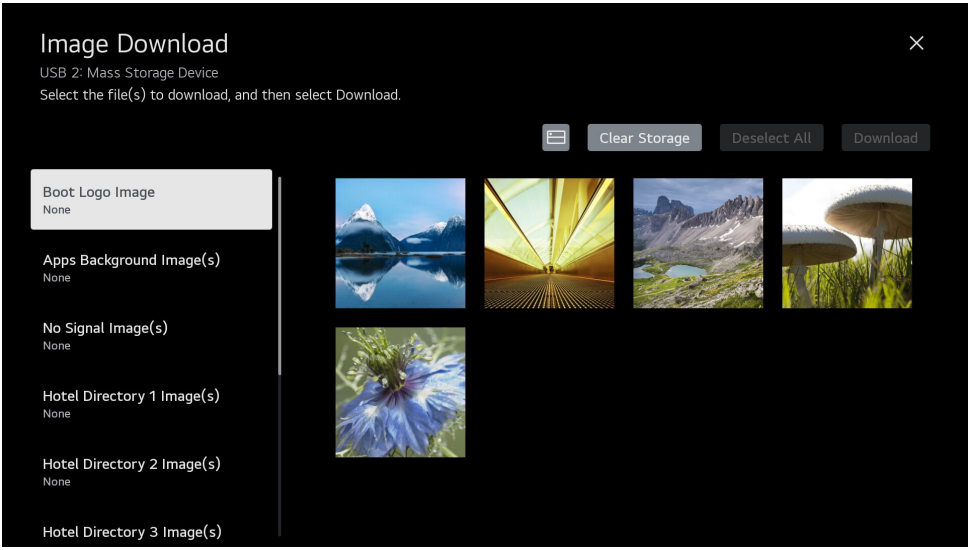
USB Cloning

An Installation can quickly set up and clone multiple TV sets at a property. These cloned TVs will all have the same Master TV Setup: Installation Menu settings, User A/V settings and the programme Map. This newer procedure significantly decreases the installation time that would be necessary if the standard RS-232C method were used instead.

- **Overview USB Cloning Procedure**
  : Commercial TVs have the capability to support cloning internal TV data and programme information with an external clone device called "USB Cloning", in order to copy TV data accurately and quickly. The clone internal functions use slightly different internal processes for the two types of commercial TVs. However, the UI of cloning feature remains the same in both. Regarding the demands over the current cloning feature for quicker cloning, better portability and etc, we would like to announce the cloning process via USB port, named as USB Cloning. USB cloning process is divided into 2 main processes. One is writing the previously saved TV data into the TV, and one another is reading of current TV data into USB memory card. To avoid any confusion due to the words, it is clearly specified as "Import Clone File" and "Export Clone File" in the whole process.
- **Data To Be Cloned**
  : The data cloned are the same data cloned by previous USB Cloning. Details are explained in the following:
  - TV data includes :
    - » Installation Menu settings
    - » Main menu settings (Audio, Picture etc)
  - Analog / Digital Programme information includes:
    - » Programme numbers
    - » Programme label
    - » Programme attributes including programme type, skipping status and etc.

Image Download

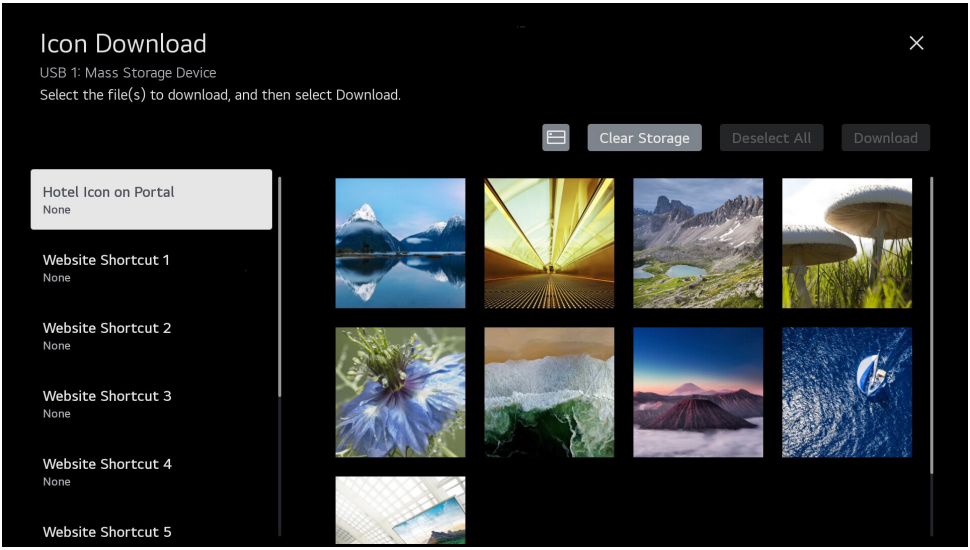
(Depending on model)



- The download sequence is Image Download ⇨ Select Image(s) ⇨ Download.
- The target file is located in LG_DTV folders.
- Press the "Clear Storage" button to delete the downloaded images.
  - **Boot Logo Image** (Depending on model)
    - » Boot Logo Image can download only one file.
    - » Boot Logo Image update function supports only JPG, JPEG (up to 6 MB per image) or BMP (up to 5.93 MB per image) format file.
    - » We recommend you that splash image resolution match the TV`s panel resolution.
    - » Max resolution of splash image : Full HD ⇨ 1920 x 1080, HD ⇨ 1360 x 768.
    - » Min resolution of splash image : 64 x 64.
  - **Apps Background Image(s), No Signal Image(s), Hotel Directory Image(s)** (Depending on model)
    - » Image update function supports only JPG, JPEG, PNG format file(s).
    - » Max resolution of image : UHD ⇨ 3840 x 2160, Full HD ⇨ 1920 x 1080, HD ⇨ 1360 x 768.
    - » Min resolution of image : 64 x 64.
    - » The maximum number of images to choose from per feature is 12.
    - » Images per feature can not be downloaded beyond 10 MB.
    - » If you updates the images, original images will be removed.
    - » If you want to use 'Apps Background Image(s)' in Bluetooth Sound Sync app, Live TV's Radio Programme and Clock app, please change the value of 'Insert Image' property to enable ('Insert Image' in Installation ⇨ **General** ⇨ **Configuration Setup**).
    - » If you want to use 'No Signal Image(s)', please change the value of 'No Signal Image' property to 'Downloaded'('No Signal Image' in Installation ⇨ General ⇨ Configuration Setup).

