INSTALLATION MANUAL

LED TV*

OLED 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.

UK6**
UK7**
UK3**
PK6**
PK3**
LK66*

STB-76**

MFL71684561
(2605-REV01)

www.lg.com

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ENGLISH

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NOTE

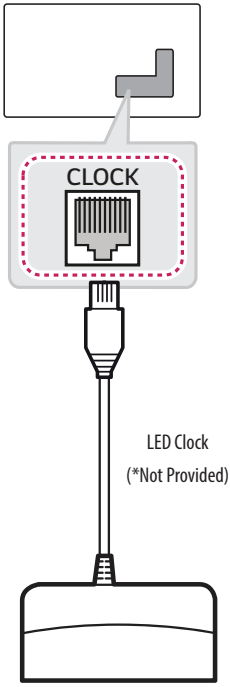
- The word "TV" in titles and menu items may appear as "STB" or "Device" on certain models.
- Some features described in the manual may not be supported in certain models and countries.

Location and Function of Controls

LED Clock Connection

(Depending on model)

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



First Use Wizard

* Images shown may differ from your device.

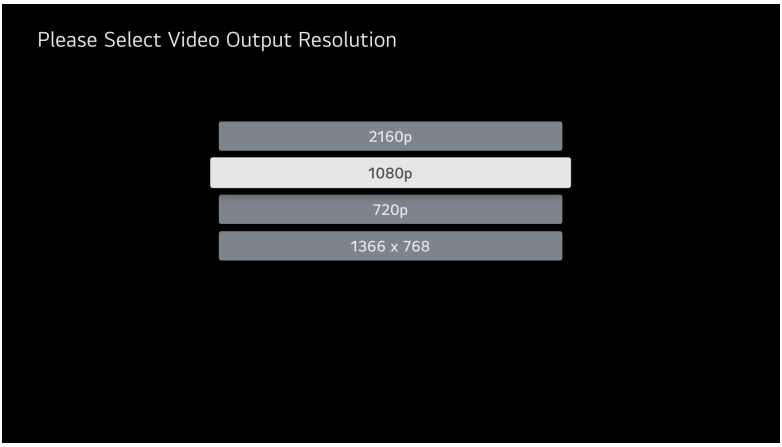
Screen Resolution

(Depending on model)

The first time you turn ON the STB/display panel, a prompt to select the screen resolution will be displayed, and you will need to select the appropriate option — 2160p, 1080p, 720p, 1366 x 768 — for the STB's video output format. You cannot proceed with STB configuration until you make a selection.

Resolution List and Default Focus are based on the EDID of the connected display.

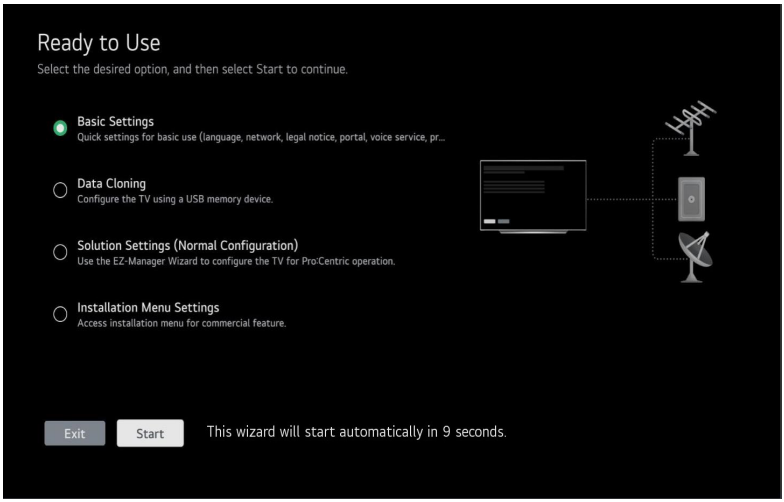
- Resolution List and Default Focus are based on the EDID of the connected display. Selecting the resolution with default focus does not require a reboot.



- If you select this option, the Please Select the Screen Resolution screen will close and the EZ-Manager Wizard Welcome screen will be displayed.
- If you select one of the other four resolution options, a Changing the Resolution screen will be displayed, and the STB will reboot within a few seconds to change the resolution per your selection. When the STB reboot is complete (it may take several minutes), you will be prompted to confirm the new video output resolution. Use the arrow keys on the Installer Remote to select **YES** in the confirmation window, and then press **OK** on the Installer Remote.
- If there is no user interaction within 10 seconds, or if you select "No" in the confirmation window, the STB will reboot and revert to the default resolution. After this reboot is complete, the Please Select the Screen Resolution screen will be redisplayed.

(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

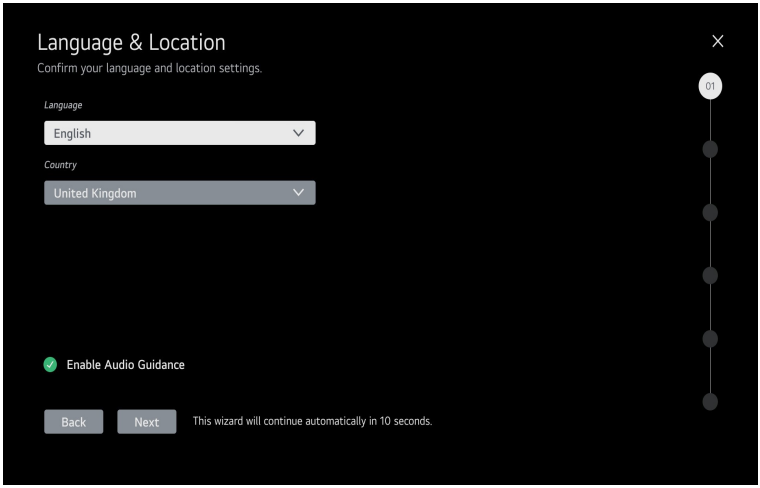
(Depending on model)

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)

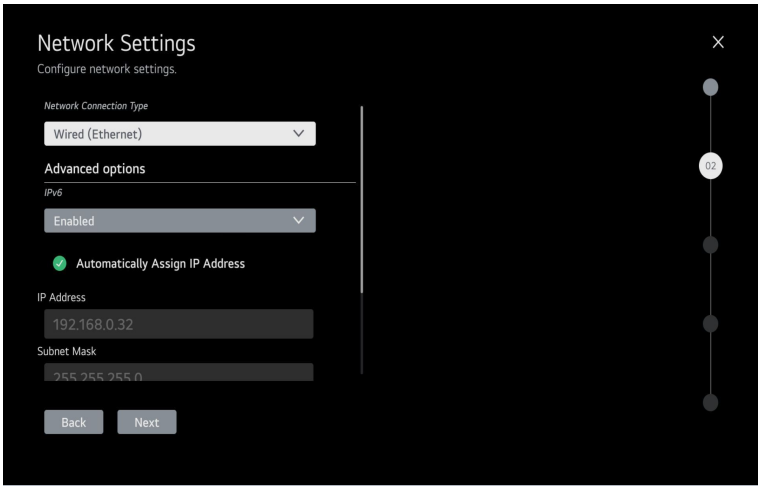
- Select the **Language** and **Country**. Some countries may need to select the **Time Zone** and/or **Region**.
- Select **Enable Audio Guidance**.



Network Settings

(Depending on model)

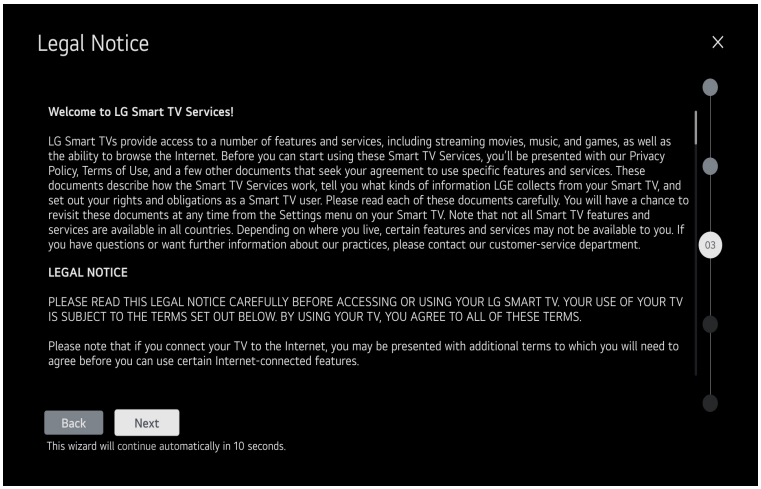
- Set Network connection. You can connect easily to wired/wireless network. (“Network” on page 33)
  Wireless (Auto Wi-Fi) : Connect a default hidden SSID/PW. (SSID : lgwebostv, PW : procentric, Security : WPA/WPA2 PSK)

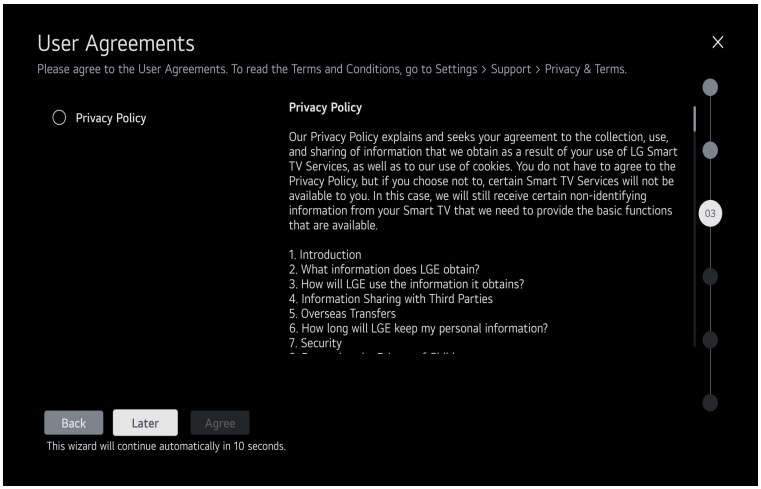


Legal Notice

(Depending on model)

- These are the terms and conditions related to use of the Smart device service and protection of privacy.





