LG
Life's Good

INSTALLATION MANUAL
LED TV*

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

LV640S-Z/T/G/D*

www.lg.com

ENGLISH

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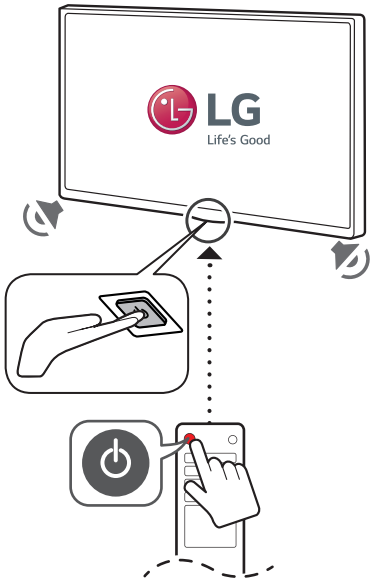
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USING THE BUTTON



Basic functions

<A/B type>

			Power On (Press) Power Off[1] (Press and hold)
			Volume Control
			Programmes Control

<C type>

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

1 All running apps will close, and any recording in progress will stop.

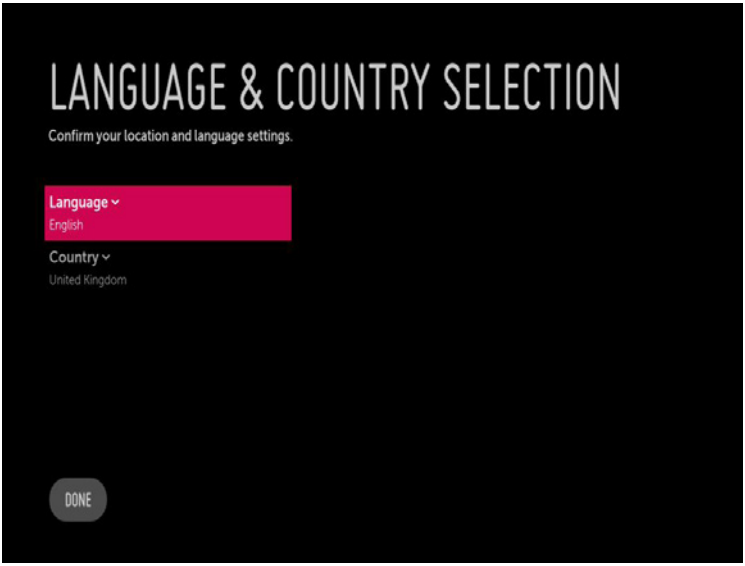
2 You can access and adjust the menu by pressing the button when TV is on.

3 You can use the function when you access menu control.

EZMANAGER

- Image shown may differ from your TV.

LANGUAGE & COUNTRY SELECTION



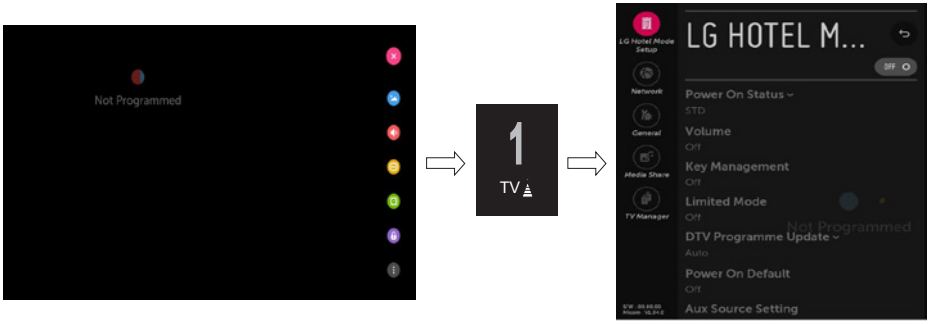
- Please select the **Language** and **Country**. Some countries need to select the **Time Zone**.

INSTALLATION MENU

- Image shown may differ from your TV.

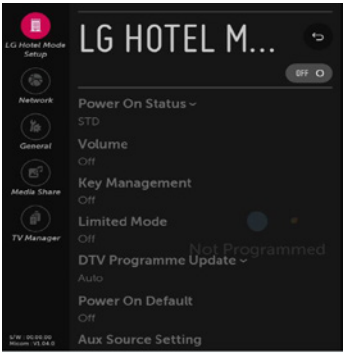
INTRODUCTION

The abundant functions for Hotel TV linked with software installation can be projected on OSD as 'Installation Menu'.
The wide range of hotel features can be performed simply on additional window to enhance the LG hotel TV's easy installation and convenient operation for Hotelier and System Integrators.



1 Press the Setting button for more than 5 seconds using the user remote control, programme information will appear at top left on the screen.
2 Enter a four digit password and press '**OK**' button.
   - The TV is set with the initial password "1-1-0-5".
3 Use the ∨ ∧ button to select the desired menu.

LG HOTEL MODE



1 Use the ∨ ∧ button to select the **LG HOTEL MODE SETUP**.
2 Use the '**OK**' button and then ∨ ∧ button to select Hotel Mode Operation.
- When 'Hotel Mode Operation' is set to On (Work), all functions of Hotel Mode apply.