Icon Download

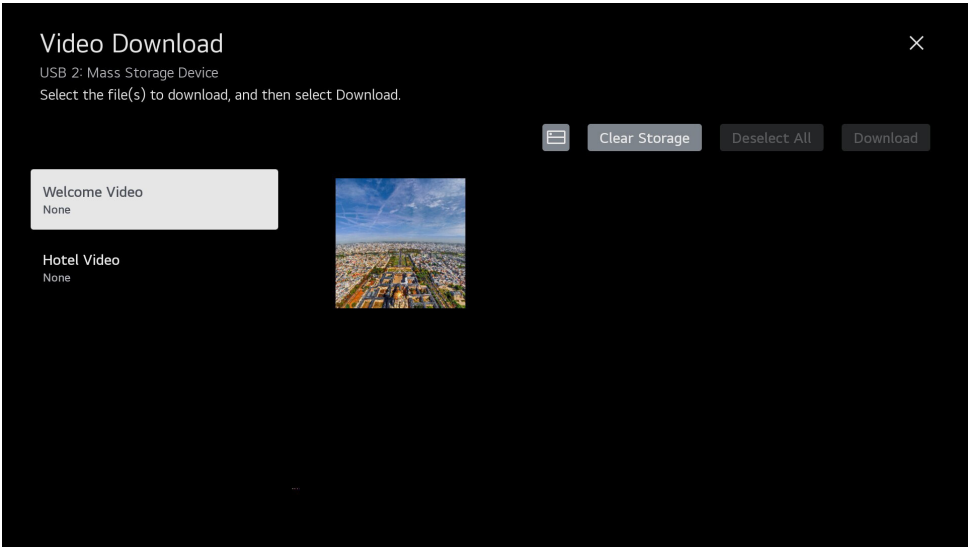
(Depending on model)



- If you updates the images, original images will be removed.
- The download sequence is Icon Downalod ⇨ Select Images ⇨ Download.
- Icon update function supports only JPG, JPEG, PNG format file.
- Press the **Clear Storage** button to delete the downloaded icons.
  - Hotel Icon on Portal, Website Shortcut, Input Shortcut
    - » Images is located in LG_DTV folder.
    - » Icon Image can download only one file.
    - » Max resolution of icon : UHD ⇨ 3840 x 2160, Full HD ⇨ 1920 x 1080, HD ⇨ 1360 x 768.
    - » Min resolution of icon : 64 x 64.
  - IPTV Channel Logo File (Depending on model)
    - » This function copies the "channelLogo" folder in USB.
    - » Copy only files with the image format "JPG, JPEG, PNG".
    - » We recommend you that the maximum resolution of the channel logo image file is 1920x1080 or lower.

Video Download

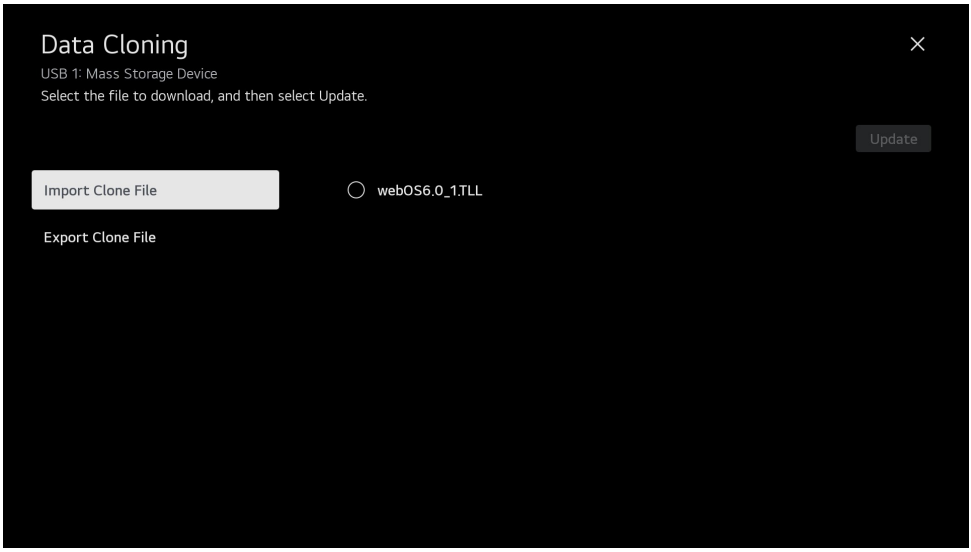
(Depending on model)



- Media files is located in LG_DTV folder.
- The download sequence is Video Download ⇨ Select media file ⇨ Download.
- Media files can only download one file each.
- If you updates the video file, original file will be removed.
- Press the "Clear Storage" button to delete the downloaded videos.