Portal Settings

(Depending on model)

- Set the Portal Mode and Portal Auto Start.

Portal Mode

(Depending on model)

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

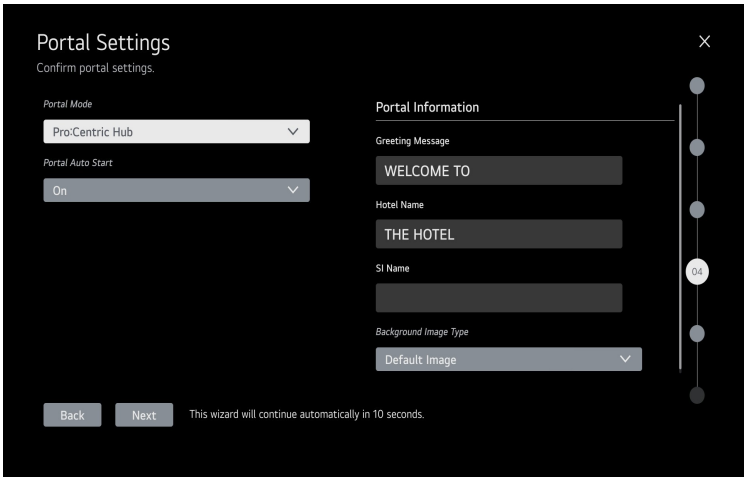
Portal Auto Start

- You can select '**On**' or '**Off**'. If you select '**On**', Portal (Home Launcher) will be executed automatically after the device is turned on.

Portal Information

(Depending on model)

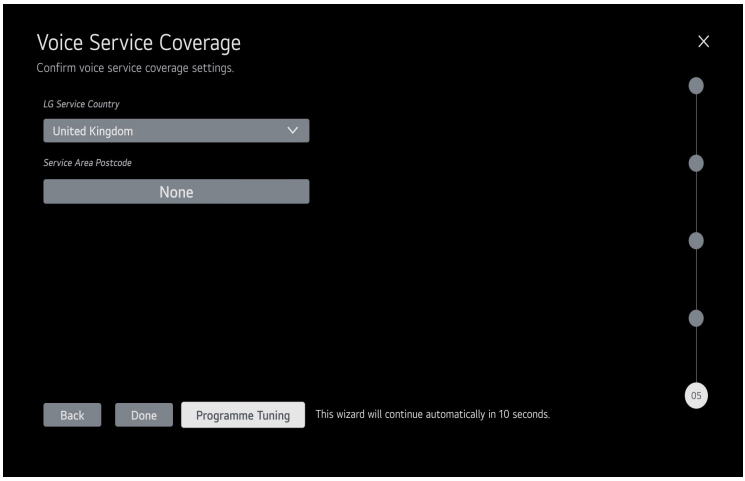
- Portal Information is displayed when Portal Mode is 'Pro:Centric Hub'. You can set the sub-items in Portal Information. ("Portal Settings" on page 55)
  - Greeting Message
  - Hotel Name
  - SI Name
  - Background Image Type
  - Download Image
    - » You can access the TV Manager app to download the background image ("TV Manager" on page 65)



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.
- Some models display the title as LG Services Country.



Data Cloning

(Depending on model)

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

Solution Settings

(Depending on model)

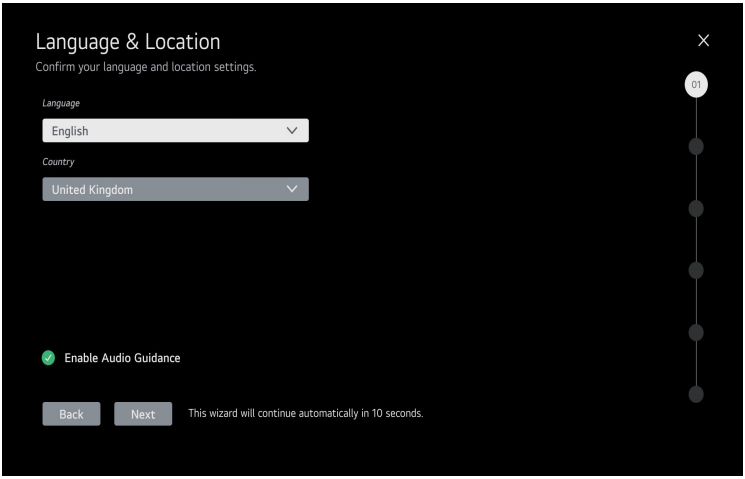
The Pro:Centric Platform enables you to simply install, manage and use guest-centric solutions. The default Domain "procentric.local" and IP Server Address are needed to be registered in DNS. The device will contact the IP Server using the default Domain "procentric.local" via IP on server search page. If the device doesn't contact the Server, the device 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)

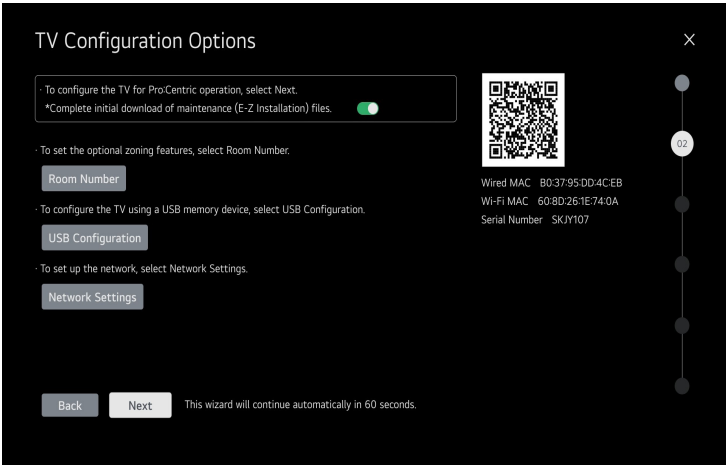


- Select the **Language** and **Country**. Some countries may need to select the **Time Zone** and/or **Region**.
- Select **Enable Audio Guidance**.

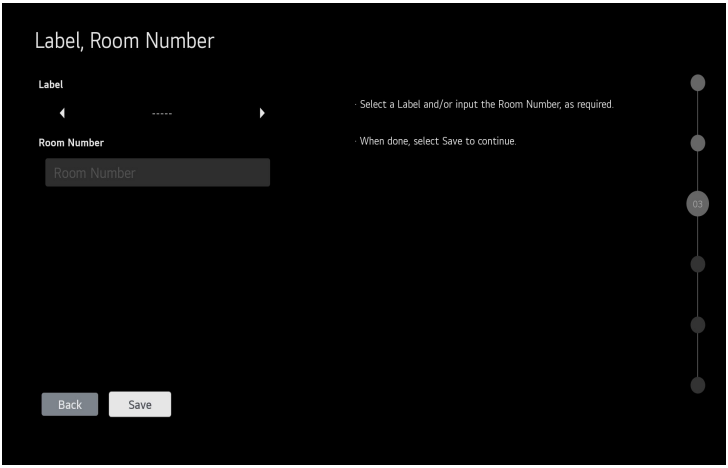
TV Configuration Options

(Depending on model)

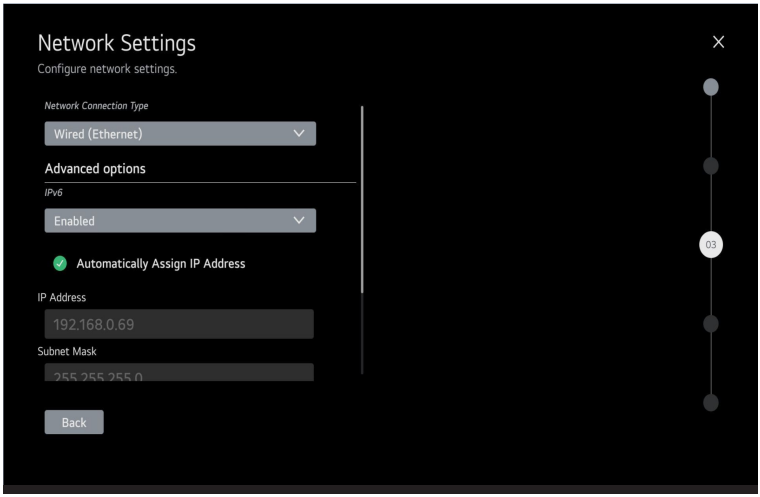
1 From the TV Configuration Options screen, you can choose how to proceed with the configuration. Whether you will configure the device for Pro:Centric operation via the wizard or use a USB memory device to configure the device, you may first wish to set the Room Number. Also, you can configure the network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

