LG
Life's Good

INSTALLATION MANUAL
LED TV*

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

LX54**
LX34**
LX33**
LX32**
LX53**
LX30**

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ENGLISH

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DIGITAL SIGNAGE MEDIA PLAYER

Digital Signage Media Player Overview

(* Only for LX5**S series)

The Digital Signage Media Player can play content produced and distributed by SuperSign Elite-W. Supported content types consist of photographs, videos, external inputs such as TV broadcasts, texts,and music.

1 **Executable content**
- *.cts : These files can be played at any time.
- *.sce : These files can be played at any time like *.cts files or they can be played to a specific schedule.

2 **Using the My Media menu to play files**
- After inserting the USB storage device, access the My Media menu and select an executable content file under the “All Media” tab or the “Contents List” tab to play the file.

3 **Auto-play on USB insertion**
- Files with executable content in a specific folder are automatically played when Power On is selected or when a USB drive is inserted after Power On.
- If a USB storage device is already inserted when Power On is selected, files with executable content in the “normal” folder are played by default. If the “normal” folder does not exist, files with executable content in the “AutoPlay” folder are played instead.
- If a USB storage device is inserted some time after Power On has been selected, files with executable content in the “AutoPlay” folder are played by default. If the “AutoPlay” folder does not exist, files with executable content in the “normal” folder are played instead.
- Auto-play on USB insertion is only supported by USB port #1.

4 **Distributing and playing content via SuperSign Elite-W**
- If a USB storage device is inserted in USB port #1, the LAN cable is connected and the SuperSign Server settings are configured, content can be received from the SuperSign Elite-W server.
- Schedules can be set to play a variety of specific content or media files, including photos and videos, from SuperSign Elite-W whenever the user wants.
- Messages created by the user can be sent to the player via SuperSign Elite-W.
- For more information, see the SuperSign Elite-W manual.

EZ MANAGER

(*Only for LX5**H, LX3**H series)

EZ-Manager 2.1 - Introduction

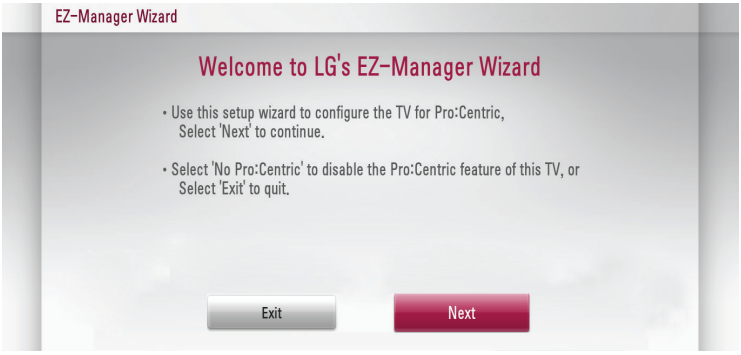
The Pro:Centric Platform enables you to simply install, manage and use guest-centric solutions.

The default Domain “procentric.local” and IP Server Address are needed to be registered in DNS
TV will contact the IP Server using the default Domain “procentric.local” via IP on server search page.
If TV doesn’t contact the Server, TV will search the pre-defined channel earlier than all channels (DVB-C only)

The frequencies of pre-defined channels are ‘794000, 714000, 634000, 554000, 474000, 394000, 314000, 234000, 154000, 90000 khz’.

EZ-MANAGER WIZARD

- Image shown may differ from your TV.



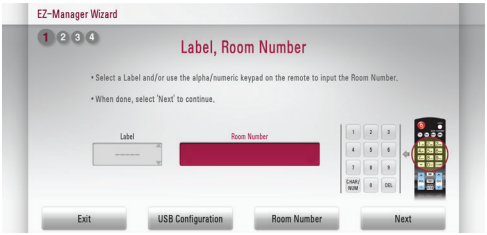
If you are using Pro:Centric, this setup wizard till help you easily set up the TV.
Select ‘Next’ to continue.

Otherwise, you may select ‘Exit’ to quit.

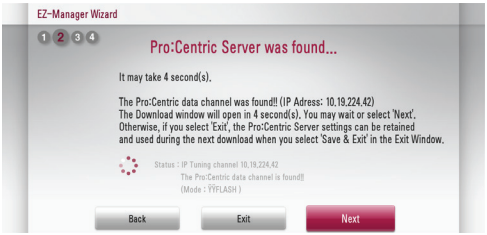
EZ-Manager Wizard - Automatically for Setup

- Image shown may differ from your TV.

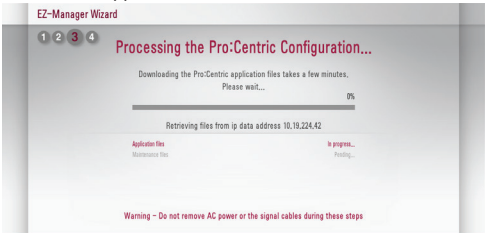
1 Select a Label and/or enter the Room Number using the numeric keypad on the remotes. To continue, move and select '**Next**'.



2 This step automatically searches for the Pro:Centric Server. If was found the Pro:Centric data channel, select the "**Next**".



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



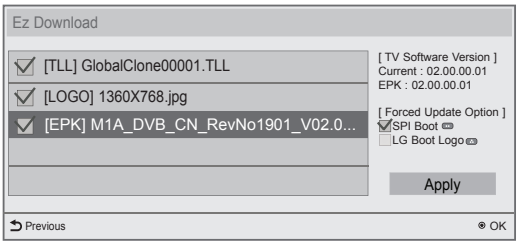
4. After the installation is completed, the following screen will be displayed.



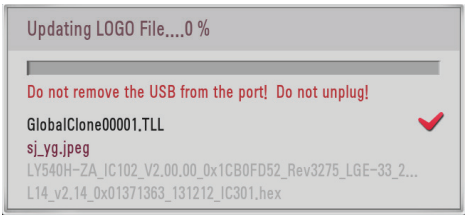
EZ-Manager Wizard - Automatically for Setup (USB Configuration)

1 Select the 'USB Configuration → Ez Download'.





2 Downloading the software/jpeg/TLL files takes few minutes.

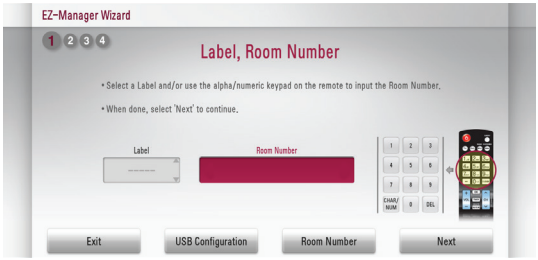


3 After the installation is completed, turn off.

EZ-Manager Wizard - Manually for Setup

- Image shown may differ from your TV.

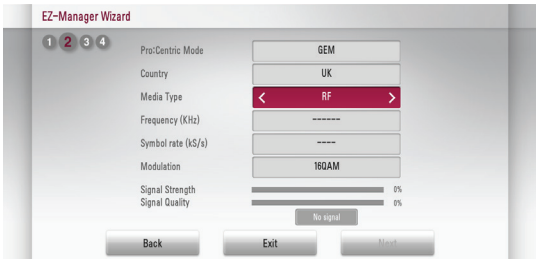
1 Select a Label and/or enter the Room Number using the numeric keypad on the remotes. To continue, move and select '**Next**'.



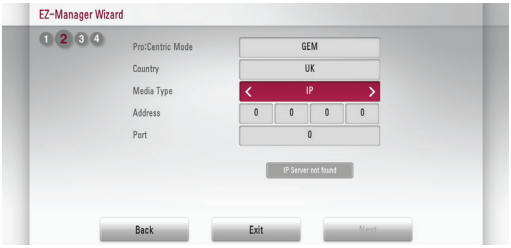
2 Please select the '**Manual Pro:Centric**'.