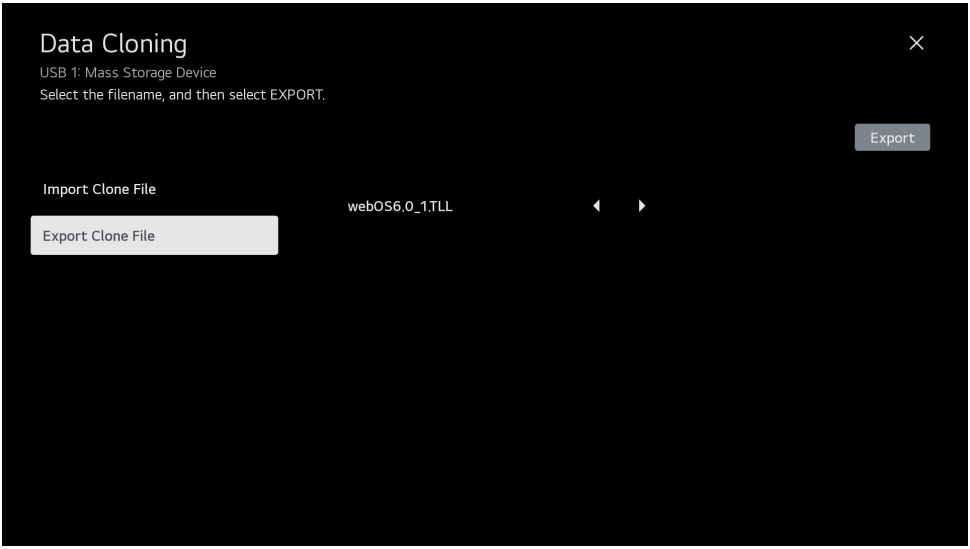
Data Cloning

Import Clone File



- Once the internal TV data and its programme map information are written to the USB memory card, the user can start "Import Clone File" process with the data file generated and stored in USB memory card. The user should not turn TV off nor unplug the USB memory card while processing. The following reference images might be slightly different.

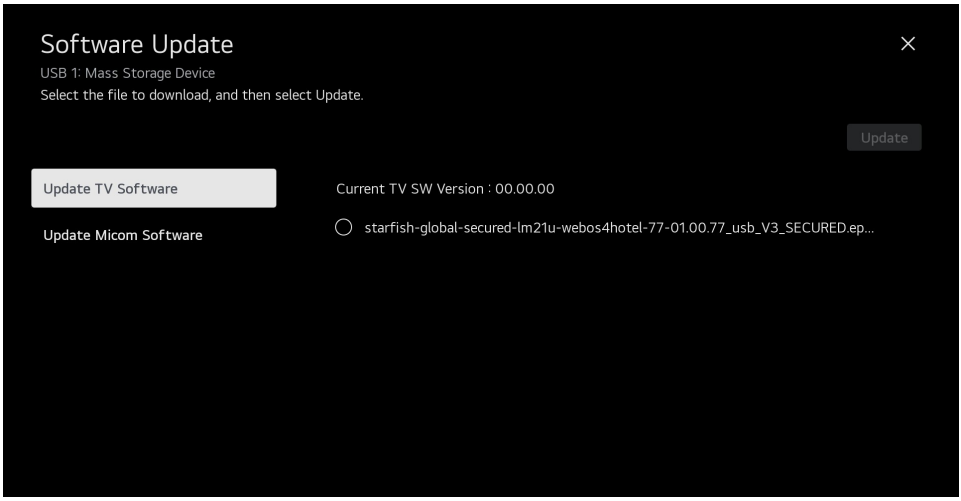
Export Clone File



- "Export Clone File" creates "TLL" file in USB root folder. "TLL" file can be used to "Import Clone File". While writing is in process, the user must not turn TV off nor unplug the USB memory card. The following reference images might be slightly different.

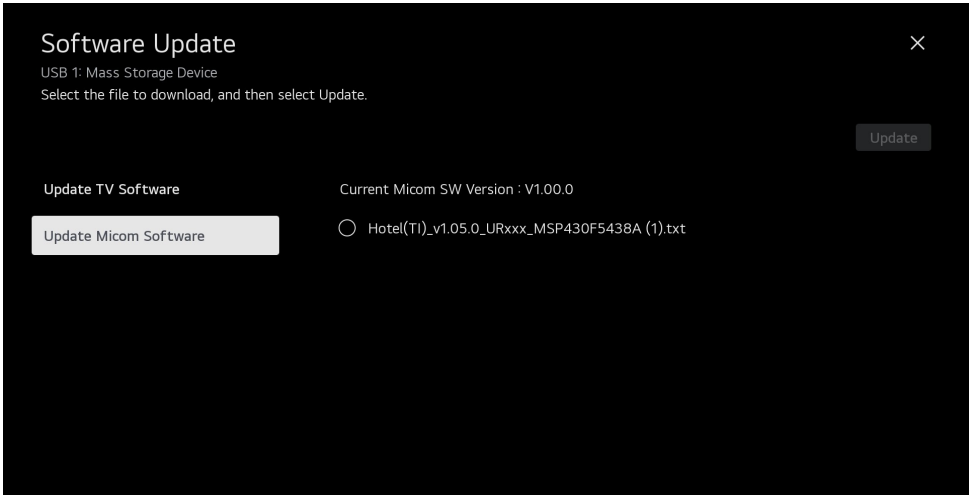
Software Update

Update TV Software



- This feature updates TV software through the EPK file in USB.
- The target file is located in ₩ LG_DTV folder.
- The download sequence is Software Update ⇨ Update TV Software ⇨ Select file(EPK) ⇨ Update.

Update Micom Software



- This feature updates Micom software through the txt file in USB.
- The target file is located in ₩ LG_DTV folder.
- The download sequence is Software Update ⇨ Update Micom Software ⇨ Select file(txt) ⇨ Update.

Content Manager

(Depending on model)

Web Login

- Different features are supported depending on the product.

This Signage product comes with a feature that enables you to access it on your PC or mobile device.

  - Content Manager, Group Manager 2.0, Log Out, Change Password menus are provided.

- URL: https://set ip:3777
- The default password: (Serial Number) + LGe12#
  E.g. If the serial number is ABCD123456789, enter ABCD123456789LGe12# as the password.
  - The serial number can be found on the tag attached to the product or on the [Installation Menu] ⇨ [Signage] ⇨ [System Information] menu.

- Supported resolutions (this program is optimized for the following resolutions):
  - PC 1920 x 1080 / 1280 x 1024
  - Mobile: 360 x 640(1440 x 2560, 1080 x 1920), DPR
- Supported browsers (this program is optimized for the following browsers):
  - PC 1920 x 1080 / 1280 x 1024
- For security, please Login with the initial password and change the password.

Content Manager

Player

HOME / ⇨ (Player)

The Content Manager app's player feature enables you to play/manage contents of video, image, template, SuperSign and playlist in an integrated way. (The OLED models do not support the playback and management of image content and template content.)