Hotel Mode Operation

- Decide to work all functions of 'Hotel Mode Operation' or not by setting 'Hotel Mode Operation' as On(Work) or Off(Do Not Work)
- When 'Hotel Mode Operation' is set to On(Work), all functions of Hotel Mode apply.
- When 'Hotel Mode Operation' is set to Off(Do Not Work), all functions of Hotel Mode Do Not apply.
- When it is set to 'On', all items reserved at the Schedule list are deleted and the reservation function is not supported.(applied for the model offering the reservation function)
- The TV triggered by the external device (ex: SIMPLINK, TVLink-Tuner, etc.) operates separately from the Hotel mode.
- When it is set to 'On', User Menu ⟶ General ⟶ 'Reset to Initial Settings and Home/Store Mode' are disabled.
- When 'Hotel Mode Operation' is set to On(Work), all skipped programs are not tuned by number keys.
- When 'Hotel Mode Operation' is set to On(Work), Detailed Information about the programme is not available in the EPG.
- When 'Hotel Mode Operation' is set to On(Work), User Menu -> Timer->'Auto Power Off' is disabled.
- When 'Hotel Mode Operation' is set to On(Work), User Menu -> Timer->'2 Hour Auto Power Off' is disabled.

Power On Status

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

Volume

- Decide to apply volume policy of 'Start Volume', 'Maximum Volume' and 'Minimum Volume' as On(Work) or Off(Do Not Work).
- (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' (disabled).
  - When enabled, if the value is lower then the minimum specified in the minimum volume entry, the minimum volume entry must be used.
  - When enabled, 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 'On Timer' must be fixed to start volume when 'Hotel Mode Operation' (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).
  - If the command volume up to higher than maximum volume' is received, that should be ignored.
  - The default value is 100.

Minimum Volume

- This entry sets the minimum volume level the set will produce.
  - The level is specified as a number between 0 to 'Maximum Volume'. (0 ≤ **Min** ≤ Max)
  - If the command volume down to lower than minimum volume is received, that should be ignored.
  - The default value is 0.

Key Management

- Manage key usability of Local(Front) Key and Remote Control. When selected to 'On', following 'IR Operation' and 'Local Key Operation' will be worked by below.

IR Operation

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

Local Key Operation

- Decide to operate 'Local/Front Key' working behavior by setting 'Local Key Operation' as 'Normal', 'Use PWR Only' and 'Block All'.
  - When 'Local Key Operation' is set to 'Normal', all local keys are available.
  - 'Use PWR Only' makes block all local keys except power key.
  - When 'Local Key Operation' is set to 'Block All', all local keys don't work.

Limited Mode

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

Setup Menu

- Permit to tune and manage programmes as 'On'(permitted) or 'Off'(not permitted).

Programme Change

- Decide to change channel or not by setting 'Program Change' as 'On'(Change Possible) or 'Off'(Change Impossible) when present source is TV.
  - When 'Programme Change' is set to Off (Change Impossible)
    - » Program Key, Numeral Key, List Key, Q.View Key don't work and entering 'Channel Menu' in the Main Menu OSD is impossible.
    - » 'Programme' item in 'On Time' menu will be fixed.
    - » Entering 'Programmes' in the 'Main Menu' OSD is impossible regardless of 'Programmes' item.
  - When 'Program Change' is set to On(Change Possible), 'Program Key', 'Numeric Key', 'List Key', 'Q.View' Key, 'TV/RAD Key', does work and entering 'Channel Menu' in the Main Menu OSD is possible.

Menu Display

- Function to decide whether work with menu (including relevant menus too) of control key (On – Enter possible) or not (Off – Enter Impossible).
  - Although select Off(Enter impossible), the action that press a Menu button for 5 seconds to enter 'Installation Menu' is available.
  - When select On(Enter possible), Menu works.

OSD Display

- Decide to display OSD or not by setting 'OSD Display' as On(Display) or Off(Do not Display).
  - When 'OSD Display' is set to 'Off'(Do not Display), all OSD is not displayed except some exception.
  - Although select 'Off' (Do not Display), 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.
    - » Input select screens
    - » Sleep timer
    - » Aspect Ratio
    - » Subtitles
    - » Programmes (Except for Programme Tuning & Settings and Programme Manager)
    - » 'Safety' / 'Photo & Video' / 'Music' / 'Network' / 'Bluetooth' Menu
  - If the channel map is empty, 'Auto-tuning' guide dialog should be blocked by pressing 'List', 'CH+', 'CH-' keys.

DTV Programme Update

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

Power On Default

- Set the channel to display and Volume Level, etc. when turn on power in AC Power On or Stand-by status.
- Set to On(Work) or Off(Do Not Work).
- When 'Power On Default' is set to Off, it is not applied to the subordinate Input, Programme, A/V Setting, Aspect Ratio menu.
- When Power On Default is set to On, it can set by entering the subordinate menu.

Input

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

Programme

- Select start channel number if Input source's value is TV.

A/V Setting

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

Aspect Ratio

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

Aux Source Setting

- Set to On(Work) or Off(Do Not Work).
- The Auxiliary (Input) Source Setting feature will enable or disable for each external input.
- User cannot disable the current input's 'Aux Source Setting'.