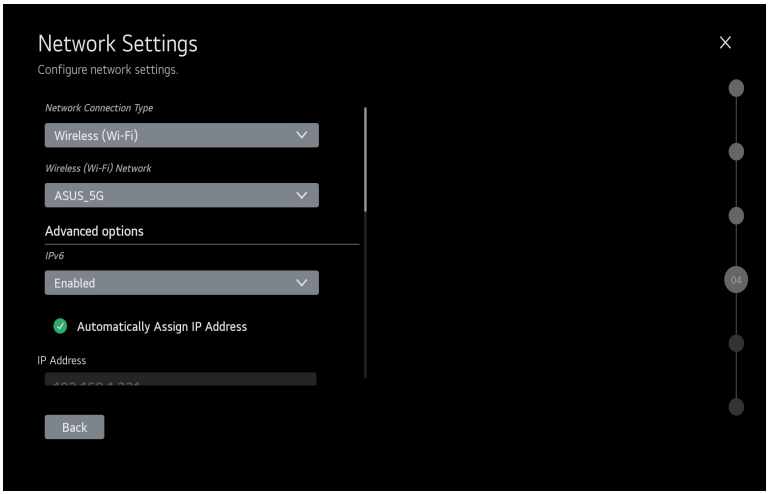


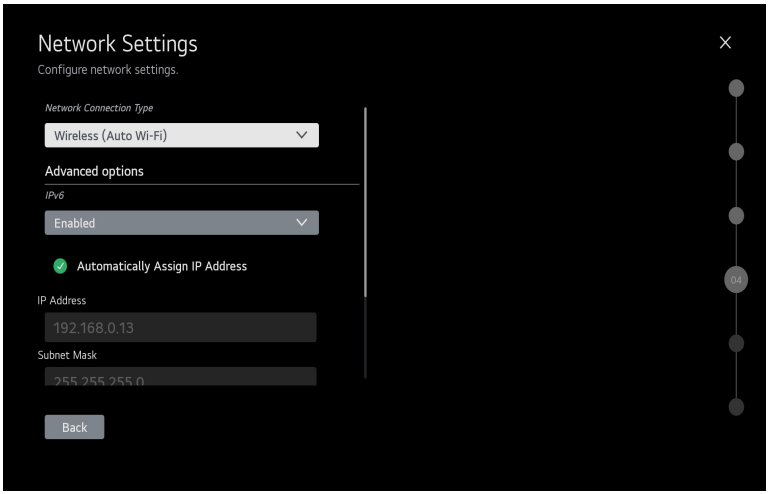
- Complete initial download of maintenance(On/Off Toggle): you can choose the option whether to skip the maintenance files download during the EZ-Manager process.
- If you intend to set Room Number as part of the device configuration, use the Room Number option to assign the Room # before you continue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



- If you intend to apply the files via USB, use USB Configuration option to access TV Manager app. (“TV Manager” on page 65)
- 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 33)
  Wireless (Auto Wi-Fi) : Connect a default hidden SSID/PW. (SSID : lgwebostv, PW : procentric, Security : WPA/WPA2 PSK)





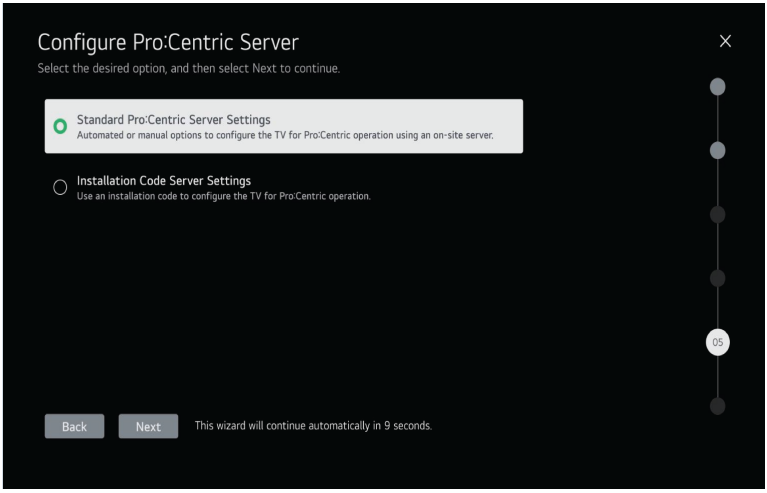

Network Settings
Configure network settings.
Network Connection Type
Wireless (Auto Wi-Fi)
Advanced options
IPv6
Enabled
Automatically Assign IP Address
IP Address
192.168.0.13
Subnet Mask
255.255.255.0
Back
04

Configure Pro:Centric Server

(Depending on model)

You can select two options.

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

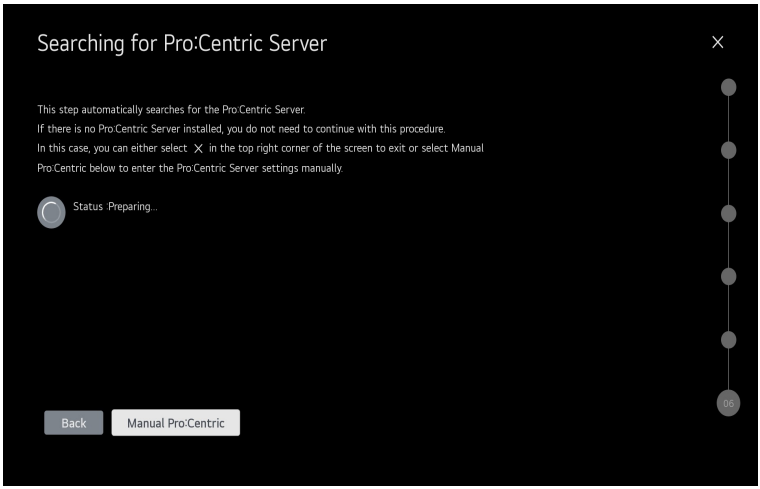


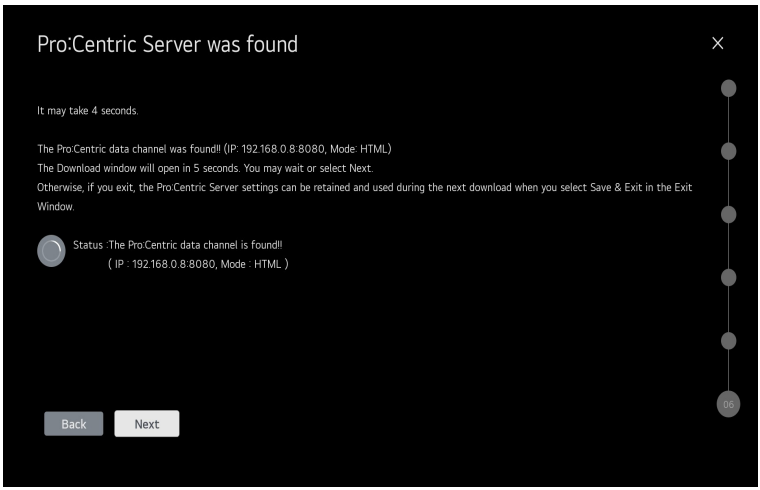
Standard Pro:Centric Server Settings

(Depending model)