- Continuous Play
  1. Select your desired type of content from the tab on the left and then select your desired content.
  2. Click **PLAY** in the upper right-hand corner of the screen and enjoy the content you have selected.
- Export
  1. Select your desired type of content from the tab on the left and click **Export** in the upper right-hand corner of the screen.
  2. Select the content you wish to export.
  3. Click **COPY**/**Orbiter** in the upper right-hand corner of the screen and select the device to which you wish to export the content. (If a content file stored on the target device has been selected, the processing of the content file is skipped.)
  4. You can see that the content has been moved/copied to the device.
- DELETE
  1. Select your desired type of content from the tab on the left and click **DELETE** in the upper right-hand corner of the screen.
  2. Select the content you wish to delete.
  3. Click **DELETE** in the upper right-hand corner of the screen.
  4. You can see that the content has been deleted.
- Filter / Sort
  1. Click **Filter** / **Sort** in the upper right-hand corner of the screen.
  2. Choose your desired sort criterion to sort content files either by file name or in the order they have been played (the most recently played file shown at the top of the list).
     - It is possible to only view the content stored on your desired device by filtering content files by device.
     - It is possible to only view the content of your desired type by filtering content files by content type.

- Create Playlist
  When creating a playlist, you cannot include characters that cannot be used in file names on Windows — such as \, /,:, *,?, “, <,>, and | — in the names of the files in the playlist. In addition, if the playlist contains content files whose names include such characters, you cannot move or copy the playlist.
  1 Select the **Playlist** tap from the tab on the left and click **Create Playlist** in the upper right-hand of the screen.
  2 Select the content you wish to add to the playlist and click **NEXT** in the upper right-hand of the screen.
  3 Set a play time for each piece of content (applicable only for photo and template content), as well as other items such as Conversion Effect, Ratio, and Auto Playback, and then click **DONE** button in the upper right-hand corner of the screen.
  4 You can see a new **Playlist** has been created.
- DISTRIBUTION
  1 Click **Distribute** in the upper right-hand corner of Playlist tab screen.
  2 Go to the Group Manager app to distribute the created playlists.

Scheduler

HOME / ⇨ (Scheduler)

The Content Manager app’s scheduler feature enables certain content to be played at a scheduled time through a playlist or external input.

- Creating a Schedule
  1 Click **New Schedule** in the upper right-hand corner of the screen.
  2 Choose between **Playlist** and **Input Source**.
    - If you have selected **Playlist**, select the playlist you wish to schedule the playback of.
    - If you have selected **Input Source**, select the external input source you wish to schedule the playback of.
  3 Enter schedule information and create a new schedule. (When creating a schedule, you cannot include characters that cannot be used in file names on Windows — such as \, /,:, *,?, “, <,>, and | — in the name of the schedule file. In addition, if the playlist linked to the schedule contains content files whose names include such characters, you cannot move or copy the playlist.)
  4 Watch the playlist or external input you selected play back at its scheduled time.
- Importing a Schedule
  1 Click **Import** in the upper right-hand corner of the screen.
  2 Select the external storage device from which you wish to import a schedule.
  3 Select the schedule you wish to import to your monitor. (You can only choose a single schedule.)
  4 Click **Select** in the upper right-hand corner of the screen.
  5 Check that the schedule has been imported to the monitor’s internal storage memory.
- Exporting a Schedule
  1 Click **Export** in the upper right-hand corner of the screen.
  2 Select the external storage device to which you wish to export a schedule.
  3 Select the schedule you wish to export from your monitor. (You can choose multiple schedules.)
  4 Click **Select** in the upper right-hand corner of the screen.
  5 Check that the schedule has been exported to the external storage device you selected.
- Delete Schedule
  1 Click **DELETE** in the upper right-hand corner of the screen.
  2 Select the schedules you wish to delete.
  3 Click **DELETE**.
  4 Check that the schedules have been deleted.
- Calendar View
  1 When you have registered schedules, click **Calendar View**.
  2 You can see that the schedules registered are displayed in the form of a timetable.

- DISTRIBUTION
  1 Click **Distribute** in the upper right-hand corner of the screen.
  2 Go to the Group Manager app to distribute the created schedules.
    - If the schedule creation time overlaps, the previously created schedule is deleted.
    - Schedule does not work while Scheduling list app is running.

Editor

HOME / ⌂ ⇨ (Editor)

The Content Manager app's editor feature enables you to add your desired templates.

1 Select the template of your desired format.
2 Modify the template's text.
  - Apply your desired font style (Size, Weight, Underline, Italic)
3 Modify the media file.
4 Save the template by clicking **Save** in the top right-hand corner of the screen.
5 Check that the template you saved is shown in the template list.

Supported Photo & Video Files

- Subtitles are not supported.
- The photo feature is not supported in OLED model.

Supported video codecs

Extension	Codec	
.asf, .wmv	Video	VC-1 Advanced Profile (except for WMVA), VC-1 Simple and Main Profiles
	Audio	WMA Standard (excluding WMA v1/WMA Speech)
.avi	Video	Xvid (excluding 3 warp-point GMC), H.264/AVC, Motion Jpeg, MPEG-4
	Audio	MPEG-1 Layer I, II, MPEG-1 Layer III (MP3), Dolby Digital, LPCM, ADPCM, DTS
.mp4, .m4v, .mov	Video	H.264/AVC, MPEG-4, HEVC
	Audio	Dolby Digital, Dolby Digital Plus, AAC, MPEG-1 Layer III (MP3), Dolby AC-4
.3gp .3g2	Video	H.264/AVC, MPEG-4
	Audio	AAC, AMR-NB, AMR-WB
.mkv	Video	MPEG-2, MPEG-4, H.264/AVC, VP8, VP9, HEVC
	Audio	Dolby Digital, Dolby Digital Plus, AAC, PCM, DTS, MPEG-1 Layer I, II, MPEG-1 Layer III (MP3)
.ts, .trp, .tp, .mts	Video	H.264/AVC, MPEG-2, HEVC
	Audio	MPEG-1 Layer I, II, MPEG-1 Layer III (MP3), Dolby Digital, Dolby Digital Plus, AAC, PCM, Dolby AC-4
.mpg, .mpeg, .dat	Video	MPEG-1, MPEG-2
	Audio	MPEG-1 Layer I, II, MPEG-1 Layer III (MP3)
.vob	Video	MPEG-1, MPEG-2
	Audio	Dolby Digital, MPEG-1 Layer I, II, DVD-LPCM
.rm[1] .rmvb[1]	Video	RV30, RV40
	Audio	Realaudio6(cook), AAC LC, HE-AAC