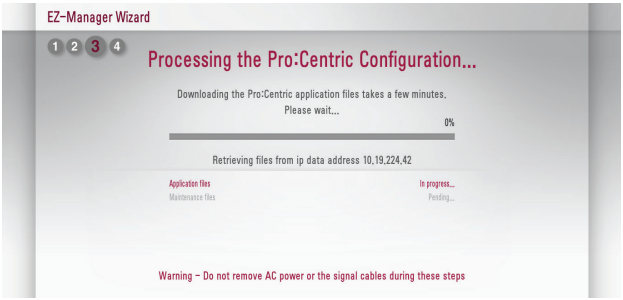
3 Select the Pro:Centric Mode "**GEM**" or "**Flash**".



or



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



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

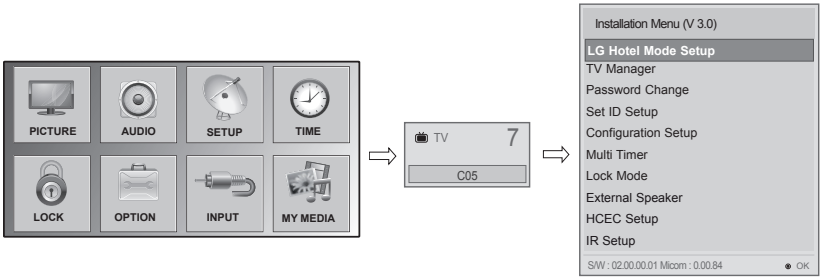


INSTALLATION MENU

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.

- Image shown may differ from your TV.

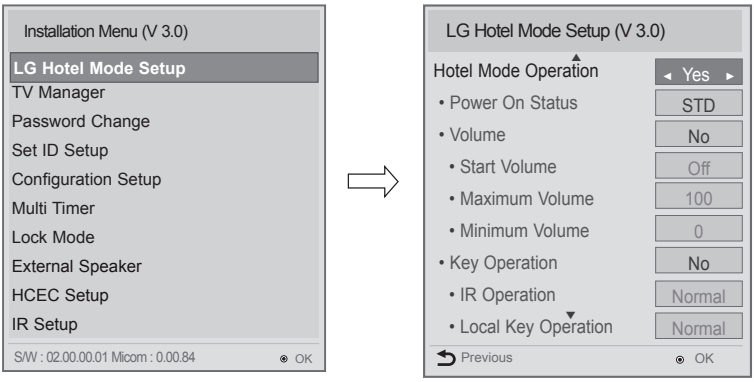


1 Press the **Home** button for more than 5 seconds using the user remote control, programme information will appear at top left on the screen.
2 Enter a four digit password and press **OK** button.
- The TV is set with the initial password “1-1-0-5”.

3 Use the ∨ ∧ button to select the desired menu.

Introduction

- Image shown may differ from your TV.



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 Yes(Work), all functions of Hotel Mode apply.

1 **Hotel Mode Operation (DVB)**
- Decide to work all functions of 'Hotel Mode Operation' or not by setting' Hotel Mode Operation' as Yes(Work) or No(Do Not Work)
- When 'Hotel Mode Operation' is set to Yes(Work), all functions of Hotel Mode apply.
- When 'Hotel Mode Operation' is set to No(Do Not Work), all functions of Hotel Mode Do Not apply.
- When it is set to 'Yes', 'Key Lock' item of the User menu is disabled and the OSD is displayed same to the Local Key Operation setting of the Hotel mode.
- When it is set to 'Yes', 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 'Yes', User Menu-> Option -> 'Factory Reset' is disabled.
- When it is set to 'Yes', User Menu-> Option-> 'Demo Mode' is disabled.
- When it is set to 'Yes', User Menu-> Time-> 'Automatic Standby' is disabled.

2 **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.

3 **Volume (0 ≤ Min ≤ Start ≤ Max ≤ 100)**

- Decide to apply volume policy of 'Start Volume', 'Maximum Volume' and 'Minimum Volume' as Yes(Work) or No(Do Not Work).

  - **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' (Yes) 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 ≤ M**in** ≤ Max)
    - If the command volume down to lower than minimum volume is received, that should be ignored.
    - The default value is 0.

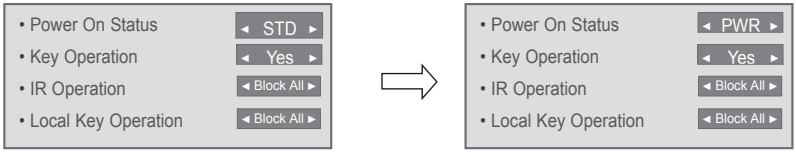
4 **Key Operation (v3.0)**

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

  - **IR Operation**
    Decide whether work the LG remote control or not.
    - Able to set Normal, Use PWR Only, Block All.
    - When 'IR Operation' is set to Block All, all normal remote keys don't work. Use PWR Only (Block except power) makes block all remote keys except power key.
    - Although 'IR Operation' value is Use PWR Only or Block All.
      - » It can work in 'Service mode'. (In-Start, In-Stop, Power-Only, ADJ, Hotel-Mode, Hotel-Mode-Ready, P-Check, S-check, In-Time, FMode-Init, FMode-Start, FMode-AV, FMode-F1)
      - » Menu key action to enter the 'Installation Menu' and key action with 'Special menu(In-Start / EZ-Adjust …)' are still available.
    - When 'IR Operation' is set to 0 (Work), all remote keys are available.

  - **Local Key Operation**
    Decide to operate 'Local/Front Key' working behavior by setting 'Local Key Operation' as Normal, Use PWR Only, Block All. (* LX30* C series use only Normal/Block All)
    - When 'Local Key Operation' is set to Block All, all local keys don't work. If value is Use PWR Only, it blocks all local keys except power key.
    - When 'Local Key Operation' is set to Normal, all local key are available.

    Exception)
    In case of power off condition with all key are blocked, 'Power On Status' value turns to 'PWR', and disabled status to fix value for power on operation. (fool-proof routine)



5 **Limited Mode**

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

- **Setup Menu**
  Decide to enter 'Setup' Menu' as 'Yes'(Enter possible) or 'No'(Enter impossible)

- **Input Source Change**
  Decide to change input source or not by setting 'Input Source Change' as Yes(Change possible) or No (Change impossible).
  - When 'Input Source Change' is set to 'No' (Change impossible)
    - » 'INPUT key' doesn't work, and Input Source Changing via 'TV D/A' key, 'TV/RADIO' key aren't possible (ex. Press TV/RADIO Key in HDMI source to view TV channel)
    - » User's input (pressing Programme key, numeral key, List key, Q.View key in all Input source except TV source) doesn't work.
    - » Entering 'Setup Menu' item in the 'Main Menu OSD' except TV mode doesn't accepted. Because entering 'Setup Menu' item makes present mode as TV mode even though present mode is not TV. Change to TV mode isn't allowed.
    - » TV set always turns on fixed input source and volume information regardless of already set information.
    - » Entering 'Setup Menu' except TV mode is impossible regardless of 'Programme Change' or 'Setup Menu' items' value.
    - » TV can be only turned on with the input source which is irrelevant from the programme related information set (volume, input) in 'On Time' Menu.
    - » Auto AV and HDMI-CEC still work regardless of Input Source Change's value.
    - » When 'Input Source Change' is set to Yes(Change possible), changing input source is available.

- **Programme Change**
  Decide to change channel or not by setting 'Program Change' as 'Yes'(Change Possible) or 'No'(Change Impossible) when present source is TV.
  - When 'Programme Change' is set to No (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 'Setup Menu' in the 'Main Menu' OSD is impossible regardless of 'Setup Menu' item.
  - When 'Program Change' is set to Yes(Change Possible), 'Program Key', 'Numeric Key', 'List Key', 'Q.View' 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 (Yes – Enter possible) or not (No – Enter Impossible).
  - Although select No(Enter impossible), the action that press a Menu button for 5 seconds to enter 'Installation Menu' is available.
  - When select Yes(Enter possible), Menu works.