Power Management

- The Power Management feature will turn off the television receiver 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 and prevent interruption of TV viewing.
  - This entry can be set to a value which is corresponding to the desired hours (1Hour to 7Hours).
  - Default value is 'Off(disabled)'.

Radio Video Blank

- Set to On(Work) or Off(Do Not Work).
- Programme that is set to 'Radio Programme' and only has Sound should decide whether to set 'Video Blank' or not.
- When 'Radio Video Blank' is set to On(Work), 'Video Blank' works only in case of Radio Programme.
- Although set to On(Work), 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(Do Not Work), '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.

NETWORK



1 Use the ∨ ∧ button to select the **NETWORK**.

MAC Address

- Displays the MAC address (not customizable).

Network Setting

One-click network connection

- Connects easily to a wired/wireless network.
- Network Connection to connect to an available network automatically. Follow the prompts on the TV.

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.
2 When connecting via Wired, Configures the IP settings of the TV set. You can set the IP address, subnet mask, gateway and DNS server.
3 When connecting via Wi-Fi, use the one of the following network connection methods.

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

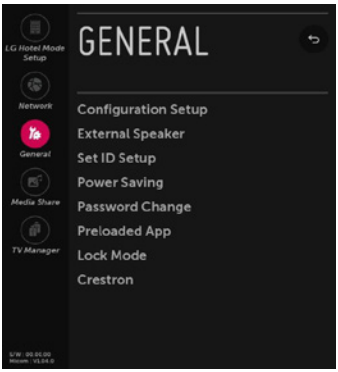
Wake On LAN

- Sets the Wake On LAN function to Enable or Disable.
  - The Wake On LAN feature enables the TV to receive software updates and/or be powered ON upon receipt of Wake Up Frame packets and/or Magic Packet data via the wired LAN. To facilitate use of this feature, note that the appropriate wired connection must be made. ('Wake up Frame' is not supported depending on model)

Server Settings

- Sets the information to connect to the external server.
  - Supersign Premium Server
  - Supersign Link Server

GENERAL



Configuration Setup

Select RCU

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

Number of RCU

- It is a mode to set Number of RCU.
  Number of RCU value range 1~9. (When 'Select RCU' is set to 'Enable')
  Number of RCU value range 0. (When 'Select RCU' is set to 'Disable')

* RCU(Remote Control Unit) : It is special RCU that operates only setted number of RCU in TV.

One Channel Map

- If 'One Channel Map' is 'Enable', the TV will operate as below.
  - A. When the TV is auto-scanning, it searches air, cable and satellite 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 information will be deleted. The Default value is 'Enable'.

DTV Programme Update

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

On Timer Operation

- It is a mode to select 'On Timer Operation' working one time or repeatedly.
  'Once': 'On Time' in the user menu operates only one time when the 'On Time' menu is set to 'ON'.
  'Repeat' : 'On Time' operates repeatedly when the 'On Time' menu is set to 'ON'.

Radio Name Display

- Instead of "Audio Only", the name of a radio channel is displayed on the screen when a radio broadcast is playing.
- Set to On(Work) or Off(Do Not Work).
- If the setting is "On", the name of a radio channel is displayed for the radio channel.
- If the setting is "Off", the text "Audio Only" is displayed for the radio channel.

15Min Auto Off

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

DVB-C

(Depending on model)

- DVB-T/C programmes (channels) are searchable and selectable like following 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.

Auto Sensing

- If 'Auto Sensing' is set to 'On', the input is automatically switched when the input signal that you set to "ON" is received.
- If 'Auto Sensing' 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.

Insert Image

- Set to Enable(Work) or Disable(Do Not Work).
- It is a mode to decide whether to display background image when using Bluetooth Sound Sync app or watching Radio channel.
- You can download the background image at TV Manager app.

No Signal Image

(Depending on model)

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

External Speaker

Volume Control

- Selects the volume control method of an external speaker.
  You can select 'Off', 'Int Variable", Fixed,"Ext Variable' by ∨ ∧ pressing button.
  Ext Variable uses the External Vol Up/Down Control Line to change the volume up to 1 Watts.
  Int variable is linked to the main volume OSD and change the volume 0 - 1 Watts.
  Fixed produces a fixed output. The default is Off.

Output

- This item is enabled when Volume Control is set to Fixed. You can choose one of 7 steps.(0.01/0.03/0.05/0.1/0.2/0.5/1 Watts). The Default is 1 Watt.

Set ID Setup

Set ID Lock

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

Set ID

- Set the 'Set ID' of TV Set with 1~99.

Power Saving

Static Saving

- It is the item for setting the level to reduce the backlight control from the items for saving the consuming power, which is increased or decreased by 10 steps from 0 to 100. 100 makes the consuming power set to the same one from the TV. 0 reduces the consuming power to the minimum. The default value is 100.

* The value displayed at the OSD is not changed and only the actual setting value is converted to percentage based on the static saving value to set.

* 0 ~ 30: HIGH, 40 ~ 60 : MID , 70 ~ 90 : LOW , 100 : OFF

Keyless Off Hours

- Automatically TV will be turned off if there is no key input for the preset time period.
- When it is set to 'Enable', User Menu →**Timers** → '**Auto Power Off**' is disabled.
- When it is set to 'Enable', User Menu →**Timers** → '**2 Hour Auto Power Off**' is disabled.