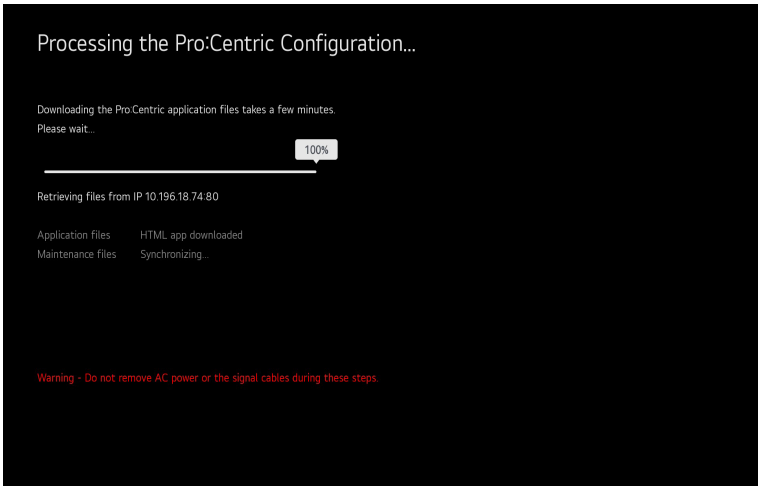
Automatically for Setup

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

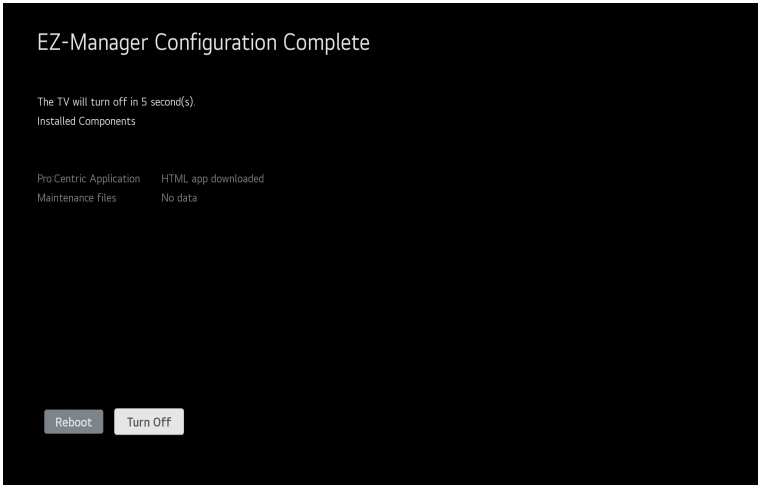




2 Downloading the Pro:Centric application files takes few minutes.

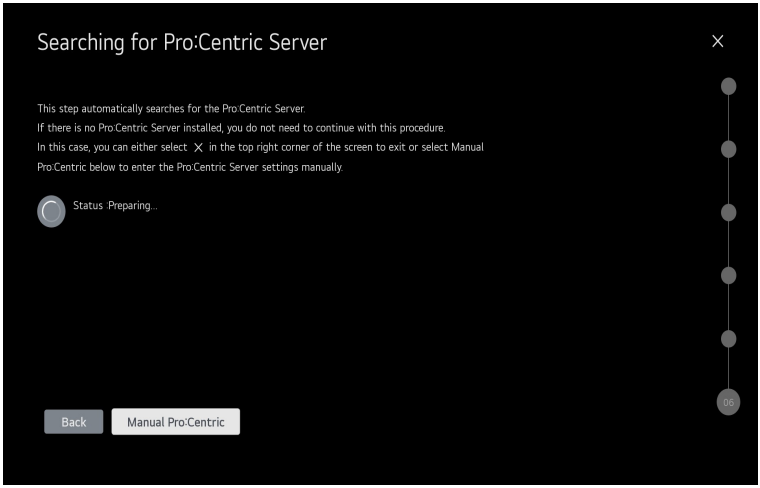


3 After the installation is completed, the following screen will be displayed.

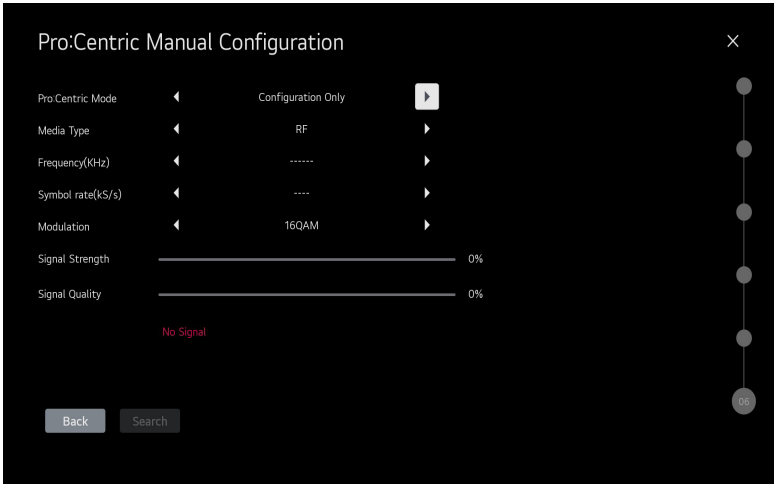


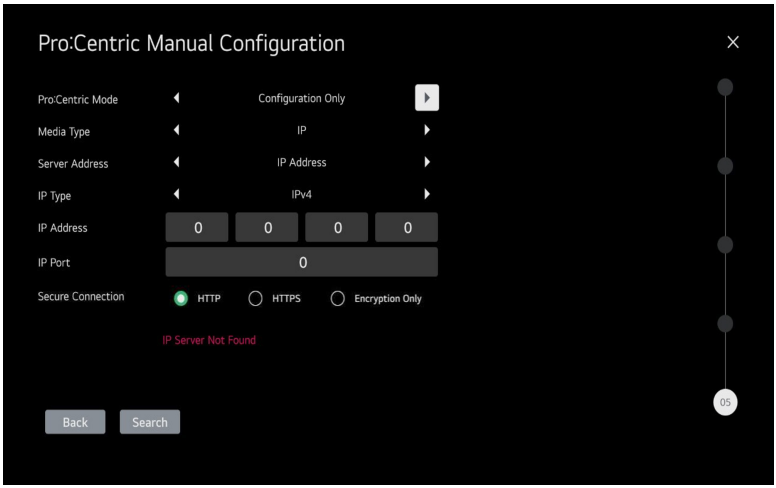
Manually for Setup

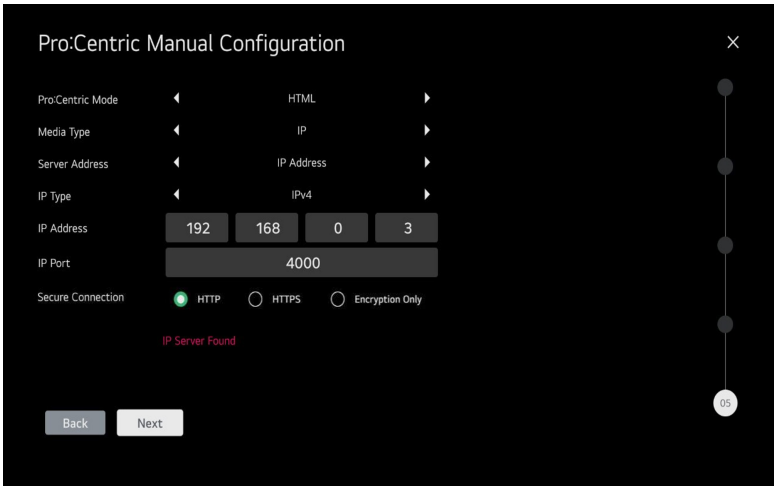
1 Please select the **Manual Pro:Centric**.



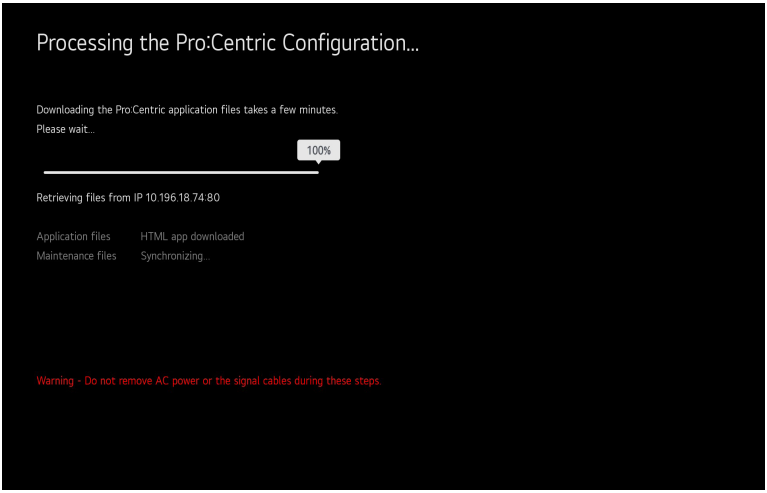
2 Configure the appropriate Pro:Centric settings. (Taiwan does not support RF)



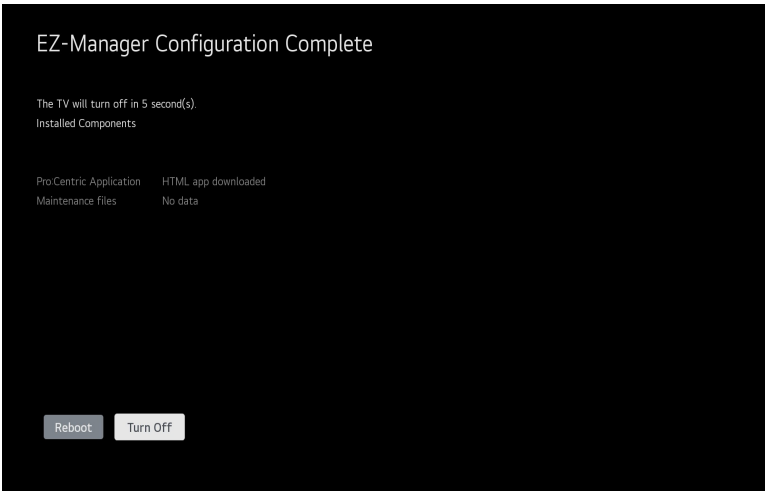

Pro:Centric Manual Configuration
Pro:Centric Mode
Configuration Only
Media Type
IP
Server Address
IP Address
IP Type
IPv4
IP Address
0
0
0
0
IP Port
0
Secure Connection
HTTP
HTTPS
Encryption Only
IP Server Not Found
05
Back
Search


Pro:Centric Manual Configuration
Pro:Centric Mode
HTML
Media Type
IP
Server Address
IP Address
IP Type
IPv4
IP Address
192
168
0
3
IP Port
4000
Secure Connection
HTTP
HTTPS
Encryption Only
IP Server Found
05
Back
Next

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



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



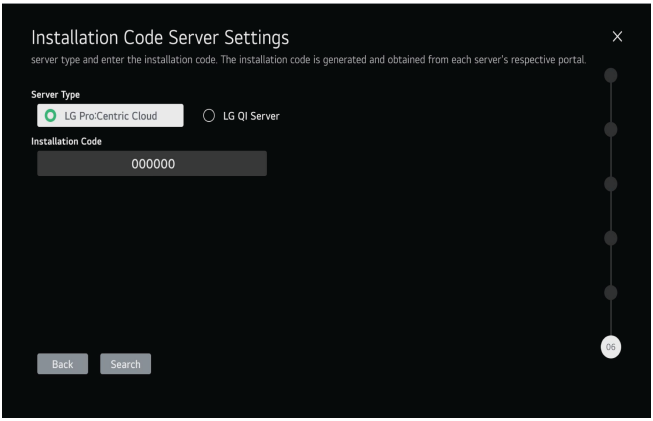
Installation Code Server Settings

(Depending model)

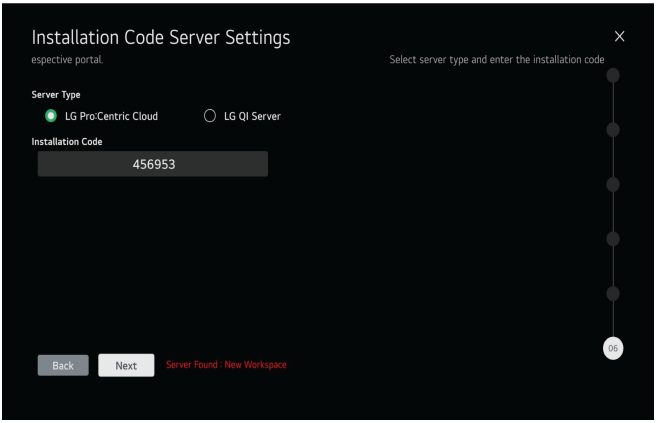
From the Installation Code Server Settings screen, You can input the installation code that was issued from Cloud Portal.