- **OSD Display**
  Decide to display OSD or not by setting 'OSD Display' as Yes(Display) or No(Do not Display).
  - When 'OSD Display' is set to 'No'(Do not Display), all OSD is not displayed except some exception.
  - Although select 'No' (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 'Yes', Accessible Items on the menu system, others are not permissible.
    - » Input select screens
    - » Sleep timer
    - » Alarm
    - » Aspect Ratio
    - » Closed Caption
    - » 'Lock' / 'My Media' / 'Network' / 'Support' / 'Bluetooth' Menu
  - 'Q.menu', which is related to 'Setup' Menu, is not accessible.
  - If the channel map is empty, 'Auto-tuning' guide dialog should be blocked by pressing 'List', 'Fav', 'CH+', 'CH-' keys.

6 **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 restart the 'Power Management' timer and check key time interval again.
- This entry can be set to a value which is corresponding to the desired hours (1 to 7).
- Default value is 'Off(disabled)'.
- TV should off and on after apply this setting.

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

8 **Power On Default**
Set the input source or channel to display and. A/V settings when turn on power in AC Power On or Stand-by status.

- **Input Source**
  Set whether it is turned on by the set input source or by the last stored input source.
  - It is turned on by the Last Memory Input if the Input source is turned off.
  - It is turned on by the Last Pr. If the Input source is turned off and the last memory Input is the RF.
  - The available Input Source values should be rotated.
  - If both the Input source and the 'On Time' menu are set, the Input source takes the priority.
  - When the Input source is changed to the TV, Programme menu is available.
  - When the Input source is changed to the ATV, the Program No. is set to 0. (If the channel map structure does not support this, it depends on model's channel handling.
  - Access to an input source item and a channel in 'On Timer' menu must be disabled when Power On Default is activated.

- **Programme**
  Select start channel number if Input source's value is TV. (in case of ATV, it means physical channel number.)

- **A/V Setting**
  If 'A/V Setting' is changed from 'No' to 'Yes', parameters that are set before entering 'Installation Menu' are applied whenever turn on power.
  - Following Parameters are applied to basic.
    - » Picture section - PSM mode, Picture Data (Contrast, Brightness, Color, Sharpness, Tint)
    - » Sound section - SSM mode, Sound Data (Balance, Equalizer Data)
    - » AVL (Auto Volume Level) and Language, Teletext language, ARC Data. Except these, other parameters are applied differently according to the TV-Set.

- **Aspect Ratio**
  The aspect ratio determines the default aspect ratio that the set returns to on power up.
  - The modes are as follows:
    - » Aspect ratio = "Disabled(0)" stays at previous state, same as consumer model.
    - » Aspect ratio = "Original(1)"
    - » Aspect ratio = "4:3 ratio (2)"
    - » Aspect ratio = "16:9 ratio (3)"
  - If enabled, upon power up the television reset the aspect ratio to the specified state regardless of how the user has previously changed the aspect ratio.
    (if "original" is not supported, the television set the aspect ratio to "16:9".)

9 **Aux Source Setting**
The Auxiliary (Input) Source Setting feature will enable or disable for each external input. When 'Aux Source Setting' is set to Yes(Work), the RJP or HDMI-CEC / HTNG will not operate.

- **Input Source**
  - Available Input Source List

- **Setting**
  - Decide whether selected 'Input Source' is usable (Enable) or not (Disable).
  - User cannot disable the current input's 'Aux Source Setting'.

10 **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 Yes(Work) or No(Do Not Work).
  - If the setting is 'Yes', the name of a radio channel is displayed for the radio channel.

11 **Radio Video Blank**
Manage video blank channel(sound only). This feature affects on analog channel (ATV) only.

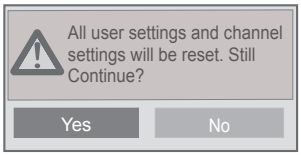
- **Start PR. No.**
  - Start channel number to video blank.
  - Available programme to set are 0~199(For Taiwan : TV 2~69, CATV 1~199).

- **No. Of. PR.**
  - Number of channels to blank
  - The max value for the 'No. of PR' is 10.
  - Can not set more than maximum available channel number. For example if Start PR. set to 195, "Number of PR". can not set more than 5.
  - Radio programme should be in sequence with starting programme number.

12 **Factory Reset**
Factory reset returns all the parameters to the default settings.



- Press 'Enter key' to proceed factory reset. and confirmation message window will be shown.



- When select 'Yes', all television settings except UTT value should write to the default settings.

Public Display Settings / LG Hotel Mode Setup (Value Range Table)

Item	Enable	Disable	Initail
Hotel Mode Operation	Yes	No	No
Power On Status	-	-	*STD
Volume	Yes	No	No
Start Volume	Off, Minimum Volume ~ Maximum Volume		Off
Maximum Volume	Minimum Volume ~ 100		100
Minimum Volume	0 ~ Maximum Volume		0
Key Operation	Yes	No	No
LG IR Operation	Normal / Use PWR Only / Block All		Normal
Local Key Operation	Normal / Use PWR Only / Block All		Normal
Limited Mode	Yes	No	No
Setup Menu	Yes	No	Yes
Input Source Change	Yes	No	Yes
Programme Change	Yes	No	Yes
Menu Display	Yes	No	Yes
OSD Display	Yes	No	Yes
System Provider Mode	Yes	No	No
Power Management	Off, 1 ~ 7		Off
DTV Channel Update	Auto	Manual	Auto
Power On Default	Yes	No	No
Input Source	Off, ATV, DTV, ...		Off
Programme	Minimum Program ~ Maximum Program		Minimum Program
A/V Setting	Yes	No	No
Aspect Ratio	Disable / Original / 4:3 / 16:9		Disable

LG Hotel Mode Setup (Value Range Table)

Item	Enable	Disable	Initail
Aux Source Setting	Yes	No	No
Input Source	Aux Input(AV1 ~ MAX_INPUT)		AV1
Settng	Enable	Disable	Enable
Radio Name Display	Yes	No	No
Radio Video Blank	Yes	No	No
Start PR. No.	0 ~ 199 (Taiwan TV 2 ~ 69 / CATV 1 ~ 199)		1
No. Of. PR.	0 ~ 10 (Start PR. NO + No. of PR. <= Max Start PR. NO. + 1)		1
Factory Reset	Confirmation window (Yes / No)		

ENGLISH

TV MANAGER

1. USB

Ez Download

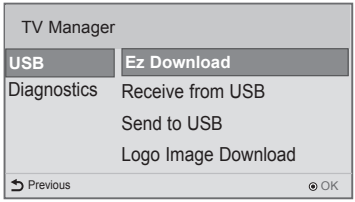
Ez Download is a function that enables users to download the desired items all at once, such as EPK (software update file), TLL (see Send to USB descriptions for more information regarding file types), Logo Image, NoSignal Image, Welcome Video, etc (TLX, MICOM for Pro:Centric).
* Splash images and EPK files and Welcome Video files should be copied into the folder named LG_DTV on the USB. TLL file should be copied to the root folder of the USB. NoSignal Image files shoud be copied into the folder named LG_SIG on the USB.

- Image shown may differ from your TV.

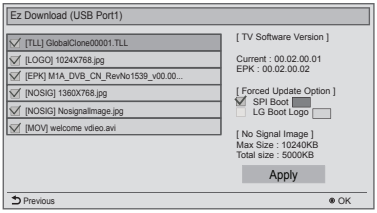
1 Plug USB memory card into the USB port of the TV.
2 Use the ∧ ∨ button to select the **TV Manager** option and then press the **OK** button.



3 Use the ∧ ∨ button to select the **USB** and **Ez Download** and press the **OK** button.



4 Select a list to download and press the z button.
5 Select the EPK option (software update) and then use the green and yellow buttons to download either SPI Boot or LG Boot Logo. If you checked the LG Boot Logo checkbox, then the Splash image, if selected, will be unchecked. Also, if you select the LG Boot Logo and proceed with the download, the existing Splash image will be deleted.



6 When you are finished with your selections, use the (->) button to select Apply and then press OK.
7 Wait for the download to complete. When it is finished, your TV will be turned off.

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, EPK, NOSIG, MOV 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.