Password Change

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

1 Change password by using virtual keyboard.
2 Input the password again for confirmation.

PreLoaded App

1 If you want to use a particular app, you can choose from the menu. you can setting each apps activation.
2 You can check or uncheck by pressing '**OK**' button.

Lock Mode

- If 'Lock Mode' is 'Yes', the following features will be unavailable.

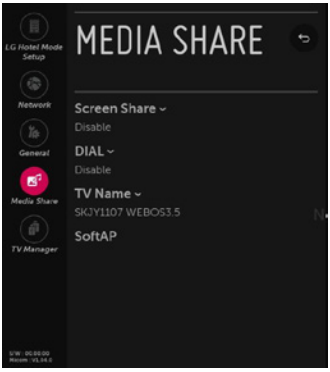
* USB
- If it is set to 'Enable', USB devices do not work in relative features.(Exclude S/W update).

* Factory Reset
- If it is set to 'Enable', User User Menu → **General** → '**Reset to Initial Settings**' is disabled.

Crestron

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

MEDIA SHARE



▶ You can setting Whether to use for "SmartShare"

Screen Share

- Screen Share enables WiFi p2p functions such as Miracast and WiDi. If this value is enabled, Screen Share app is displayed at launcher bar and User can connect to TV by user's Miracast enabled mobile phone or WiDi enabled laptop

DIAL

- With this DIAL service, you can launch the target app at Smart Home Launcher bar without select the target app by remote controller. The target app should be already selected at Installer Menu > General > Preloaded App.

TV Name

- When other media device(ex: smart phone, desktop, laptop) searching TV, this string was displayed.

SoftAP

- If you want to use SoftAp menu on **MEDIA SHARE** menu, you must select 'On' in this item.
  A SoftAP is a function of TV which is used like Access Point.
- 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

- When guests want to use TV's SoftAP function, they need this password. If you want to change this default password, you need to Change 'Use Default' value into 'Disable'.

Wi-Fi Signal Strength

- You can control wireless signal strength on SoftAP mode. 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 wireless channel on SoftAP mode. This is controlled from 1 to 11 channel. If you select 'Auto', wireless channel of SoftAP will be set to random channel.

TV MANAGER

USB Download Menu

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

1 Overview USB Cloning Procedure
: Commercial TVs have the capability to support cloning internal TV data and programme information with an external clone device called "USB Cloning", in order to copy TV data accurately and quickly. The clone internal functions use slightly different internal processes for the two types of commercial TVs. However, the UI of cloning feature remains the same in both. Regarding the demands over the current cloning feature for quicker cloning, better portability and etc, we would like to announce the cloning process via USB port, named as USB Cloning. USB cloning process is divided into 2 main processes. One is writing the previously saved TV data into the TV, and one another is reading of current TV data into USB memory card. To avoid any confusion due to the words, it is clearly specified as "Import Clone File" and "Export Clone File" in the whole process.

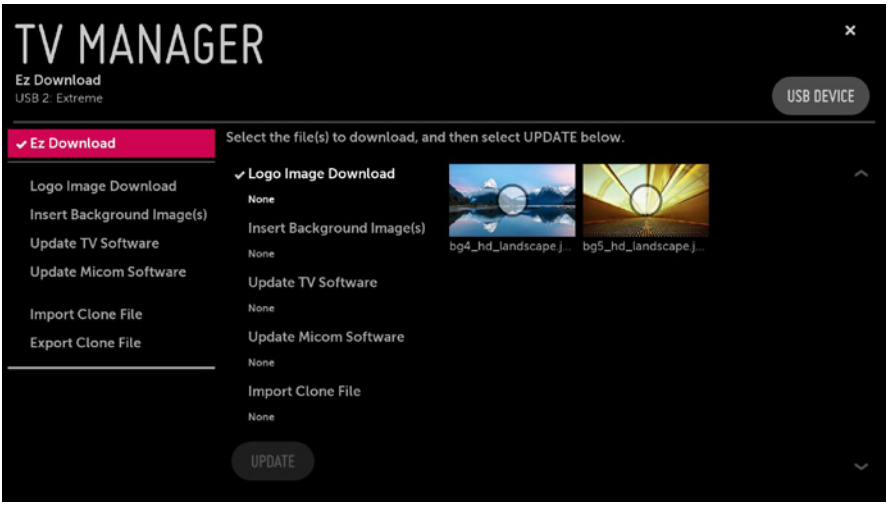
2 Data To Be Cloned
: The data cloned are the same data cloned by previous USB Cloning. Details are explained in the following:
- TV data includes :
  - A. Installer Menu settings
  - B. Main menu settings (Audio, Picture etc)
- Analog / Digital Channel information includes:
  - A. Channel numbers
  - B. Channel label
  - C. Channel attributes including channel type, skipping status and etc.

3 Input Source
: The user needs a USB memory card with FAT formatted to make successive cloning via USB port.

NOTE

- Currently, support the preceding USB file system for FAT file format only. Other file formats including NTFS is not currently supported. Microsoft Windows officially supports FAT for the USB memory card.
- Only a USB storage device is recognizable.

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, Logo Image, Background Images, Micom.