1 Server Searching

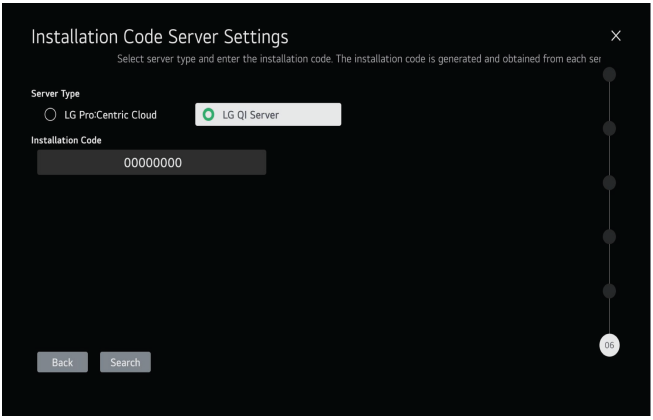
1) LG Pro:Centric Cloud



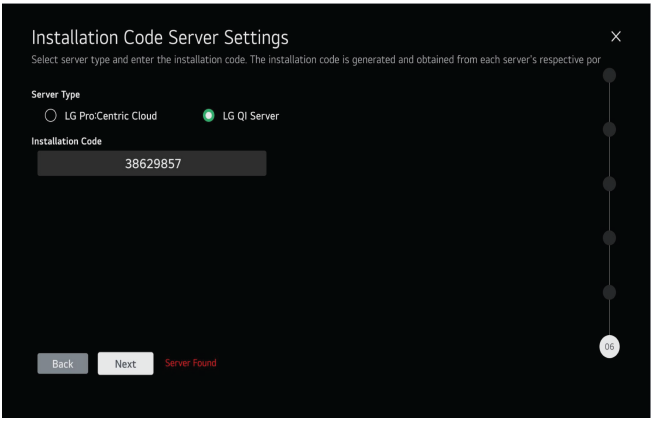
- Server search succeed : The message "Server Found [property name]" is displayed. And the search button changes to the next button.
- In case of invalid code : The message "Invalid Installation Code" is displayed.
- In case of network error : The message "Server Not Found" is displayed.



2) LG QI Server

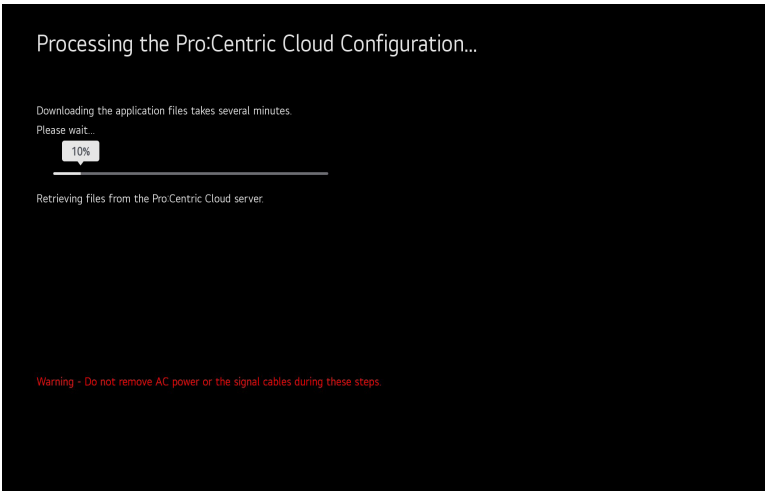


- Server search succeed : The message "Server Found" is displayed. And the search button changes to the next button.
- In case of error : The message "Server Not Found" is displayed.



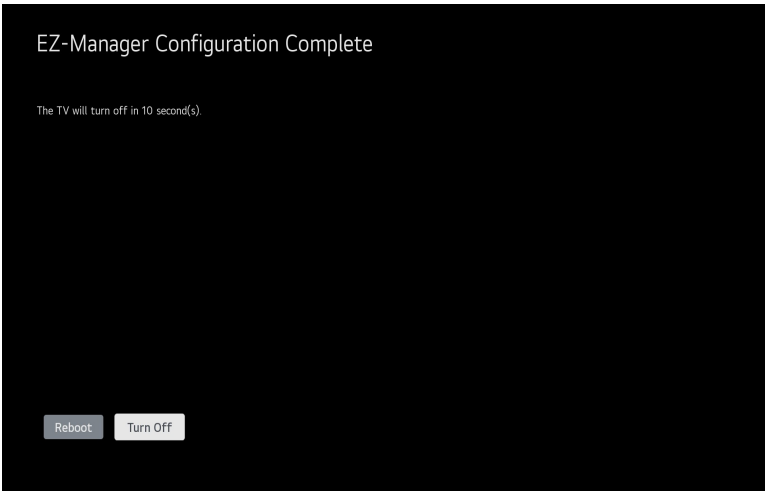
3 Download Pro:Centric App

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



4 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.

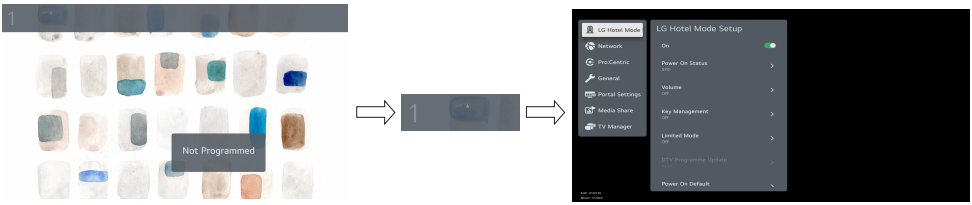
Installation Menu

* Images shown may differ from your device.

Introduction

The abundant functions 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 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, and a banner will appear at top on the screen.

2 Enter a four digit password and press **OK** button.

- The device 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 when the main power is turned on.
- You can select PWR, STD, LST.
- PWR always makes the device On status when the main power is turned on.
- STD makes Stand-by status when the main power is turned on.
- LST makes the device work like previous power status. As same concept as Power Backup mode; If main power were turned off in Power On status, the device would work in On status. If main power were turned off in Stand-by status, the device 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 device when turned off situation, change the value of the PWR. (Reference the Key Management)
- The default value depends on each model.

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 ‘**Power On Timer**’ 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' blocks all remote keys except power key.
  - When set to 'Block All', all normal remote keys don’t work.

Exclude USB HID Key

- Decide whether work the USB HID key or not
- It is activated only when 'IR Operation' is set to 'Block All' or 'Use PWR Only'.
  - When set to 'On', USB HID keys are available.
  - When set to 'Off', USB HID keys don’t work.
- It is deactivated when ‘IR Operation’ is set to ‘Normal’ and in this case, USB HID keys are available.

Local Key Operation

(Depending on model)

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

Limited Mode

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

Setup Menu

(Depending on model)

- 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

(Depending on model)

- 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

(Depending on model)

- Select start programme number.

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 device 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. 53)
- USB Auto Playback
  (Depending on model)
  - Refer to Installation Menu ⇨ General ⇨ Configuration Setup ⇨ USB Auto Playback. (See p. 40)
- 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. 32)
- On/Off Scheduler
  - Set on/off times for each day of the week.
- SoftAP
  - Refer to Installation Menu ⇨ Media Share ⇨ SoftAP. (See p. 62)
- Screen Share
  - Refer to Installation Menu ⇨ Media Share ⇨ Screen Share. (See p. 61)
- Play Via URL
  - Refer to Installation Menu ⇨ Signage ⇨ Play Via URL. (See p. 31)

Meeting Room

- Input Shortcut
  - Refer to Installation Menu ⇨ Portal Settings ⇨ Input Shortcut. (See p. 57)
- 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. 34)
- DPM
  - Refer to Installation Menu ⇨ General ⇨ Configuration Setup ⇨ DPM. (See p. 43)

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 Business Cloud

(Depending on model)

You can install the LG Business Cloud solution for fault diagnosis and prediction service.

- Installation Type: Selects the type to install the LG Business Cloud solution.
- Installation Code: Installs the LG Business Cloud solution using the number provided by each workspace created in LG Business Cloud.
- Install: Installs the LG Business Cloud solution.
  1) Enter Installation Code: Enters the 6-digit installation code to install the LG Business Cloud solution.
  - When the installation code is entered, the workspace information corresponding to the installation code is obtained.
  - If the installation code is not registered, "The installation code is invalid." is displayed, and you cannot continue to install the solution.

  2) Confirm Installation Code: Displays the installation code and the workspace information corresponding to the installation code.
  - If the installation code is registered, the workspace information corresponding to the installation code is displayed, and you can continue to install the LG Business Cloud solution.
- Workspace: Displays the user's currently connected business and workspace information.
- Account: Displays user's currently connected account name.
- Version: Displays the version of the LG Business Cloud solution.
- Details: Displays the version of supported solutions.
- 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: Resets the installed LG Business Cloud 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 (Wired)

- Displays the MAC address (not customizable).

Network Settings

One-click network connection

(Depending on model)

- 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 802.1X EAP. Authentication based on IEEE 802.1X is available for wired connection. Select the desired EAP type and Phase 2 Authentication, enter the ID/Password registered with the authentication server, and press the connect button to attempt the connection.
  3 When connecting via Wired, Configures the IP settings. You can set the IP address, subnet mask, gateway and DNS server.
  4 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.

Certificate Download

(Depending on model)

- Download the certificates used for 802.1X EAP stored in USB.
- Only PEM file format can be downloaded.

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

LAN ID

- Set VLAN ID for a 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 device to a SuperSign server.

Ping Test

- Check your network status with the ping test.

SNMP

- If enabled, certain functions can be remotely managed through SNMP.
  - (For a list of controllable functions, please refer to the separately provided SNMP documentation.)

Pro:Centric

(Depending on model)

Server Type

(Depending on model)

- You can set to 'Standard Pro:Centric Server', 'Installation Code Server'.

Installation Code Server Type

(Depending on model)

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

Installation Code

(Depending on model)

- If you input the 6-digit installation code when 'Type' is 'LG Pro:Centric Cloud', the server is automatically searched.
- If you input the 8-digit installation code when 'Type' is 'LG QI Server',, the server is automatically searched.
- The results of the server search are displayed in a pop-up.
- 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.