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.

Introduction

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 clonin g, 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 “Receive from USB” and “Send to USB” in the whole process.

2 Data To Be Cloned
3 The data cloned are the same data cloned by previous USB Cloning. Details are explained in the following:
1. TV data includes:
A. Installer Menu settings
B. Main menu settings (Audio, Picture etc)

2. Analog / Digital Channel information includes:
A. Channel numbers
B. Channel label
C. Channel attributes including channel type, skipping status and etc.

4 Input Source
- The user needs a USB memory card with FAT formatted to make successive cloning via USB port. A USB memory card size more than 128 Mega Bytes and less than 4 Giga Bytes is recommended.

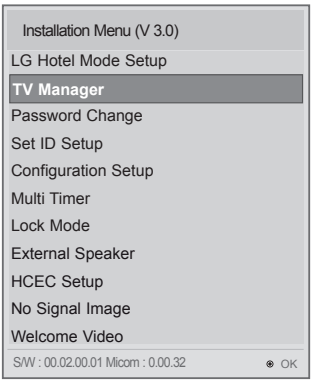
NOTE

- 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.

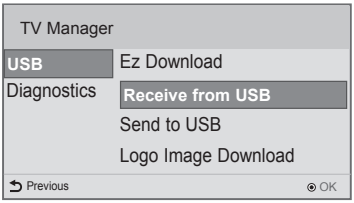
Receive From USB

- Image shown may differ from your TV.

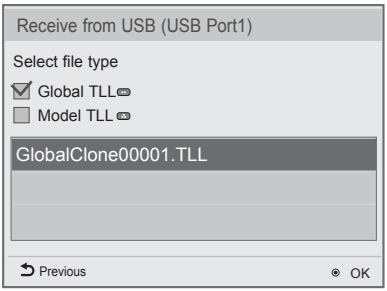
1 Plug USB memory card into the USB port of the TV.
2 Use the ∧ ∨ button to select the **TV Manager** option and then press the **OK** button.



3 Use the ∧ ∨ button to select the **USB and Receive from USB** and press the **OK** button.
* **Below explains the naming rules for .TTL files.**
The supported model line will be in the name of the file but the screen size will be listed as “xx”.
This allows TVs having the same chassis model number to use the same ‘*.TTL’ file without regard to the screen size.
ex) The name of ‘*.TTL’ file is ‘xxLP360H-TA00000.TLL’ for 32/42LP360C model.



4 Use the ∧ ∨ button to select the desired *.TTL files name and press the **OK** button.



5 The TV is changed to Standby mode after a successful download. If the download failed, the TV will changed to the initial installation screen.

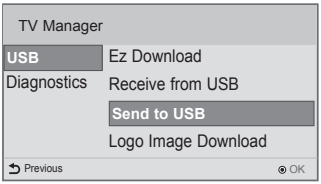
Send To USB

- Image shown may differ from your TV.

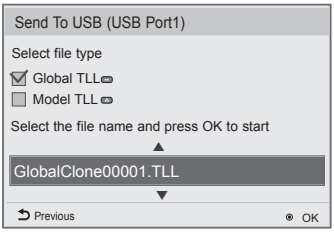
1 Plug USB memory card into the USB port of the TV.
2 Use the ∧ ∨ button to select the **TV Manager** option and then press the **OK** button.



3 Use the ∧ ∨ button to select the **USB and Send to USB** and press the **OK** button.



4 Use the ∧ ∨ button to select the desired file name and press the **OK** button.



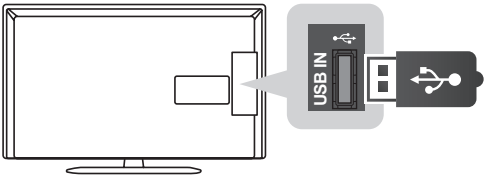
5 The TV is changed to the initial installation screen after a successful download.

Logo Image Download

Make a 'LG_DTV' folder on the USB flash drive and then copy the splash image file to that folder.

- Image shown may differ from your TV.

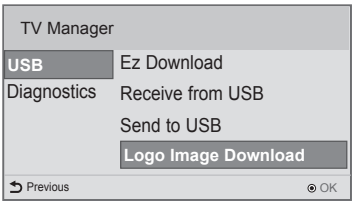
1 Connect the USB device to the USB IN jack on the TV.



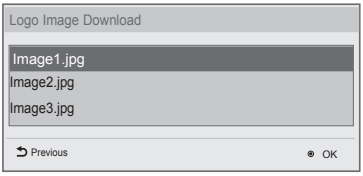
2 Use the ∧ ∨ button to select the **TV Manager** option and then press the **OK** button.



3 Use the ∧ ∨ button to select the **USB and Logo Image Download** and press the **OK** button.



4 Use the ∧ ∨ button to select the desired file name and press the **OK** button.



NOTE

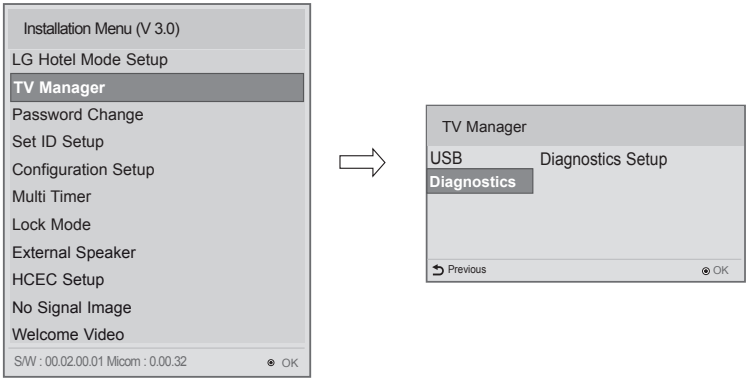
- Splash Image update function supports only JPEG format file of less than 1 MB filesize..
- Except for JPEG images with progressive encoding.
- We recommend you that splash image resolution match the TV`s panel resolution.
- 'Max resolution of splash image : Full HD->1920x1080, HD->1360x768.
- 'Min resolution of splash image : Full HD->64x64, HD->64x64.
- TV keep splash image until you change a new splash image.
- Please do not use the ampersand character(&) and the left angle bracket (<) in the filename to use DZM file on EZ Download."

2. Diagnostics

Diagnostics Setup

Introduction

This diagnostic function provides current status information of the TV in XML file format using a USB device. If the user sets a signal standard level, SignalTrace checks the signal strength status of the digital channel that the user tuned to. It checks and records good and bad channel signals, and then provides the signal information to a USB storage device in XML file format.

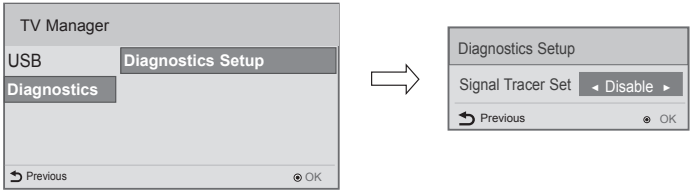


1 Overview Diagnostics

1. It provides status information of the TV and information about the current input in XML file format. (There are two kinds of information. There is information which is extracted regardless of the model, such as the model name or boot version, and there is information which is available depending on the model, such as the micom version, PTC version, etc.). The information created in the XML file can be checked in the TV's UI by pressing 88888888 in the TV's Option menu.
2. If a SignalTrace standard level is set, it saves the average value of the channel signal with less than 30 tuning counts to the digital broadcasting channel. If the count is more than 30, it saves good and bad signals by comparing the average signal value to the current signal strength and signalTrace standard level (SignalTracer Set) value.
   ► Bad signal: BML (average value) > strength (current signal strength) and (BML - strength) > SignalTracer Set
   ► Good signal: BML< strength and (strength - BML) > SignalTracer Set
   It provides the good and bad signals, average signal value, channel information, and date information etc. in USB in XML file format. (Saved in changedSignal_report tag) Up to 127 reports for good and bad signals are saved. If the reports number more than 127, they are written again beginning from 1.