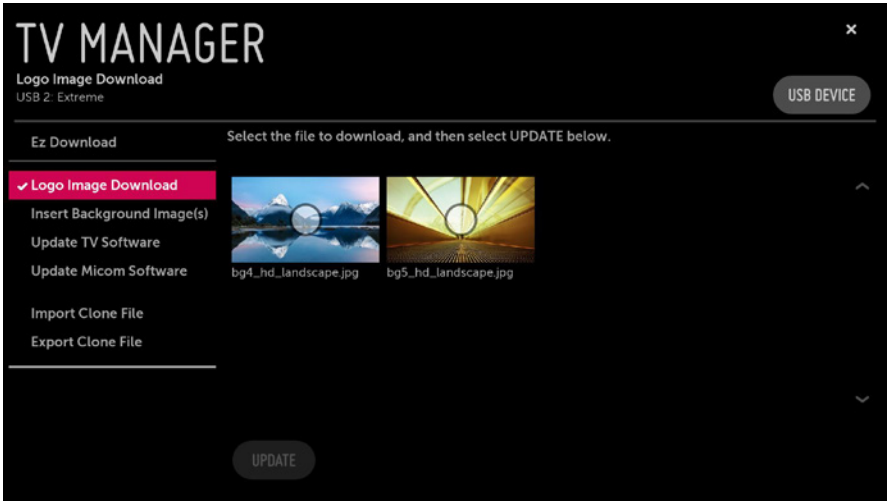
* Images and EPK files should be copied into the folder named LG_DTV on the USB.

- TLL files should be copied to the root folder of the USB.
- If you press 'EZ Download' menu, EZ Download is launched.
- If .DZM file exist file will be selected previously download file.

NOTE

- If the DZM file is still in the USB after the download is complete:
  An Ez Download pop-up window will appear and list the file types, such as TLL,Logo Image,Background Images,EPK or Micom with the previously downloaded lists checked automatically.
- If the global TLL and model TLL files exist in the same USB root directory, then only the global TLL will be shown.
  If the global TLL has been deleted, then the model TLL will be shown.

Logo Image Download

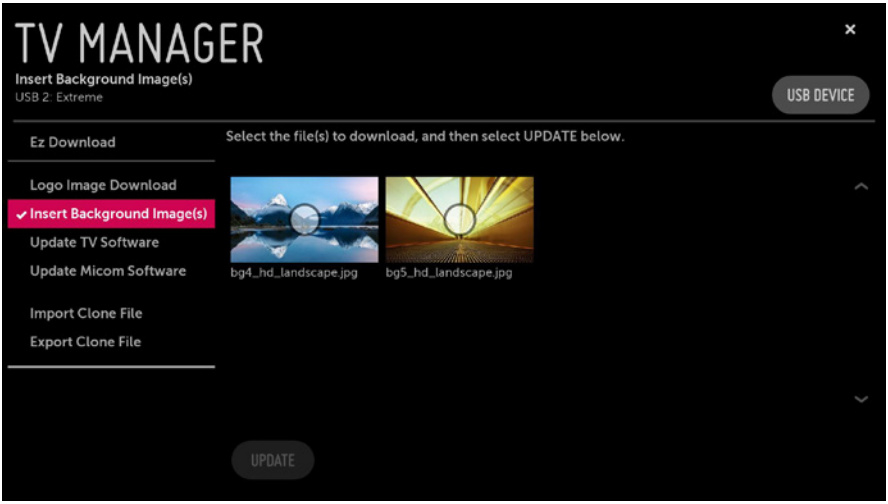


- If there are more than two USB Memory Device, It is possible to select the USB.
- The download sequence is Logo Image Download -> Select Image -> UPDATE.

NOTE

- Splash Image update function supports only JEPG,BMP format file of less than 8 MB filesize.
- We recommend you that splash image resolution match the TV`s panel resolution.
- Max resolution of splash image : Full HD ⟶ 1920 x 1080, HD ⟶ 1360 x 768.
- Min resolution of splash image : Full HD ⟶ 64 x 64, HD ⟶ 64 x 64.
- TV keep splash image until you change a new splash image.
- The target file is located in ₩LG_DTV folder.

Insert Background Image(s)

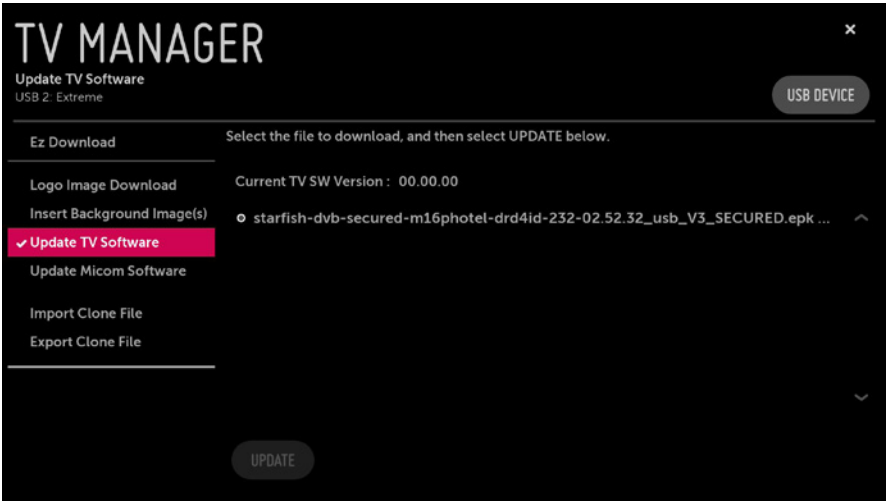


- This feature downloads Insert Background Image(s) from USB.
- Images should be copied to ₩ LG_DTV of the USB.
- The download sequence is Insert Background Image(s) -> Select Images -> UPDATE.