Mode

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

WORF

- When set to 'Enable', time setting item is enabled and then the WORF function is enabled.
- When set to 'Disable', time setting item is 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.

Secure Connection

- Sets up the security protocol to access the server to install the Pro:Centric App.
- Only Support "Configuration Only" and "HTML" Mode.
- When set to `Encrption Only` , it only encrypts the packets without validating the server certificate. It can use an SSC. (Self-Signed Certificate)

LG Business Cloud

(Depending on model)

You can install the LG Business Cloud solution for fault diagnosis and prediction service.

- Installation Type: Selects the type to install the LG Business Cloud solution.
- Installation Code: Installs the LG Business Cloud solution using the number provided by each workspace created in LG Business Cloud.
- Install: Installs the LG Business Cloud solution.
  1) Enter Installation Code: Enters the 6-digit installation code to install the LG Business Cloud solution.
  - When the installation code is entered, the workspace information corresponding to the installation code is obtained.
  - If the installation code is not registered, "The installation code is invalid." is displayed, and you cannot continue to install the solution.

  2) Confirm Installation Code: Displays the installation code and the workspace information corresponding to the installation code.
  - If the installation code is registered, the workspace information corresponding to the installation code is displayed, and you can continue to install the LG Business Cloud solution.
- Workspace: Displays the user's currently connected business and workspace information.
- Version: Displays the version of the LG Business Cloud solution.
- Details: Displays the version of supported solutions.
- 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: Resets the installed LG Business Cloud solution.

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 the device.

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 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

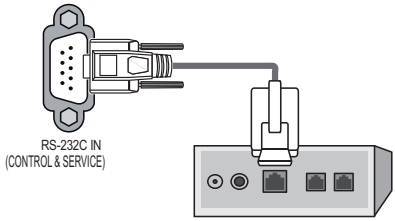
(Depending on model)

- Set the splash image display time.
- 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

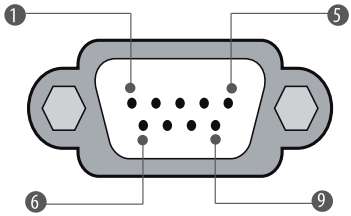
(Depending model)

- 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 the device	
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 device will operate as below.
  - A. When the device is auto-scanning, it searches both air and cable channels.
  - B. User can assign a channel number him/herself by manual scan.
  - C. In 'Programme Edit' window, all channels are shown in a single list regardless of input source.
  - D. 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

(Depending on model)

- 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

(Depending on model)

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

Radio Name Display

(Depending on model)

- 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', the device finds and plays the USB's movie files located at the root(top) directory Movies if USB is plugged in.
- When set to 'Photo', the device 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 'Disable', the teletext behave as the default specification.
- If set to 'Enable', the teletext stays on screen when the no signal programme.
- If set to 'Auto', the teletext disappears on screen when no signal programme. The teletext appear automatically when programme signal is detected.
- If set to 'Off', the teletext doesn't work when pressing teletext key.

15Min Auto Off

- When set to 'Enable', the device 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, the device always does pixel refresh when AC power on.
- If set to Off, the device does pixel refresh on time.

Auto Sensing

- If input is set to 'Enable', the input is automatically switched when the input signal is received.
- If input is 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 device 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' or 'Instant On Reboot' to enable the Instant On feature. The Instant On feature allows the device to turn On when AC power is applied, but with video and audio muted (Muted On). The device retains its On status while appearing to be Off. Pressing the POWER button toggles Off/On the video and audio mutes, so that the device appears to turn On instantly.
  - If this item is set to Instant On Mute, the device will not reboot to check for and download updates at turn Off. The device 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, the device 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 or Instant On Reboot when 'WORF' is 'Disable', 'WORF' is set to 'Enable' and 'Update Time' is set to auto(random) time. (Depending on model)

Always on Display

(Depending on model)

- Even when the device has not been used, it provides optimized wallpaper. When the device is turned off, it switches to Always on Display to display the selected screen wallpaper.
- This function is supported when instant on is set to instant on mute
- Set by the Guest
  - If set to 'Off', only one category can be enabled and you can select which category to show with Initial Mode when entering menu. (Clock, Art Piece, Movement, Moments)
  - If set to 'On', 3 categories can be enabled. (Clock, Art Piece, Movement)
- Detail Settings (Go to Always on Display)
  - Screen Off : Automatically turns off Always On Display screen after a selected time.
  - Slide Show Speed : You can set slide show speed.
  - Set Time to Turn On : You can set Always on Display on schedule.

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 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 device 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 (Depending on model)
  - Set the power mode of the HDMI Switching IC, which detects HDMI external input signals in the device standby state after DPM Power Off turns off the device.
- Network Ready
  - Set the Active Standby mode when the device turns off.
  - The device seems to be turned off but it keeps to be on.
  - The device 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 adjusts the device volume (Mute off).
  - Select TV Speaker User Interface. Volume key adjusts the internal speaker volume.
  - Select Headphone User Interface. Volume key adjusts the headphone volume.
- **Healthcare Headphone Off**
  - Sound Out normal scenario.
  - 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 a period of time, 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

(Depending on model)

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

USB Power

(Depending on model)

- You can control the power status of USB port according to the mode.
  - Default: When the device is turned on, the USB device is powered. USB devices can be used regardless of 'Instant On' state.
  - Warm Off: When the device 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 the device 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 device 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 device'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 the device.

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.
- User can use mobile device as the device'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 1Watts.

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' with 1~1000.

- Some models support the Set ID up to 99.

Power Saving

Static Saving

(Depending on model)

- 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 device. 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

(Depending on model)

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

Keyless Off Hours

- Automatically the device 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 can use TVLink-HCEC Protocol if 'HCEC' is selected. (For more detailed information, please refer to TVLink-HCEC Protocol document)
- The default value is 'Default'.

IR Decoding

- Predefined additional IR keys are transferred to the external device via CEC.
- The default value is 'Disable'.

Device ID

- You can limit the external device to communicating via CEC.
- The default value is 'All' and the range is 'All' and '1' to 'E'.

StandBy

- You can limit the power off scenario.
- Your device will be turned off if it receives power off CEC command : 'All', 'Receive Only'
- Your device will turn off the external devices via CEC when it turns off : 'All', 'Send Only'
- No effect : 'Off'
- The default value is 'All'

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.

PMS Setup

(Depending on model)

Configure Pro:Centric Hub PMS-related settings in the TV installation menu under [General] > [PMS Setup].

- Enable the PMS server when using Pro:Centric Hub PMS functions.
- PMS connection URL : *https://<MASTER_IP>:2711*
  *Chrome browser recommended

PMS Server

Set the ON/OFF of the PMS server function.

- OFF (default) : The PMS server is not used. Automatic checkout operates according to the Check Out Mode.
- ON : Activates the PMS server. Room management through the PMS server is possible, and the PMS Server Setting menu is enabled.

Check Out Mode

Select the automatic checkout method when the PMS Server is OFF.

Power Cycle Check Out

Automatically performs checkout when the TV is turned off.

Daily Check Out

Automatically performs checkout every day at the set time.

Daily Check Out Time Set

If you select Check Out Mode as [Daily Check Out], set the time when automatic daily check-out will be executed.

- Select and set the hour and minute.
- Default : 00:00

PMS Server Setting

If the PMS Server is set to ON, configure the detailed settings related to the server.

PMS Mode

Select the room management mode.

- Single Mode
  Manages a single room. Operates independently with one TV.
  - Instant On 'Mute' mode is required to ensure the PMS remains quickly accessible and ready for use when needed.
  - Each TV must be set to a static IP address.
- Multi Mode
  Manages multiple rooms centrally. Automatically synchronizes data between TVs over the network.

Multi Mode Type

If PMS Mode is set to [Multi Mode], you can specify the role of the TV.

- Master
  Central management server. It manages all room data and operates the MQTT broker.
  - 'Instant On 'Mute' mode is required to ensure the PMS remains quickly accessible and ready for use when needed.
  - The TV designated as the Master must be set to a fixed IP address.
- Sub-Master
  Secondary management server.
  It acts as a bridge between the Master and Slave and automatically succeeds the leader in case of Master failure.
  - 'Instant On 'Mute' mode is required to ensure the PMS remains quickly accessible and ready for use when needed.
  - The TV designated as the Sub Master must be set to a fixed IP address.
  - Like the Master, you must specify only one Sub Master.
- Slave
  Individual room TV.
  Operates when connected to the Master or Sub-Master.
  - A maximum of 100 Slave TVs per a Master TV is recommended.

PMS URL

Displays the connection URL of the PMS server. It is composed of the TV's IP address and port (default : 2711).

- Chrome browser recommended.
- Example : https://192.168.0.87:2711

Initial Password for Web Access

Initial password used for first-time web access to the PMS.

Room Number

Set the room number in which the TV is installed.

Master Device IP Address

- Master Configuration
  - PMS Mode: Multi Mode
  - Multi Mode Type: Master
  - Check Out Status can be set
- Sub-Master Configuration
  - PMS Mode: Multi Mode
  - Multi Mode Type: Sub-Master
  - Master Device IP Address: Enter the IP address of the Master TV.
  - Check Out Status can be set
- Slave Configuration
  - PMS Mode: Multi Mode
  - Multi Mode Type: Slave
  - Master Device IP Address: Enter the IP address of the Master TV.
  - Check Out Status can be set

- In Slave mode, the PMS URL is not displayed. It is managed through Master/Sub-Master.

Check Out Status

Set the TV's operation at checkout.

- None

  When checking out, only data initialization is performed without any additional actions.
- Power Off

  When checking out, the data is reset and the TV turns off automatically.

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.