2 Saving some status information of the TV set through USB in XML file format
- Create an LG_SVC folder on the USB on a PC.
- Create an empty file named tv_signal.rms in the LG_SVC folder.
- Insert the USB device into the TV.
- If the "Diagnostics is completed" message is displayed, remove the USB, open the tv_signal.rms file on a PC and check the XML (model name, FirmwareVersion, bootVersion etc.) created within the file.
- The information created in the XML file can be checked in the TV's UI by pressing 88888888 in the TV's Option menu.

3 Saving signal status information of digital channels through SignalTrace in XML format
- Go to Installation menu -> TV Manager -> Diagnostics -> Diagnostics Setup
- Set the level value in Signal Tracer Set. (Disable, 10 to 90)



- Change the channel and tune to a digital channel, then maintain the status for more than 5 seconds.
- Create an empty file named tv_signal.rms in the LG_SVC folder.
- Insert the USB device into the TV.
- If the "Diagnostics is completed" message is displayed, remove the USB, open the tv_signal.rms file on a PC and check XML created in the file.

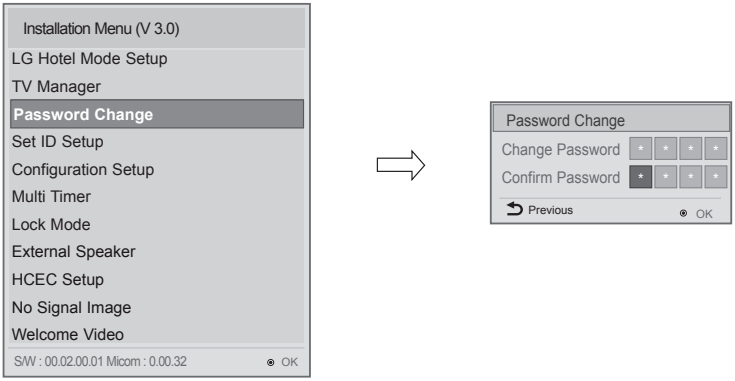
NOTE

- If the user tunes to the same digital channel 30 times, the signal average is calculated. If the tuning count to the same digital channel is more than 30, the good/bad signals, current signal, average signal, date and channel information are saved in changedSignal_report XML tag.
- The information created in SignalTrace is not displayed in the TV's UI.
- In USB cloning, the configured Signal Tracer value is not cloned.
- When a factory reset is performed, Signal Tracer Set is disabled and traced information is deleted.

PASSWORD CHANGE

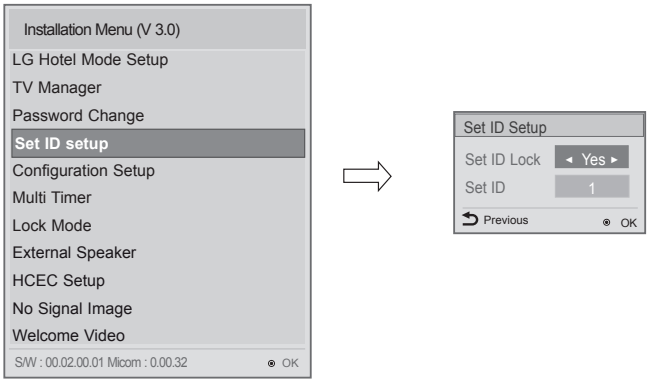
- Image shown may differ from your TV.

  - The changed password is applied to the ‘extra contents’ password.
    (*Only for LX5**H, LX3**H series)



1 Use the ∨ ∧ button to select the Password Change and then press the **OK** button.
2 Enter four digit password.
3 Input the password again for confirmation.

SET ID SETUP



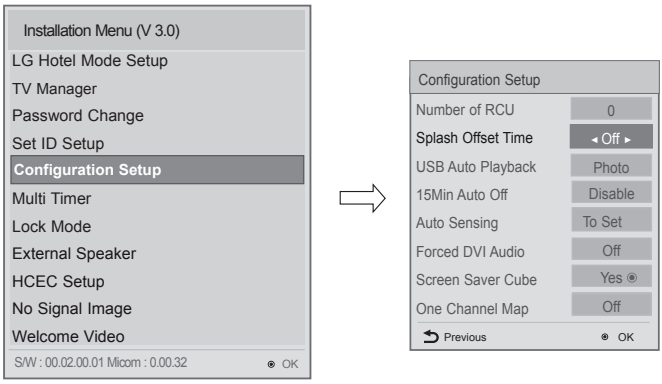
1 Use the ∨ ∧ button to select the Set ID Setup.

- Set ID Lock
  - Set the ‘Set ID’ item in ‘Option’ Menu whether to activate or not.
  - Set to Yes(Work) or No(Do Not Work).

- Set ID
  - Set the ‘Set ID’ of TV Set with 1~99.

CONFIGURATION SETUP

- Image shown may differ from your TV.



1 **Number of RCU**
- It is a function to set whether to use Select RCU or not and set number of RCU.
- When Number of RCU is set to '0', this function do not use.
- Number of RCU value range 1~9
- * RCU(Remote Control Unit) : It is special RCU that operates only setted number of RCU in TV.

2 **Splash Offset Time**
- Set the splash image display time
- When Splash Offset Time is set to 'OFF', TV logo(splash image) do not display.
- The time can be set to between 0 and 10 seconds.

3 **USB Auto Playback**
- When 'USB Auto Playback' is set to 'Movie', TV finds and plays the USB's movie files located at the root(top) directory Movies if USB is plugged in. (Some menu OSDs may prevent this function.)
- When 'USB Auto Playback' is set to 'Photo', TV finds and plays the USB's photo files located at the root(top) directory Photos if USB is plugged in. (Some menu OSDs may prevent this function.)
- If it reaches the last file, it starts the first file again.

4 **15Min Auto Off**
- When '15Min Auto Off' is set to 'Enable', TV will turn off if there is no signal in 15Min.

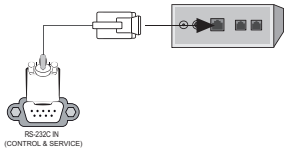
5 **Auto Sensing**
- If 'Auto Sensing' is set to 'To Set ⦿ ', the input is automatically switched when the input signal that you set to 'ON' is received.
- If 'Auto Sensing' is set to 'Disable', the input is not switched when the input signal is received.
- If SIMPLINK is set to On, HDMI is automatically set to Disable and can not work.
- If the signal is removed while Auto Sensing (automatic input switch) is enabled, the 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.
- For the AV input connected using the euro scart cable, Auto Sensing does not work for the TV input because the Auto AV function is enabled.(For other inputs, Auto Sensing works normally.)

6 **Forced DVI Audio** (* Except for LX5**H series)
- When Forced DVI Audio is selected, the audio signal from the HDMI port will be transmitted through the RGB, AV, or Audio In #1 component ports.
- The video signal will be transmitted through HDMI to be displayed on the screen in standard quality.

7 **Screen Saver Cube**
- When 'Screen Saver Cube' is set to 'No', TV will do not display LG Screen Cube.

8 **One Channel Map**
- If 'One Channel Map' is 'YES', the TV will operate as below.
  A. When the TV is auto-scanning, it searches both air and cable channels.
  B. In 'Programme Edit' window, all channels are shown in a single list regardless of input source. (DTV/RADIO/TV) (For satellite supported models, a Satellite input source is also included.)
  C. Select the 'Auto Sort' button in the 'Programme Edit' window to sort channels sequentially.

9 **RS232 DC Power Outlet** (* Only for LX5**H series)
- 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.
- 5V DC Power Outlet and 12V DC Power Outlet must operate mutually exclusively. That is, only one of the two sides must be turned on.
- You can select 'OFF', '5V' or '12V' by pressing < > button.
  - When select '5V' the 5V is forwarded through the port. when select '12V' the 12V is forwarded through the port.