NOTE

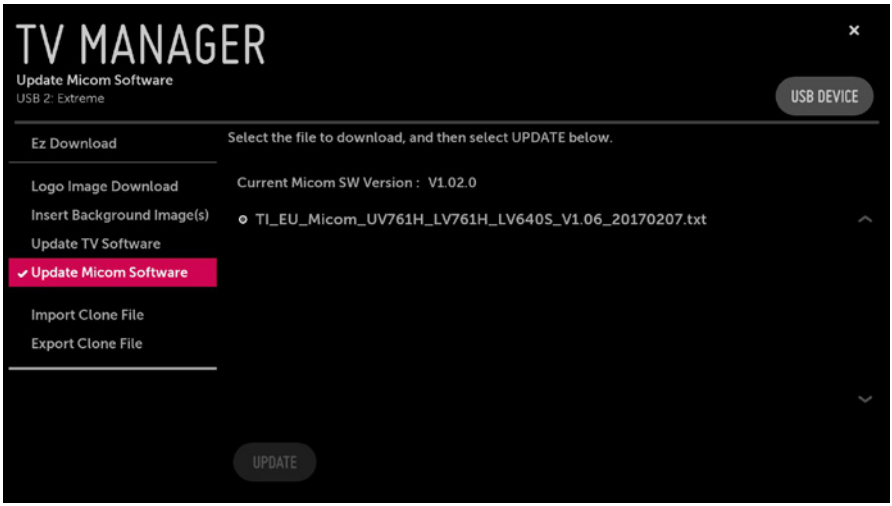
- Maximum number of images that you can update at once are 12.
- If you updates the images, original images will be removed.
- Insert Background Image update function supports only JEPG,BMP format file of less than 10 MB filesize.
- Max resolution of splash image : Full HD ⟶ 1920 x 1080, HD ⟶ 1360 x 768.
- Min resolution of splash image : Full HD ⟶ 64 x 64, HD ⟶ 64 x 64.
- If you want to use inserted image in Bluetooth Sound Sync app and Live TV's Radio Programme, please change the value of 'Insert Image' property to enable ('Insert Image' in Installation > General > Configuration Setup).

Update TV Software



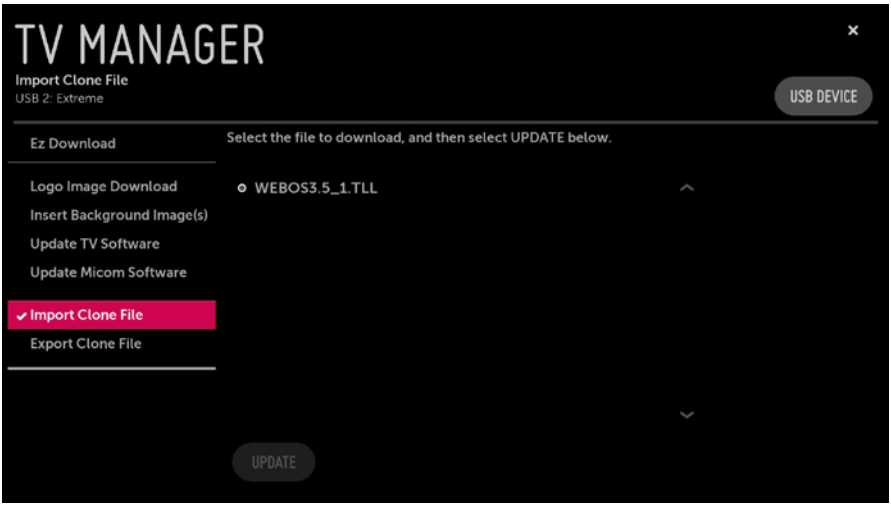
- This feature update EPK of TV through the hex file in USB. The target file is located in \LG_DTV folder.
- If there are more than two USB memory Device, It is possible to select the USB.
- The download sequence is Update TV Software -> Select file(EPK) -> UPDATE.