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. (Depending on model)
  - **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

- 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 device is turned on and the boot logo appears.
- If Welcome Video is enabled and a video is downloaded on the device, 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 device 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 'Disable', 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 'Disable', '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 device information.

Self-diagnosis and Care

- You can Inspect the device 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 the device software by Firmware Over The Air(FOTA) server.

User Agreement

(Depending on model)

- You can check Legal Notice and Terms & Conditions

Go to Settings Location

(Depending on model)

- You can change the location in the Settings app.

Pillow Speaker

(Depending model)

Speaker Selection

- **TV Only**
  - The user can listen to the audio of the video being viewed by selecting the sound out provided by the TV.
- **Pillow Only**
  - The user can listen to the audio of the video being viewed only in the Pillow Speaker.
  - The user can not hear the sound of the Pillow Speaker when user select Sound Out with Wired Headphones function.
  - The user can not hear TV Speaker when user select Sound Out with Internal TV Speaker function.
- **Pillow & TV**
  - The user can simultaneously listen to the audio of the video being watched by the TV speaker and the pillow speaker.
  - The user can not hear the sound of the Pillow Speaker when user select Sound Out with Wired Headphones function.

Pillow Speaker Code/Voltage

- User can select the type of the Pillow Speaker's Code/Voltage.
- If LG/Zenith(+12V) is selected, user can control the TV by using Pillow Speaker of which type is LG/Zenith(+12V).
- If Philips(+5V) is selected, user can control the TV by using Pillow Speaker of which type is Philips(+5V).
- If RCA(-5V) is selected, user can control the TV by using Pillow Speaker of which type is RCA(-5V).

IR Code

- User can select the type of the Pillow Speaker's Key.
- If Zenith Bed 1 is selected, TV can be controlled by Pillow Speaker of which type is Zenith Bed 1.
- If Zenith Bed 2 is selected, user can control the TV by using Pillow Speaker of which type is Zenith Bed 2.

Portal Settings

(Depending on model)

Portal Mode

(Depending on model)

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

Portal Information

(Depending on model)

- Greeting Message
  - Set the greeting message
- Hotel Name
  - Set the hotel name
- SI Name
  - Set the SI name
- Background Image Type
  - You can select ‘dafalut’ or ‘downloaded’

Portal Editor

(Depending on model)

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

Customizable Portal

- 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.

Auto Start

(Depending on model)

- You can select 'Off', 'Website Shortcut', 'Portal Mode', or 'App'.
- If you select 'Website Shortcut', selected 'Website Shortcut' will be excute automatically after the device is turned on.
- If you select 'Portal Mode', Portal(Home Launcher) will be excute automatically after the device is turned on.
- If you select 'App', selected 'App' will be excute automatically after the device is turned 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 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 or device 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 or setting 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 data has not been properly distributed from master, the Cloning button will be activated.
- You can duplicate the master device's portal setting data or device 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 data, Distribute button will be activated.
  6 You can re-distribute the master device's 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.

Distribution

1 Select the data to be distributed(portal setting data or device setting data).
2 Select your desired group and click Distribute.
3 Set power off on the slave sets by using remote controller after distribution is completed.
4 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, the device 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.
- The device can display the screen of a mobile phone or laptop via Screen Share app.
- 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 device 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**.

Google Cast Setup

(Depending on model)

- You can manage the installation of the Google Cast app.

Device Name

- When media devices(ex: smart phone, desktop, laptop) are searching the device, 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 device 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.)

Hidden SSID

- With the Hidden SSID function, the SSID is hidden on the device connecting to SoftAP.

5GHz Channel Width

(Depending on model)

- You can modify the 5GHz channel width. The default value is 80 MHz provides hightest performance. However, if the network is congested, 20 MHz is suggested for the channel width.

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.
  1 Field1: 4byte hex value (8 digits)
  2 Field2: 2byte hex value (4 digits)
  3 Field3: 2byte hex value (4 digits)
  4 Field4: 2byte hex value (4 digits)
  5 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
    1 Field1: 10 byte hex value (20 digits)
    2 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.

Display

(Depending on model)

Resolution

- You can set the resolution.

Display On Time Setup

- Device will send command set to display monitor after delay time(seconds) which is set in Display On Time Setup menu.

HDMI Input Setup

- Menu for setting external input values to show at screen.
- Display monitor should support User select input value.

Volume Preset

- Menu for setting initial volume level of display monitor.

SIMPLINK Out

- There are 3 modes to select Off, Power On/Off Only, and HTNG.
- Selecting Off has no effect.
- When Power On/Off Only is selected, device turns the monitor on or off synchronously whenever the power is turned on or off.
- When HTNG is selected, Power On/Off Only function is included, and when the device is turned on, the device sends some HTNG commands for initial setting to the monitor. (The HTNG command only affects monitors with HTNG function enabled)

TV Manager

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

Diagnostics

(Depending on model)

- Sets Enable or Disable. When it is set to Disable, user can't control the device 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)
  - Media files, Pro:Idiom M Key files, and Software Update files must be stored in a folder named "LG_DTV" in the root directory of the USB memory device.
    - » Clone (.tll) files should simply be stored in the root directory of the USB device.
    - » If you press 'EZ Download' menu, EZ Download is launched.
    - » The "Download Pro:Idiom M Key" option only appears if a ".pim" file is detected on the USB device.
    - » 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.

- When the download is completed and a DZM file is created on the USB memory device, the TV Manager is automatically run by the DZM file. Then go to Ez Download automatically and select the file you downloaded previously.

- Press button to display storage usage information.
- Press the "Clear Storage" button to delete the downloaded media files.

Image Download

(Depending on model)

- The download sequence is Image Download ⇨ Select Image(s) ⇨ Download.
- The image files must be stored in a folder named "LG_DTV" in the root directory of the USB memory device.
- 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 device`s panel resolution.
    - » Max resolution of splash image : UHD, Full HD ⇨ 1920 x 1080, HD ⇨ 1366 x 768.
    - » Min resolution of splash image : 64 x 64.
  - **Apps Background Image(s), No Signal Image(s), Hotel Directory Image(s), Portal Background 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 ⇨ 1366 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, Audio Programme App, Clock App and Live TV's Radio Programme, please change the value of 'Insert Image' property to enable ('Insert Image' is located 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' is located in : Installation ⇨ General ⇨ Configuration Setup).
  - **AoD Moments Images**

    (Depending on model)
    - » If you want to use 'Portal Background Image(s)', please change the value of 'Background Image' property to 'Downloaded'('Background Image' is located in : Installation ⇨ Portal Settings ⇨ Portal Information).
    - » AoD Moments function supports only JPG, JPEG, PNG format files.
    - » Images can not be downloaded beyond 100 MB
    - » If you updates the images, original images will be removed
    - » At least 16 images must be selected.

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**
    - » The image files must be stored in a folder named "LG_DTV" in the root directory of the USB memory device.
    - » Image files can download only one file.
    - » Max resolution of icon : UHD ⇨ 3840 x 2160, Full HD ⇨ 1920 x 1080, HD ⇨ 1366 x 768.
    - » Min resolution of icon : 64 x 64.
  - **IPTV/Input Source Channel Logo** (Depending on model)
    - » This feature copies the "channelLogo" folder on the USB memory device.
    - » 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)

- The video files must be stored in a folder named "LG_DTV" in the root directory of the USB memory device.
- The download sequence is Video Download ⇨ Select video file ⇨ Download.
- Video 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

- An Installation can quickly set up and clone multiple devices at a property. These cloned devices will all have the same Master device 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.
  1 **Overview Data Cloning Procedure**
  : The device has the capability to support cloning internal device data and programme information with an external clone device called "Data Cloning", in order to copy the device 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 Data Cloning. Data Cloning process is divided into 2 main processes. One is writing the previously saved device data into the device, and one another is reading of current device 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.
  2 **Data To Be Cloned**
  : The data cloned are the same data cloned by previous Data Cloning. Details are explained in the following:
    - Device data include :
      A. Installation Menu settings
      B. Main menu settings (Audio, Picture etc)
    - Analog / Digital Programme information includes:
      A. Programme numbers
      B. Programme label
      C. Programme attributes including programme type, skipping status and etc.

– Import Clone File

- Once the internal device data and its programme map information are written to the USB memory device, the user can perform "Import Clone File" with a clone (.tll) file located in the root directory of the USB memory device. The user should not turn the device off nor unplug the USB device while processing.

– Export Clone File

- "Export Clone File" creates a clone (.tll) file in the root directory of the USB memory device. The user must not turn the device off nor unplug the USB device while processing.

Software Update

– Update TV Software

- This feature updates the device software using the EPK file contained in a folder named "LG_DTV" in the root directory of the USB memory device.
- The download sequence is Software Update ⇨ Update TV Software ⇨ Select file(EPK) ⇨ Update.

– Update Micom Software

(Depending on model)

- This feature updates the Micom software using the txt or the hex file contained in a folder named "LG_DTV" in the root directory of the USB memory device.
- The download sequence is Software Update ⇨ Update Micom Software ⇨ Select file(txt, hex) ⇨ Update.