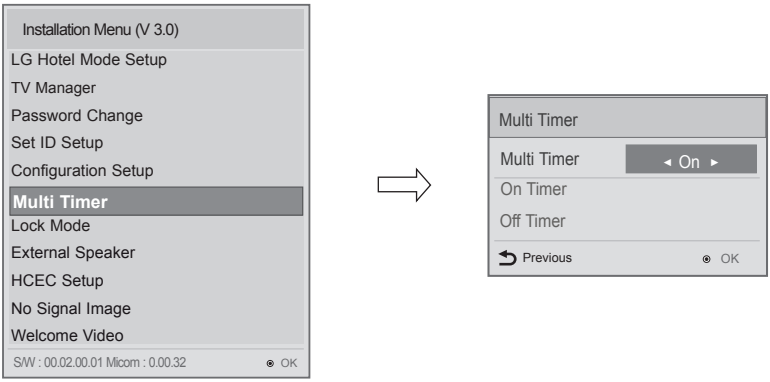
10 DTV Channel Update (* Only for LX5**H series)
- It is a mode to set whether to update dtv channel automatically or not.
  When DTV Channel Update is set to 'Auto', the function to update TV's programme map according to dtv programme's stream information.
  DTV Channel Update is set to 'Manual', the function to keep TV's programme map even though dtv programme's information is changed.

11 Scart Out (* Only for LX5**H series)
- The monitor out signals can or cannot be output through the SCART cable, depending on the setting value of scart out.You can set to Enable or Disable using the < > button. The default value is Enable.

12 Radio Name Display (* Only for LX5**H series)
- Instead of "Audio Only", the name of a radio channel is displayed on the screen when a radio broadcast is playing.
- Set to Yes(Work) or No(Do Not Work).
- If the setting is "Yes", the name of a radio channel is displayed for the radio channel.
- If the setting is "No", the text "Audio Only" is displayed for the radio channel.

13 Instant On (* Only for LX5**H series)
- off: TV will go standby mode whenever TV is powered off.
- Mute Mode: TV will move on WARM mode automatically whenever TV is powered off. Therefor user will feel no booting time.
- Reset Mode: whenever TV is powered off, TV will go standby mode and then move on WARM mode automatically . Therefor user will feel no booting time.
- But Mute Mode & Reset Mode cause more power consumption in power off.

MULTI TIMER



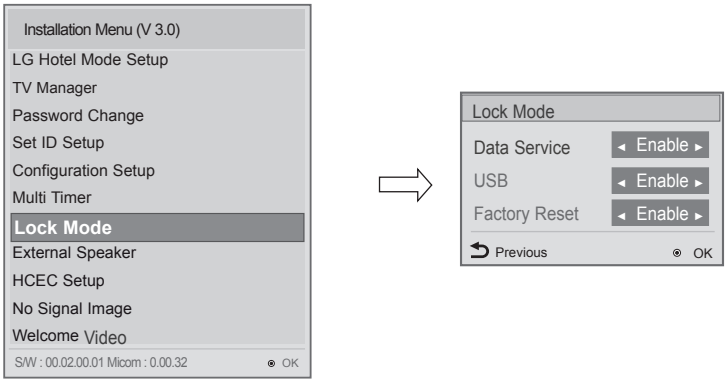
- Use the ∨ ∧ button to select the Multi Timer.

1 **Multi Timer**
- It is a mode to set whether to use or not.
- When ‘Multi Timer’ is set to ‘On’, You can adjust ‘On Timer’, ‘Off Timer’ menu.

2 **On Timer**
- It sets the time for turning the TV on. A maximum of 5 timers can be set.

3 **Off Timer**
- It sets the time for turning the TV off. A maximum of 5 timers can be set.

LOCK MODE

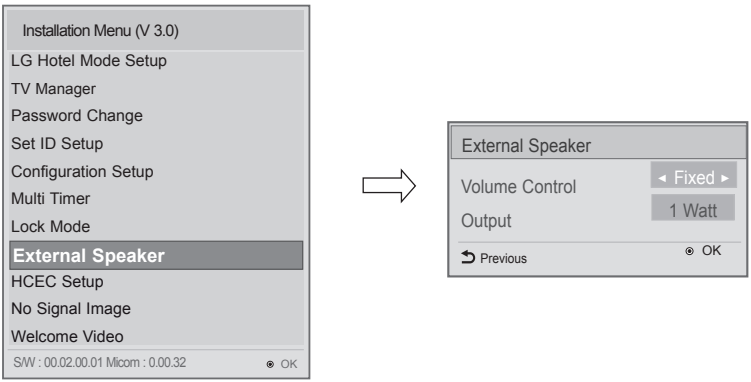


- Use the ∨ ∧ button to select the Lock Mode.

  - If 'Lock Mode' items are disabled, the following features will be unavailable.
    - Data Service(Teletext, EPG, Sub-Title, Caption (Include MPEG4), MHEG)
    - USB Enable(Exclude S/W update)
    - Factory Reset

EXTERNAL SPEAKER

(* Except for LX30* C series)



- Use the ∨ ∧ button to select the External Speaker.

1 **Volume Control**
- Selects the volume control method of an external speaker. You can choose either Ext/Int Variable or
- Fixed. 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.

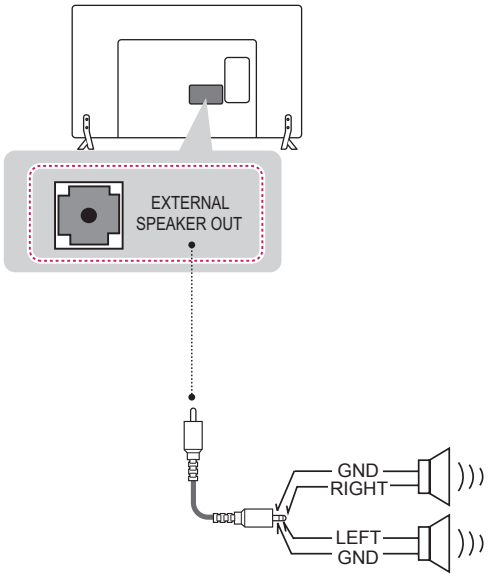
2 **Output**
- This item is enabled when Volume Control is set to Fixed. You can choose one of 7 steps. (0.01/0.03/0.05/0.1/0.2/0.5/1 Watts)

NOTE

- Optical supported models :
  - If You set External Speaker as Variable Output Mode, User cannot select 'External Speaker(Optical)' in Sound-Out menu.
- HeadPhone supported models :
  - External Speaker and HeadPhone can not be used simultaneously.
  - Disconnect Headphone to use External Speaker. External Speaker only works when HeadPhone is disconnected.

SPEAKER OUTPUT SETUP

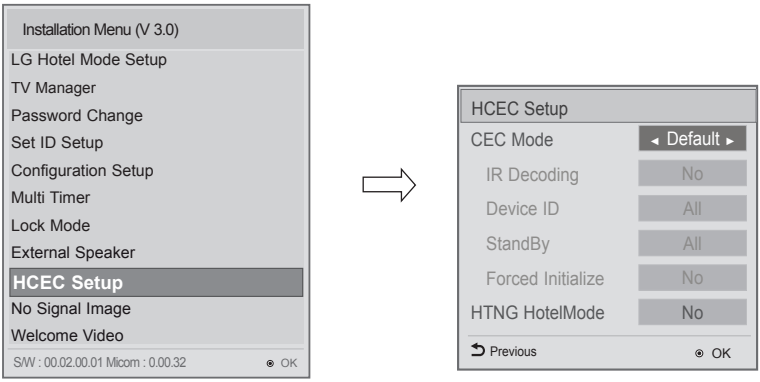
- Connect the external speaker to the external speaker out jack on the TV.



NOTE

- External speaker must be used three plug(SE : Single Ended, Stereo) as shown in the drawings and external speaker fully inserted with external Speaker Jack.
- Otherwise it will cause defect.

HCEC SETUP



- Use the ∨ ∧ button to select the HCEC Setup.