1. Depending on country

Supported Photo File Formats

File type	Format	Resolution
.jpeg, .jpg, .jpe	JPEG	• Minimum: Min: 64 x 64 • Maximum: Normal Type: 15360 (W) x 8640 (H) Progressive Type: 1920 (W) x 1440 (H)
.png	PNG	• Minimum: Min: 64 x 64 • Maximum: 5760 (W) x 5760 (H)
.bmp	BMP	• Minimum: Min: 64 x 64 • Maximum: 1920 (W) x 1080 (H)

Tips for using USB storage devices

- Only USB storage devices are recognized.
- USB storage devices connected to the monitor through a USB hub may not work properly.
- USB storage devices that use an automatic recognition program may not be recognized.
- USB storage devices that use their own drivers may not be recognized.
- The recognition speed of a USB storage device may depend on each device.
- Please do not turn off the display or unplug the USB device when the connected USB storage device is working. When the device is suddenly separated or unplugged, the stored files or the USB storage device may be damaged.
- Please do not connect the USB storage device which was artificially maneuvered on the PC. The device may cause the product to malfunction or fail to be played. Remember to only use USB storage devices that store normal music, image, and/or movie files.
- Storage devices formatted with utility programs that are not supported by Windows may not be recognized.
- Please connect power to a USB storage device (over 0.5 A) which requires an external power supply. Otherwise, the device may not be recognized.
- Please connect a USB storage device with the cable offered by the device maker.
- Some USB storage devices may not be supported or operated smoothly.
- File alignment methods of the USB storage device is similar to Windows XP and filenames can include up to 100 English characters.
- Be sure to back up important files since data stored in a USB memory device may be damaged. We will not be responsible for any data loss.
- If the USB HDD does not have an external power source, the USB device may not be detected. So make sure to connect it to an external power source.
- Please use a power adapter for an external power source. No USB cable is provided for an external power source.
- If your USB storage device has multiple partitions, or if you use a USB multi-card reader, you can use up to four partitions or USB memory devices.
- If a USB storage device is connected to a USB multi-card reader, its volume data may not be detected.
- If the USB storage device does not work properly, remove it and connect it again.
- The speed at which a USB storage device is detected differs from device to device.
- If the USB storage device is connected in Standby Mode, a specific hard disk will automatically be loaded when the display is turned on.
- The recommended capacity is 1 TB or less for a USB external hard disk and 32 GB or less for USB memory.
- Any device with more than the recommended capacity may not work properly.
- If a USB external hard disk with a Energy Saving feature does not work, turn the hard disk off and on again to make it work properly.
- USB storage devices (USB 2.0 or below) are also supported. However, they may not work properly in the videos list.
- A maximum of 999 folders or files can be recognized under one folder.

Group Manager 2.0

(Depending on model)

This feature enables you to group together multiple monitor sets on a single network into the same group and to distribute content (schedules and playlists) or copy setting data on a group basis. This feature has two modes, Master and Slave, and it can access the browser on your PC or mobile device.

Master

- Add, edit, and delete group.
- Clone your device's settings data.
- Distribute **Schedule** and **Playlists** on a group basis.
- All monitor sets initially come in Master mode.

Slave

- Play **Schedule** and **Playlists** distributed in Master mode.
- Remove monitor sets for their groups.
- Monitor sets that have been added to a group are automatically switched to Slave mode. Conversely, when a monitor set has been deleted from a group, it is automatically initialized and switched to Master mode.
- If a new Slave has been added to an existing group, or if the **Data Cloning** or the distribution of **schedule**/**Playlist** has not been properly performed, the **Data Cloning** or **Sync** button will be activated.
- You can duplicate the master device's setting data to the group by using **Data Cloning**.
- You can re-download the content distributed to the group by using **Sync**.

Group Management

- Creating a New Group
  1. Click **Add New Group**.
  2. Enter a group name.
  3. Select the devices you wish to add to the group, and add them.
  4. Click **Done**, and you will see that a new group has been created.
- Editing a Group
  1. Click the group you wish to edit.
  2. Add a new device by using **Add Device**.
  3. Delete a device by using **Delete Device**.
  4. Check whether the devices in the group are connected to a network by using **Device Check**.
  5. If there are any sets of devices in the group that are not **Data Cloning** or content synchronized, **Data Cloning** or **Sync** button will be activated.
  6. You can re-copy the master device's setting data to the group by using **Data Cloning**.
  7. You can re-distribute the content distributed to the group by using **Sync**.
- Deleting a Group
  1. Click **Delete Group**.
  2. Select the group you wish to delete and click **Delete**.
  3. Check that the group you selected has been deleted.
- All Devices View: This page enables you to manage all slave monitor sets that are connected to the same network.
  1. Click **All Devices View**.
  2. Click **Reset Device**.
  3. Select the slave monitor set whose device mode you wish to change and click **Reset**.

Setting Data Cloning

1 Select your desired group and click **Start**.
2 Check that the data have been copied on the slave sets.

Schedule Distribution / Playlist Distribution

1 Select the type of content you wish to distribute (Schedules or Playlists).
2 Select the content you wish to distribute.
3 Select the group to which you wish to distribute the content and click **Distribute**.
4 Run the Content Manager app on the slave sets and check that the content has been distributed.

How to Use

- Monitor: Run, add, delete or edit app on the home screen.
- Mobile: Mobile devices: Run the app in the Launcher bar or access the app from a mobile device using the QR code or URL provided.