Update Micom Software



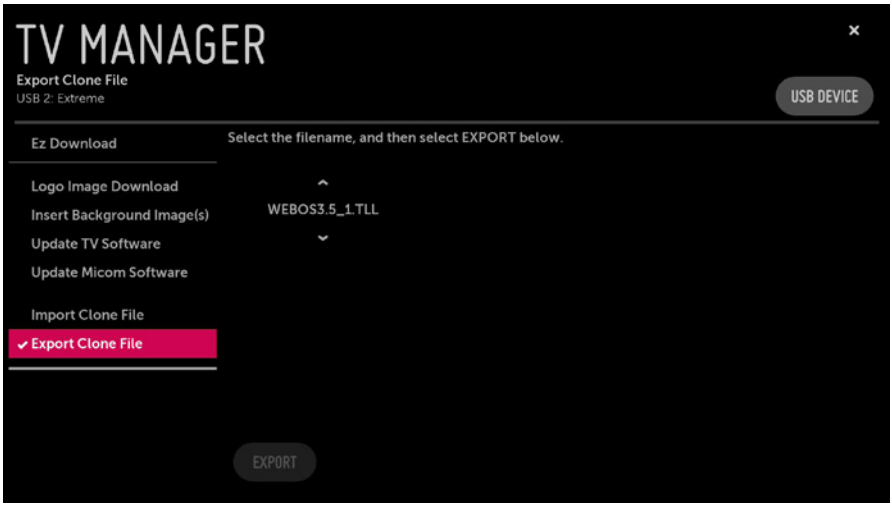
- This feature update MICOM of TV through the txt file in USB. The target file is located in \LG_DTV folder
- If there are more than two USB memory Device, It is possible to select the USB.
- The download sequence is Update Micom Software -> Select file(Micom) -> UPDATE.

Import Clone File



- Once the internal TV data and its channel map information is written to the USB memory card, the user can start "Import Clone File" process with the data file generated and stored in USB memory card. As previously warned in "Export Clone File" process, the user should not turn TV off nor unplug the USB memory card. The following images might be slightly different than the OSD image.

Export Clone File



- "Export Clone File" must be done first before "Import Clone File" process, as it generate the file to be used in "Export Clone File". While writing is in process, the user must not turn TV off nor unplug the USB memory card. The following images might be slightly different than the OSD image.

ENGLISH

IR CODES

- This feature is not available for all models.

Code (Hexa)	Function	Note
08	(POWER)	Remote control Button (Power On/Off)
95	ENERGY SAVING	Remote control Button
AF	LIVE ZOOM	Remote control Button
B5	APP	Remote control Button
0B	INPUT (INPUT)	Remote control Button
F0	TV/RAD	Remote control Button
10-19	Number Key 0-9 Alphabet buttons (Space)	Remote control Button
53	LIST	Remote control Button
1A	Q.VIEW	Remote control Button
02	+	Remote control Button
7C	SMART	Remote control Button
00	P PAGE	Remote control Button
03	−	Remote control Button
09	(MUTE) MUTE	Remote control Button
01	P PAGE	Remote control Button
AB	GUIDE	Remote control Button
0C	PORTAL	Remote control Button
AA	INFO INFO	Remote control Button
7C	(HOME)	Remote control Button
40	▲ /	Remote control Button
41	▼ /	Remote control Button
44	OK	Remote control Button
07	◀ /	Remote control Button
06	▶ /	Remote control Button
43	SETTINGS (Q. Settings)	Remote control Button
28	(BACK) BACK	Remote control Button

Code (Hexa)	Function	Note
5B	EXIT	Remote control Button
72		Remote control Button
71		Remote control Button
63		Remote control Button
61		Remote control Button
20	TEXT	Remote control Button
21	T.OPT(T.Option)	Remote control Button
39	SUBTITLE	Remote control Button
B1	■	Remote control Button
B0	▶	Remote control Button
BA	❚❚	Remote control Button
8F	◀◀	Remote control Button
8E	▶▶	Remote control Button
DC	3D/*	Remote control Button
9F	DATA /*	Remote control Button
91	AD AD /*	Remote control Button
E8	ALARM /*	Remote control Button
30	AV MODE/*	Remote control Button
79	RATIO	Remote control Button
7E	SIMPLINK	Remote control Button

EXTERNAL CONTROL DEVICE SETUP

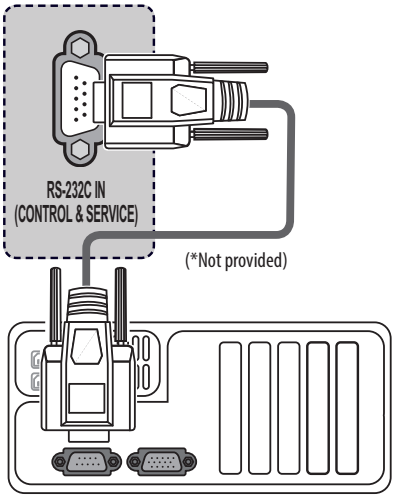
RS-232C Setup

- Image shown may differ from your TV.

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

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

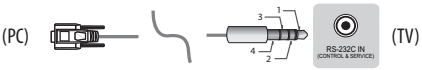
- RS-232C connection cables are not supplied with the product.



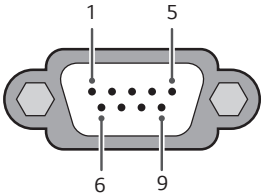
Phone jack Type

(Depending on model)

- You need to purchase the phone-jack to RS-232C cable required for the connection between the PC and the TV, which is specified in the manual.
  - * For other models, connect to the USB port.
  - * The connection interface may differ from your TV.