1 **HCEC Setup**

- When 'HCEC Setup' is set to 'HCEC Mode', You can adjust 'IR Decoding', 'Device ID', 'Stand By' menu and SIMPLINK feature automatically changed to the ON state, and the user can not change this status.
  - **IR Decoding**
    - When 'IR Decoding' is set to 'Yes', the TV decodes and changes it into a CEC Message and sends it to Command via the HDMI CEC Line. The default value is No.
  - **Device ID**
    - Sets the ID of a device(Logical Address) connected to the CEC Line. You can choose between 'All' and 'E'.
    - The default value is 'All'.
  - **Stand By**
    - Sets the sending and receiving scenario of the operation about [CEC Op standBy(0x0c) Command(Device Power)].
    - The detailed scenario is described on the table below.

	Send	Receive
Send Only	O	X
Receive Only	X	O
All	O	O
OFF	X	X

2 **HTNG HotelMode**

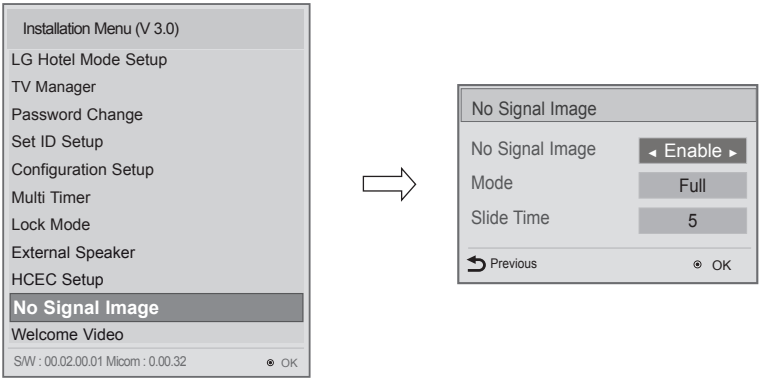
- If the following options are selected because of the HTNG command:
  *Power On Default, Start Volume, Maximum Volume, Minimum Volume, or Start Volume,
  then the value for the HTNG HotelMode changes automatically to Yes and, even if the HotelMode is set to No, the above options are still affected.
- If you change it to No, then the values set by the HTNG will be canceled.

3 **Forced Initialize** (* Only for LX5**H series)

- If 'No' is selected, a command should be sent and received between the TV and a -device for proper initialization.
- If 'Yes' is selected, initialization is implemented when a device receives a command.
  If initialization is not implemented, the TV remote control and local key will work.

NO SIGNAL IMAGE

(* Only for LX5**S series)
- Image shown may differ from your TV.



- This feature allows you to display an image you have stored on the TV instead of the LG Cube when there is no signal due to DTV signal attenuation, external device failure, or cable removal.

1 Select No Signal Image with the ∧ and ∨ buttons and then press the **OK** button.

2 No Signal Image
- Enables or disables No Signal Image.

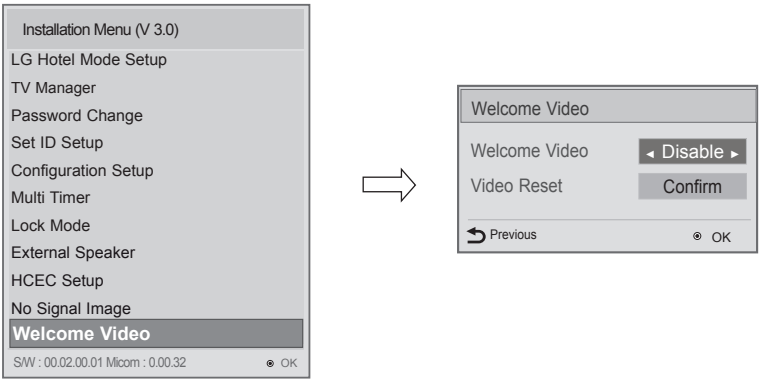
3 Mode
- Select Original, Fit, or Full Mode as the mode for No Signal Image.
  - Original: displays the original size of the image stored on your USB storage.
  - Fit: displays the image at a size that fits the aspect ratio of the TV.
  - Full: displays the image at a size that fits the full screen of the TV.

4 Slide Time
- Select 5, 10, 15, or 20 seconds to display the selected image.

NOTE

- Only images in a JPG file format can be downloaded and displayed.
- The size of the images to be downloaded should not exceed 10 MB. You can select multiple images to download.
- For best results, the resolution of the images downloaded should be 1920*1080 (FHD) or smaller.
- For detailed information about downloading images, go to TV Manager > Ez Download.

WELCOME VIDEO



- This feature allows you to download movies via USB storage to display on your TV after your TV boots up and the boot logo appears.

1 Select Welcome Video with the ∧ and ∨ buttons and then press the **OK** button.

2 Welcome Video
- Enable or disables Welcome Video.

3 Video Reset
- Delete downloaded movies and reset the feature back to default.

NOTE

1 **Operation**
- The video displays after your TV is turned on and the boot logo appears.
- If Welcome Video is enabled and a video is downloaded on the TV, the video plays.
- The time it takes a video to be displayed may differ depending on the decoding time of the video.
- In case of a corrupted or damaged file, the video may abruptly stop without an error displayed.
- The timer features such as Off Timer and Sleep Timer are not available during playback.
- USB Autoplayback starts after the Welcome Video.
- Controls for playing the video are not available. (Pause, stop, fast forward, etc.)

2 **Using the keys**
- Only eight keys(Vol +, Vol -, Mute, OK, Exit, CH up, CH down and Back) can be used while playing video.
- The OK, Exit, CH up, CH down, or Back key can cancel playing a video.

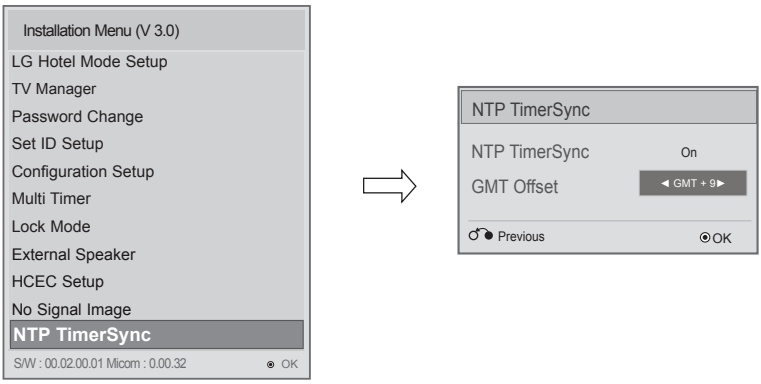
3 **Using RS232C**
- Only the following commands work: KE(mute), KF(volume), and MC(data – volume, mute, ch).

4 **Downloading**
- Videos in any file format that the TV supports can be downloaded and displayed.
- Videos up to 50MB can be downloaded.
- For detailed information about downloading videos, go to TV Manager > Ez Download.
- Please do not use the ampersand character(&) and the left angle bracket (<) in the filename to use DZM file on EZ Download."

NTP TIMER SYNC

(* Only for LX5**S series)
- Image shown may differ from your TV.

- This feature allows you to receive time information via NTP(Network Time Protocol) Time Server to set current clock.



1 Select NTP Timer Sync with the ∧ and ∨ buttons and then press the **OK** button.

2 NTP Timer Sync
- Enable or disables NTP Timer Sync

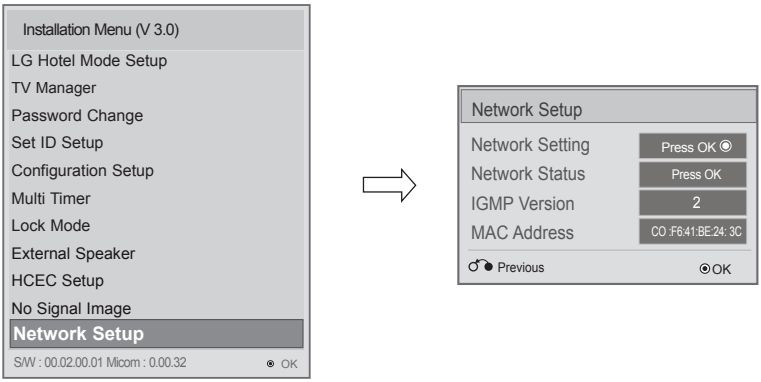
3 GMT Offset
- Set GMT(Greenwich Mean Time) offset(hour) of your location.