- You can create up to 25 groups.
- You can add up to 12 slave devices to a group.
- You can distribute the schedules stored on external devices after executing Content Manager's import operation.
- Make sure to delete all schedules stored on the slave sets before distributing any schedules.
- A list of devices you can add to your desired group appears only when the following conditions have been met:
  - The devices you wish to add must be on the same network as the master device.
  - The devices you wish to add must be in Master mode, and they must not belong to any existing group.
  - The UPnP feature must be enabled.
- It may not work properly in wireless network environments. It is recommended you use a wired network.
- Run the initial settings for Slave function when deleting the group.

IR Codes

- This feature is not available for all models.

▶ A Type

Code (Hexa)	Function	Code (Hexa)	Function
08	(POWER)	5B	EXIT
0E	TIMER	72	
95	ENERGY SAVING	71	
AF	LIVE ZOOM ✻	63	
0B	INPUT	61	
F0	TV/RAD	20	TEXT
10-19	Number Key 0-9 Alphabet buttons (SPACE)	21	T.OPT(T.Option)
53	LIST	39	SUBTITLE
1A	Q.VIEW	B1	■
02	+ VOL	B0	▶
03	VOL —	BA	❚❚
7C	SMART	8F	◀◀
B5	APP	8E	▶▶
09	MUTE	DC	3D/✻
00	∧ CH PAGE	9F	DATA/✻
01	CH ∨ PAGE	91	AD/✻
AB	GUIDE	E8	ALARM/✻
0C	PORTAL		
AA	INFO ⓘ		
40	∧		
41	∨		
07	<		
06	>		
44	OK		
43	SETTINGS		
28	(BACK)		

▶ B Type

Code (Hexa)	Function	Code (Hexa)	Function
08	(POWER)	28	(BACK)
0B	(INPUT)	5B	(EXIT)
20	TEXT	78	
21	T.OPT	E8	ALARM
91	AD	B1	
39		8F	
10	**Number Key 0,** QUICK ACCESS	B0	
11-19	**Number Key 1-9**	BA	
53	LIST	8E	
1A	Q.VIEW	72	
02		71	
03		63	
09	(MUTE)	61	
7C	SMART	7E	SIMPLINK
0F		79	
00		96	• • • (More actions)
01			
AB	GUIDE		
0C	PORTAL		
AA	INFO		
43	(SETTINGS)		
0E	TIMER		
40			
07			
44			
06			
41			

External control device Setup

RS-232C Setup

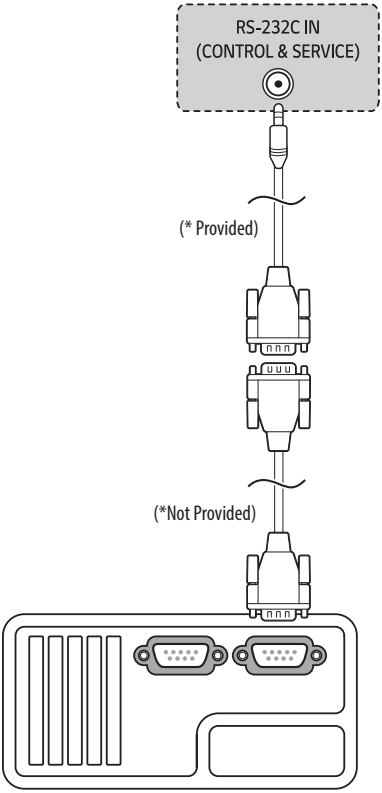
- Image shown may differ from your TV.

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

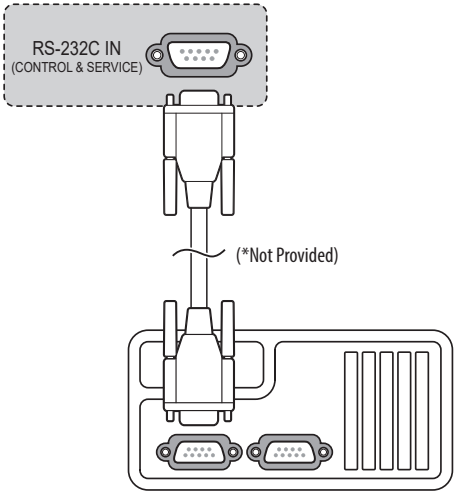
Connect the serial port of the control device to the RS-232C jack on the product back panel.

- RS-232C connection cables are not supplied with the product.

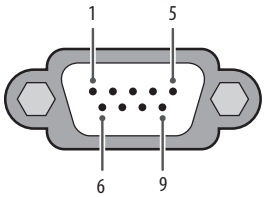
▶ A Type



▶ B Type



Type of Connector : D-Sub 9-Pin Male



No.	Pin name
1	3.5 V
2	RXD (Receive data)
3	TXD (Transmit data)
4	IR OUT from TV
5	GND
6	No Connection
7	No Connection (5 V available in some models)
8	No Connection
9	No Connection (12 V available in some models)

RS-232C Configurations

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

	PC		TV	
RXD	2	● ——— ●	3	TXD
TXD	3	● ——— ●	2	RXD
GND	5	● ——— ●	5	GND
DTR	4	● ——— ●	6	DSR
DSR	6	● ——— ●	4	DTR
RTS	7	● ——— ●	8	CTS
CTS	8	● ——— ●	7	RTS
	D-Sub 9		D-Sub 9	

3-Wire Configurations
(Not standard)

	PC		TV	
RXD	2	● ——— ●	3	TXD
TXD	3	● ——— ●	2	RXD
GND	5	● ——— ●	5	GND
DTR	4		6	DSR
DSR	6		4	DTR
RTS	7		8	CTS
CTS	8		7	RTS
	D-Sub 9		D-Sub 9	

Communication Parameters

- Baud rate: 9,600 bps (UART)
- Data length: 8 bits
- Parity : None
- Stop bit: 1 bit
- Communication code: ASCII code
- Use a crossed (reverse) cable.