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	TV	79	
00		96	• • • (More actions)
01			
AB	GUIDE		
0C	PORTAL		
AA	INFO		
43	(SETTINGS)		
0E	TIMER		
40			
07			
44			
06			
41			

▶ C Type

Code (Hexa)	Function	Code (Hexa)	Function
08	(Power)	28	(Back)
10-19	Number Key 0-9	43	(Q. Settings)
4C	-/LIST	72	(Red)
09	(Mute)	71	(Green)
02	+	63	(Yellow)
03	–	61	(Blue)
00	^	0B	(Input)
01	v	7C	(Home)
AB	GUIDE	39	...
0C	PORTAL	20	TEXT
AA	INFO	21	T.OPT
44	OK		
40	△(Up)		
41	▽(Down)		
07	◁(Left)		
06	▷(Right)		

External control device Setup

RS-232C Setup

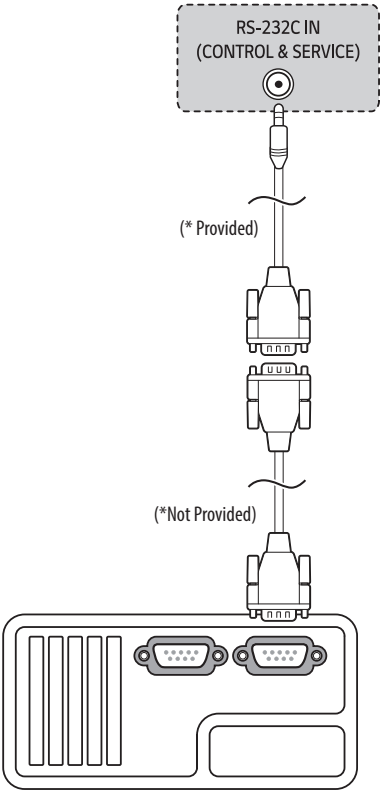
- Image shown may differ from your device.

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.

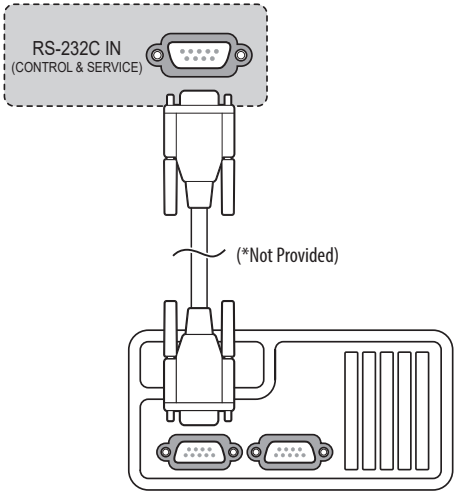
Connect the serial port of the control device to the RS-232C jack on the product back panel.

- RS-232C connection cables are not supplied with the product. (Depending on model)

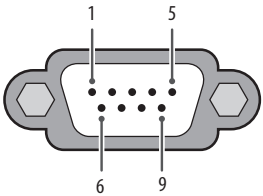
► A Type



► B Type



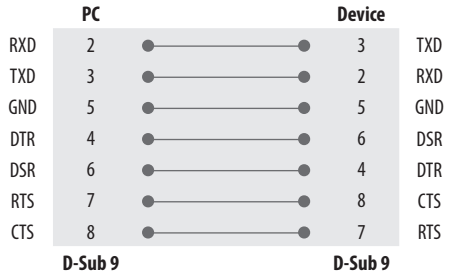
Type of Connector : D-Sub 9-Pin Male



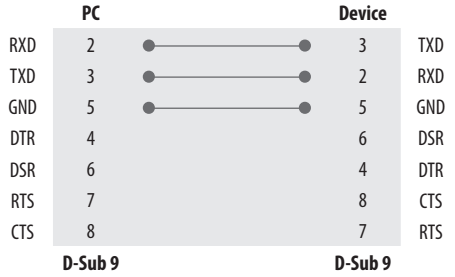
No.	Pin name
1	3.5 V
2	RXD (Receive data)
3	TXD (Transmit data)
4	IR OUT from the device
5	GND
6	No Connection
7	No Connection (5 V available in some models)
8	No Connection
9	No Connection (12 V available in some models)

RS-232C Configurations

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



3-Wire Configurations
(Not standard)



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
2 Aspect Ratio	k	c	(See p. 75)
3 Screen Mute	k	d	(See p. 76)
4 Volume Mute	k	e	00 to 01
5 Volume Control	k	f	00 to 64
6 Contrast	k	g	00 to 64
7 Brightness	k	h	00 to 64
8 Colour	k	i	00 to 64
9 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. 78)
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. **Programme block/ unblock**	m	d	(See p. 80)

	Command1	Command2	Data (Hexadecimal)
24 Fail Over Mode	m	i	(See p. 81)
25 Fail Over Input Select	m	j	(See p. 81)
26 Internal storage media contents play	s	n, a8	(See p. 82)
27 System App Launch	m	z	(See p. 82)

- During playing media, all commands except Power (ka) and Key (mc) are not executed and treated as NG. With RS-232C cable, the device can communicate "ka command" in power-on or power-off status. but with USB-to-Serial converter cable, the command works only if the device is on.

Transmission / Receiving Protocol

(Depending on Model)

Transmission

(Command1)(Command2)( )(Set ID)( )(Data)(Cr)

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

(Command2) : Second command to control the device.

(Set ID) : You can adjust the set ID to choose desired monitor ID number in option menu. Adjustment range is 1 to 99. When selecting Set ID '0', every connected set is controlled. Set ID is indicated as decimal (1 to 99) 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)'

- Some models support the Set ID up to 1000 (Hexa decimal 0 x 3E8).

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

01. **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 the device 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 the device 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

* Please make sure that the model doesn't support both Vertical Zoom and All-Direction Zoom mode.

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, the device will display On Screen Display (OSD). But, in case of Screen mute on, the device 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, the device 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 device. 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 a device 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

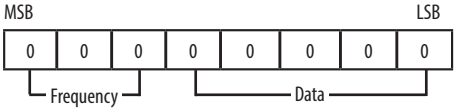
(u)( )(Set ID)( )(OK/NG)(Data)(x)

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)

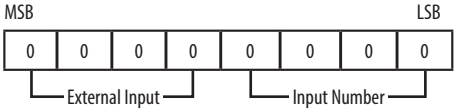
22. **Input select** (Command: x b) (Main Picture Input)

▶ 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. **Programme block/unblock** (Command: m d)

▶ This command may work differently depending on model and signal.

(For South Korea, North/Latin America except Colombia Model)

Transmission

(m)(d)( )(Set ID)( )(Data 00)( )(Data 01)( )(Data 02)(Data 03)(Data 04)( )(Data 05)( )(Data 06)(Cr)

(Data 00) : Physical Channel Number

(Data 01)(Data 02) : Major Channel Number

- (Data 01) : High Channel data
- (Data 02) : Low Channel data
  00 00 ~ 27 0F (Decimal : 0 ~ 9999)

(Data 03)(Data 04) : Minor Channel Number

- (Data 03) : High Channel data
- (Data 04) : Low Channel data

(Data 05) : Input Source

- 02 : Antenna TV (DTV)
- 06 : Cable TV (CADTV)
- 0b : Cable DTV Plus

(Data 06) : block(01)/unblock(00)

Ack

(d)( )(Set ID)( )(OK/NG)(Data 00)(Data 01)(Data 02)(Data 03)(Data 04)(Data 05)(Data 06)(x)

* Block/Unblock Command Examples
Block/Unblock Cable DTV (DVB-T) Channel 18-2

(Set ID) = 01

(Data 00) = Physical Channel Number 18 = 12(HEX)

(Data 01) & (Data 02) = Major Channel Number is 18 = 00 12(HEX)

(Data 03) & (Data 04) = Major Channel Number is 2 = 00 02(HEX)

(Data 05) = cable DTV = 06

(Data 06) = block(01)/unblock(00)

Result :

md 01 12 00 12 00 02 06 (01/00)

(For all other regions including Colombia, Excluding the above countries)

Transmission

(m)(d)( )(Set ID)( )(Data 00)( )(Data 01)( )(Data 02)(Data 03)(Data 04)(Cr)

(Data 00) : Physical Channel Number

(Data 01)(Data 02) : Channel Data
- (Data 01) : High Channel data
- (Data 02) : Low Channel data
  00 00 ~ 27 0F (Decimal: 0 ~ 9999)

(Data 03) : Input Source
- 10 : Antenna TV (DTV)
- 20 : Antenna Radio (Radio)
- 40 : Satellite TV (SDTV)
- 50 : Satellite Radio (S-Radio)
- 90 : Cable TV (CADTV)
- a0 : Cable Radio (CA-Radio)

(Data 04) : block(01)/unblock(00)

Ack

(d)( )(Set ID)( )(OK/NG)(Data 00)(Data 01)(Data 02)(Data 03)(Data 04)(x)

* Block/Unblock Command Examples
Block/Unblock Digital Antenna (DVB-T) Channel 800
(Set ID) = All = 01

(Data 00) = Physical Channel Number 30 = 1E

(Data 01) & (Data 02) = Channel Data is 800 = 03 20

(Data 03) = Digital Antenna TV = 10

(Data 04) = block/unblock = (01/00)

Result :

md 01 1E 03 20 10 (01/00)

24. **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)

25. **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)( )(Data 1)( )(Data 2)( )(Data 3)( )(Data 4)...( )(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)( )(Set ID)( )(OK/NG)(Data 1)(Data 2)(Data 3)(Data 4)...(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.)

26. **Internal storage media contents play** (Command: s n, a8)

▶ Plays media stored in the internal memory.

▶ This command may work differently depending on model and signal.

Transmission

(s)(n)( )(Set ID)( )(a)(8)( )(Data)(Cr)

Data 01 : Media contents play

Ack

(n)( )(Set ID)( )(OK/NG)(a)(8)( )(Data)(x)

27. **System App Launch** (Command: m z)

▶ Launch System app

▶ This command may work differently depending on model.

Transmission

(m)(z)( )(Set ID)( )(Data)(Cr)

Data 01 : TV Guide
Data 02 : Clock
Data 03 : Audio Channel
Data 04 : Hotel Directory
Data 05 : Gallery(OLED/UHD)
Data 06 : Media Player
Data 07 : Bluetooth Sound Sync
Data 08 : Screen Share
Data 09 : Wi-Fi Service
Data 0a : Group Manager 2.0
Data 0b : Content Manager

Ack

(z)( )(Set ID)( )(OK/NG)( )(Data)(x)

* **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