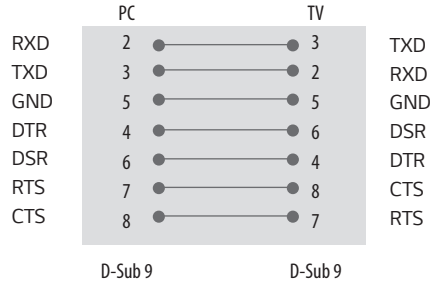
Type of Connector : D-Sub 9-Pin Male



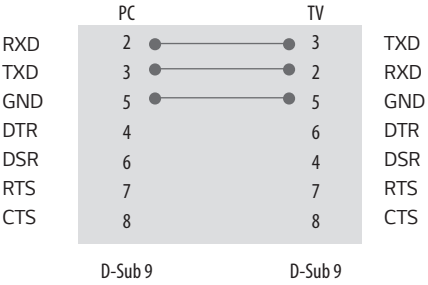
No.	Pin name
1	3.5 V
2	RXD (Receive data)
3	TXD (Transmit data)
4	IR OUT from TV
5	GND
6	No Connection
7	No Connection (5 V available in some models)
8	No Connection
9	No Connection (12 V available in some models)

RS-232C Configurations

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



3-Wire Configurations
(Not standard)



Communication Parameters

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

Command Reference List

(Depending on model)

	COMMAND1	COMMAND2	DATA (Hexadecimal)
01. Power	k	a	00 to 01
02. Aspect Ratio	k	c	(See p. 31)
03. Screen Mute	k	d	(See p. 32)
04. Volume Mute	k	e	00 to 01
05. Volume Control	k	f	00 to 64
06. Contrast	k	g	00 to 64
07. Brightness	k	h	00 to 64
08. Colour	k	i	00 to 64
09. Tint	k	j	00 to 64
10. Sharpness	k	k	00 to 32
11. OSD Select	k	l	00 to 01
12. Remote Control Lock Mode	k	m	00 to 01
13. Balance	k	t	00 to 64
14. Colour Temperature	x	u	00 to 64
15. Energy Saving	j	q	(See p. 33)
16. Auto Configuration	j	u	01
17. Equalize	j	v	(See p. 34)
18. Tune Command	m	a	(See p. 34)
19. Programme Add/Skip	m	b	00 to 01
20. Key	m	c	(See p. 35)
21. Control Back Light	m	g	00 to 64
22. Input select	x	b	(See p. 35)

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

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	38 KHz
Peak Wavelength	940 nm
Minimum burst length	16 cycles (420 µs)
Minimum gap time is required of	21 cycles (550 µs)
Data word length	Max. 100 ms
Minimum gap time in the data stream is needed of	30 ms

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
High Level Out Pulse Width	T_{WH}	Burst Wave = 600 µs Period = 1.2 ms	400	-	800	µs
Low Level Out Pulse Width	T_{WL}		400	-	800	µs

CAUTION

- 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.

Transmission / Receiving Protocol

(Depending on Model)

Transmission

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

[Command 1] : First command to control the TV. (j, k, m or x)

[Command 2] : Second command to control the TV.

[Set ID] : You can adjust the set ID to choose desired monitor ID number in option menu. Adjustment range is 1 to 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)'

OK Acknowledgement

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

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

Error Acknowledgement

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

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

Data 00 : Illegal Code

1 Power (Command: k a)

▶ To control Power On/Off of the set.

Transmission

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

Data 00 : Power Off 01 : Power On

Ack

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

▶ To Show TV is Power On/Off.

Transmission

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

Ack

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

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

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

▶ To adjust the screen format. (Main picture format) You can also adjust the screen format using the Aspect Ratio in the Q.MENU. or PICTURE menu.

Transmission

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

Data 01 : Normal screen (4:3) (Just Scan Off) 06 : Original (Just Scan Off)
09 : Just Scan
02 : Wide screen (16:9) (Just Scan Off)

Ack

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

* Using the PC input, you select either 16:9 or 4:3 screen aspect ratio.

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

01 : Screen mute on (Picture off)

10 : Video mute on

Ack

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

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

4 Volume Mute (Command: k e)

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

Transmission

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

Data 00 : Volume mute on (Volume off)

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 menu.

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 menu.

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 menu.

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 menu.

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 menu.

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 : OSD off 01 : OSD 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 : Lock off 01 : Lock on

Ack

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

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

13 Balance (Command: k t)

▶ To adjust balance.
You can also adjust balance in the AUDIO menu.

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 menu.

Transmission

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

Data Warm: 00 to Cool:64

* Refer to "Real data mapping".

Ack

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

15 Energy Saving (Command: j q)

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

Transmission

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

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

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

Ack

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

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

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

Transmission

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

Data 01 : To set

Ack

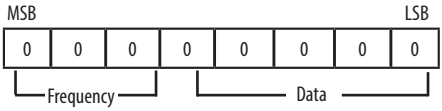
[u][ ][Set ID][ ][OK/NG][Data][x]

17 Equalize (Command : j v)

► To adjust equalize.

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 Add/Skip (Command: m b)

► To set skip status for the current Programme.

Transmission

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

Data 00 : Skip 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 Back Light (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]

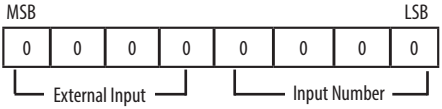
22 Input select (Command: x b)
(Main Picture Input)

▶ 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]

* **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
Life's Good