IR OUT Using Guide

Suitable / Not Recommend remote-controller data format

Item	Formats
Suitable data format	NEC, RC5, Toshiba
Not recommend data format	Continuous data format (short burst/gap signal)

IR Receiver specifications

Carrier frequency	37.9 KHz
Peak Wavelength	940 nm
Minimum burst length	Min. 300 us
Minimum gap time is required of	Min. 350 us
Data word length	Max. 100 ms
Minimum gap time in the data stream is needed of	Min. 50 ms

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
High Level Out Pulse Width	Twh	Burst Wave = 600 *µs* Period = 1.2 ms	400	-	800	*µs*
Low Level Out Pulse Width	Twl		400	-	800	*µs*

- If not use the remote-controller with data formats recommended, IR output signals will be suppressed automatically by IR receiver.
- In this case, LG does not guarantee IR working function.
- To make sure of this matter, here are two methods as below.
  - Use the remote-controller with suitable data formats.
  - Use the IR dongle receiver of the set-top box.

Command Reference List

(Depending on model)

	Command1	Command2	Data (Hexadecimal)
01. **Power**	k	a	00 to 01
02. **Aspect Ratio**	k	c	(See p. 76)
03. **Screen Mute**	k	d	(See p. 77)
04. **Volume Mute**	k	e	00 to 01
05. **Volume Control**	k	f	00 to 64
06. **Contrast**	k	g	00 to 64
07. **Brightness**	k	h	00 to 64
08. **Colour**	k	i	00 to 64
09. **Tint**	k	j	00 to 64
10. **Sharpness**	k	k	00 to 32
11. **OSD Select**	k	l	00 to 01
12. **Remote Control Lock Mode**	k	m	00 to 01
13. **Balance**	k	t	00 to 64
14. **Colour Temperature**	x	u	00 to 64
15. **Energy Saving**	j	q	(See p. 78)
16. **Auto Configuration**	j	u	01
17. **Equalizer**	j	v	(See p. 79)
18. **Tune Command**	m	a	(See p. 79)
19. **Programme Skip/Add**	m	b	00 to 01
20. **Key**	m	c	(See p. 79)
21. **Control Backlight**	m	g	00 to 64
22. **Input select**	x	b	(See p. 80)
23. **Fail Over Mode**	m	i	(See p. 80)
24. **Fail Over Input Select**	m	j	(See p. 80)

- During USB operations such as DivX or EMF, all commands except Power(ka) and Key(mc) are not executed and treated as NG.

Transmission / Receiving Protocol

(Depending on Model)

Transmission

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

[Command1] : First command to control the TV. (j, k, m or x)

[Command2] : Second command to control the TV.

[Set ID] : You can adjust the set ID to choose desired monitor ID number in option menu. Adjustment range is 1 to 1000. When selecting Set ID '0', every connected set is controlled. Set ID is indicated as decimal (1 to 1000) on menu and as Hexa decimal (0 x 0 to 0 x 63) on transmission/ receiving protocol.

[Data] : To transmit command data. Transmit 'FF' data to read status of command.

[Cr] : Carriage Return

ASCII code '0 x 0D'

[ ] : ASCII code 'space (0 x 20)'

OK Acknowledgement

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

* The set transmits ACK (acknowledgement) based on this format when receiving normal data. At this time, if the data is data read mode, it indicates present status data. If the data is data write mode, it returns the data of the PC computer.

Error Acknowledgement

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

* The set transmits ACK (acknowledgement) based on this format when receiving abnormal data from non-viable functions or communication errors.

Data 00 : Illegal Code

1 Power (Command: k a)

▶ To control Power On/Off of the set.

Transmission

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

Data 00 : Off

Data 01 : On

Ack

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

▶ To Show TV is Power On/Off.

Transmission

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

Ack

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

* Similarly, if other functions transmit '0 x FF' data based on this format, Acknowledgement data feed back presents status about each function.
* OK Ack., Error Ack. and other message may display on the screen when TV is power On.

2 Aspect Ratio (Command: k c) (Main Picture Size)

▶ To adjust the screen format. (Main picture format) You can also adjust the screen format using the picture settings.

Transmission

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

Data 01 : 4:3 (Normal screen - Just Scan Off)

Data 02 : 16:9 (Wide screen - Just Scan Off)

Data 06 : Original (Just Scan Off)

Data 09 : Just Scan

Ack

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

* Using the PC input, you select either 16:9 or 4:3 screen aspect ratio.
* In DTV/HDMI (1080i 50 Hz / 60 Hz, 720p 50 Hz / 60 Hz, 1080p 24 Hz / 30 Hz / 50 Hz / 60 Hz), Component (720p, 1080i, 1080p) mode, [Just Scan] is available.
* Full Wide is supported only for Digital, Analogue, AV.

3 Screen Mute (Command: k d)

▶ To select screen mute on/off.

Transmission

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

Data 00 : Screen mute off (Picture on) / Video mute off

Data 01 : Screen mute on (Picture off)

Data 10 : Video mute on

Ack

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

* In case of video mute on only, TV will display On Screen Display (OSD). But, in case of Screen mute on, TV will not display OSD.

4 Volume Mute (Command: k e)

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

Transmission

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

Data 00 : Volume mute on (Volume off)

Data 01 : Volume mute off (Volume on)

Ack

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

5 Volume Control (Command: k f)

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

Transmission

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

Data Min : 00 to Max : 64
* Refer to “Real data mapping”.

Ack

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

6 Contrast (Command: k g)

▶ To adjust screen contrast.
You can also adjust contrast in the picture settings.

Transmission

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

Data Min : 00 to Max : 64
* Refer to “Real data mapping”.

Ack

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

7 Brightness (Command: k h)

▶ To adjust screen brightness.
You can also adjust brightness in the picture settings.

Transmission

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

Data Min : 00 to Max : 64
* Refer to “Real data mapping”.

Ack

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

8 Colour (Command: k i)

▶ To adjust the screen colour.
You can also adjust colour in the picture settings.

Transmission

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

Data Min : 00 to Max : 64
* Refer to “Real data mapping”.

Ack

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

9 Tint (Command: k j)

▶ To adjust the screen tint.
You can also adjust tint in the picture settings.

Transmission

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

Data Red : 00 to Green : 64
* Refer to “Real data mapping”.

Ack

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

10 Sharpness (Command: k k)

▶ To adjust the screen sharpness.
You can also adjust sharpness in the picture settings.

Transmission

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

Data Min : 00 to Max : 32
* Refer to "Real data mapping".

Ack

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

11 OSD Select (Command: k l)

▶ To select OSD (On Screen Display) on/off when controlling remotely.

Transmission

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

Data 00 : Off

Data 01 : On

Ack

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

12 Remote Control Lock Mode (Command: k m)

▶ To lock the front panel controls on the monitor and remote control.

Transmission

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

Data 00 : Off

Data 01 : On

Ack

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

* If you are not using the remote control, use this mode. When main power is on/off, external control lock is released.
* In the standby mode, if key lock is on, TV will not turn on by power on key of IR & Local Key.

13 Balance (Command: k t)

▶ To adjust balance.
You can also adjust balance in the audio settings.

Transmission

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

Data L : 00 to R : 64
* Refer to "Real data mapping".

Ack

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

14 Colour Temperature (Command: x u)

▶ To adjust Colour Temperature. You can also adjust Colour Temperature in the picture settings.

Transmission

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

Data Warm: 00 to Cool:64
* Refer to "Real data mapping".

Ack

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

15 Energy Saving (Command: j q)

▶ To reduce the power consumption of the TV. You can also adjust Energy Saving in picture settings.

Transmission

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

Power Saving Function					Level				Description
7	6	5	4		3	2	1	0	
0	0	0	0	Low Power	0	0	0	0	Off
0	0	0	0	Low Power	0	0	0	1	Minimum
0	0	0	0	Low Power	0	0	1	0	Medium
0	0	0	0	Low Power	0	0	1	1	Maximum
0	0	0	0	Low Power	0	1	0	1	Screen Off
0	0	0	0	Low Power	0	1	0	0	Auto

▶ 'Auto' is available in TV that supports 'Intelligent Sensor'.

Ack

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

16 Auto Configuration (Command: j u) (Only RGB support model)

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

Transmission

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

Data 01 : To set

Ack

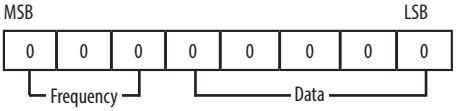
[u][ ][Set ID][ ][OK/NG][Data][x]

17 Equalizer (Command : j v)

▶ To adjust equalizer.

Transmission

[j][v][ ][Set ID][ ][Data][Cr]



7	6	5	Frequency	4	3	2	1	0	Step
0	0	0	1st Band	0	0	0	0	0	0 (decimal)
0	0	1	2nd Band	0	0	0	0	1	1 (decimal)
0	1	0	3rd Band	...	...	...	...	...	...
0	1	1	4th Band	1	0	0	1	1	19 (decimal)
1	0	0	5th Band	1	0	1	0	0	20 (decimal)

Ack

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

18 Tune Command (Command: m a)

▶ Select channel to following physical number.

Transmission

[m][a][ ][Set ID][ ][Data 00][ ][Data 01][ ][Data 02][Cr]

Data 00 : High channel data

Data 01 : Low channel data

ex. No. 47 ⟶ 00 2F (2FH)

No. 394 ⟶ 01 8A (18AH),

DTV No. 0 ⟶ Don't care

Data 02 : [Antenna]

0 x 00 : Analogue Main

0 x 10 : DTV Main

0 x 20 : Radio

[Cable]

0 x 80 : Analogue Main

0 x 90 : DTV Main

0 x A0 : Radio

[Satellite]

0 x 40 : DTV Main

0 x 50 : Radio Main

Channel data range

Min : 00 Max : 270F (0 to 9999)

Ack

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

19 Programme Skip/Add (Command: m b)

▶ To set skip status for the current Programme.

Transmission

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

Data 00 : Skip

Data 01 : Add

Ack

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

20 Key (Command: m c)

▶ To send IR remote key code.

Transmission

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

Data IR CODES

Ack

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

21 Control Backlight (Command: m g)

▶ To control the backlight.

Transmission

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

Data Min : 00 to Max : 64

Ack

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

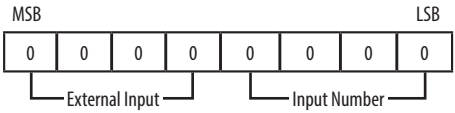
22 Input select (Command: x b) (Main Picture Input)

▶ To select input source for main picture.

Transmission

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

Data Structure



External Input				Data
0	0	0	0	DTV
0	0	0	1	Analogue
0	0	1	0	AV
0	1	0	0	Component
0	1	1	0	RGB
0	1	1	1	HDMI
1	0	0	0	
1	0	0	1	
1	0	1	0	

Input Number				Data
0	0	0	0	Input1
0	0	0	1	Input2
0	0	1	0	Input3
0	0	1	1	Input4

Ack

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

23 Fail Over Mode (Command: m i)

▶ Selects the Fail Over mode.

Transmission

[m][i][ ][Set ID][ ][Data][Cr]

Data 00 : Off

Data 01 : Auto

Data 02 : Manual

Ack

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

24 . Fail Over Input Select (Command: m j)

▶ Selects an input source for fail over. (This feature is only available when Fail Over is set to Custom.)

Transmission

[m][j][ ][Set ID][ ][Data1][ ][Data2][ ][Data3][ ][Data4]… [ ][DataN][Cr]

Data 1-N (Input priority 1-N)

Data 20: AV1

Data 21: AV2

Data 22: AV3

Data 90: HDMI1

Data 91: HDMI2

Data 92: HDMI3

Data 93: HDMI4

Ack

[j][ ][SetID][ ][OK/NG][Data1][Data2][Data3][Data4]… [DataN][x]

* Some input signals may not be available for all models.
* The data number (N) may vary depending on the model. (The data number depends on the number of supported input signals.)

* **Real data mapping**

00 :	Step 0
⋮	
A :	Step 10 (Set ID 10)
⋮	
F :	Step 15 (Set ID 15)
10 :	Step 16 (Set ID 16)
⋮	
64 :	Step 100
⋮	
6E :	Step 110
⋮	
73 :	Step 115
74 :	Step 116
⋮	
CF :	Step 199
⋮	
FE :	Step 254
FF :	Step 255

LG

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