NOTE

- The time information is received after your TV is powered on.
- If ‘Current Clock’ setup is available to ‘Auto’ or ’Manual’. Then you select ‘Manual’ to sync Current Clock with NTP Server.
- If You set ‘Current Clock’ arbitrarily. ‘Current Clock’ will be reset and sync to NTP Server after your TV is powered on.

NETWORK SETUP

(* Only for LX5**S series)
- Image shown may differ from your TV.



- Use the ∨ ∧ button to select the Network Setup.

1 Network Setting
- One-click network connection
  - Connects easily to a wired 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).

NOTE

- When connecting via Wired, Configures the IP settings of the TV set. You can set the IP address, subnet mask, gateway and DNS server.

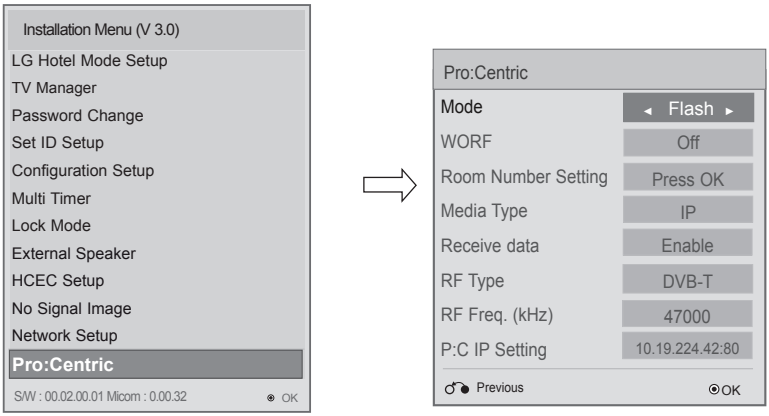
2 Network Status
- You can also check whether the IP settings are configured properly using the Enter button.

3 IGMP Version
- You can set up the IGMP Version. The initial value is version 2, and it can be changed version 3.

4 MAC Address
- Displays the MAC address (not customizable).

PRO:CENTRIC

(* Only for LX5**H, LX3**H series)
- Image shown may differ from your TV.



- Use the ∨ ∧ button to select the Network Setup.

1 Mode
- Sets whether or not enable Pro:Centric and the service method.
- You can set to Off, Flash or GEM using the < > button. The default value is Off; when it is set to Off, all the sub items are disabled.(Except for WORF, Room Number Setting)

2 WORF
- Press the 'OK' button in 'WORF' item to go to the 'WORF' menu.
- When WORF is set to 'On', Hour and Minute items are enabled and then the WORF function is enabled.
- When WORF is set to "Off", "Hour" and "Minute" items are disabled and then the WORF function is disabled.

3 Room Number Setting
- Press the OK button in Room Number Setting item to go to the "Change a room number" menu.
- You can set or change Label and Room Number using the Room Number Setting.

4 Media Type (*LX3**H series do not support IP mode)
- You can set to IP or RF using the < > button.
  - If it is set to IP, RF is disabled.
  - If it is set to RF, P:C IP Setting is disabled.

5 Receive data
- Set to Enable or Diable.
- If the setting is "Enable", receive data via RF or IP.
- If the setting is "No", data carousel is not supported. It can be downloaded via only USB.

6 RF Type
- Sets the RF modulation type to DVB-T or DVB-C. The default value is DVB-T.

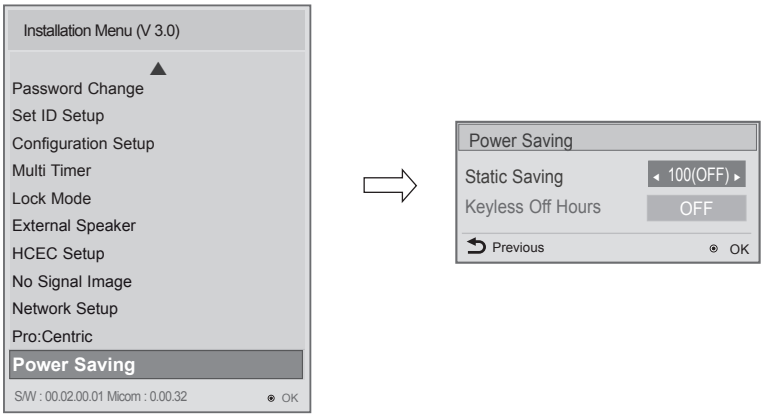
7 RF Freq.(kHz)
- Sets the RF frequency at which the Pro:Centric data is received.
- Frequency tolerance : start frequency~end frequency for each country
- If the RF Type is DVB-T, it can be changed in the range of 47000~890000.
- If the RF Type is DVB-C, it can be changed in the range of 46000~862000.

8 P:C IP Setting
- It can be set using the < > button or number buttons.
  - (IP a) : Sets the first number in the IPv4 address.
  - (IP b) : Sets the second number in the IPv4 address.
  - (IP c) : Sets the third number in the IPv4 address.
  - (IP d) : Sets the fourth number in the IPv4 address.
  - (Port) : Sets the actual port number where the Pro:Centric server is running. It can be set using the < > or number buttons.
- The default value of IP a/b/c/d is 0 and the range is between 0 and 255. The default value of Port is 80 and the range is between 0 and 65535.

9 Navetive EPG
- Set to Enable or Diable.
- When set to Enable, Native EPG feature can be used.
- When set to Disable, Native EPG feature cannot be used.
- The feature is set to Disable as default.

POWER SAVING

(* Only for LX5**H series)
- Image shown may differ from your TV.



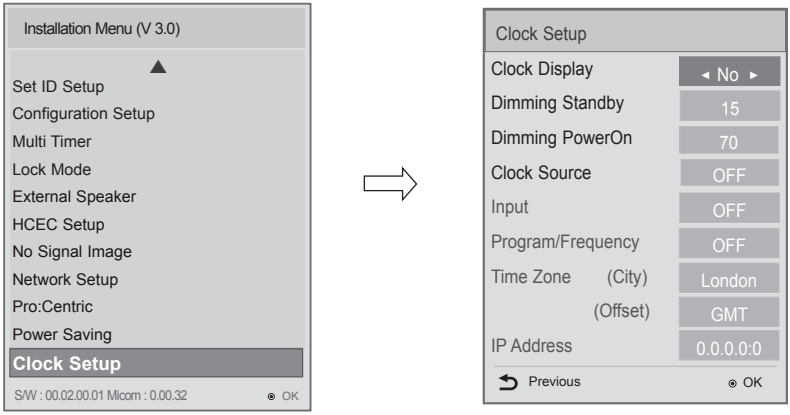
1 Press the ∨ ∧ button to select the Power Saving.

- **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.
  - Set the 'OFF', '1~99'.

CLOCK SETUP

(* Only for LX5**H series)
- Image shown may differ from your TV.



1 Press the ∨ ∧ button to select the Power Saving.

2 You can select 'YES' or 'NO' by pressing < > button.

- After selecting '**YES**', you can see the LED Clock TV.
  - Standby Dimming value Range: 0~15
  - PowerOn Dimming value Range: 0~99
- **Clock Source** : You can select 'Off', 'TV', 'Pro:Centric' by pressing < > button.

- **Input** : Select a specific source to receive time information from. When the Clock Source is set to TV, the available options are: Off, ATV, DTV, RADIO, CATV, CADTV, CA-Radio, SDTV, and S-Radio. When it is set to Pro:Centric, the available options are RF and IP. If RF is selected, you can set the Program/Frequency to receive time information. If IP is selected, the Program/Frequency option is disabled. You can set the IP address and port number to receive time information.

- **Program/Frequency** : Select the program number or frequency to get the time information when tuning on TV. If the current setting for clock source is 'DTV', you can get the clock information when selecting the decided source and program. If the current setting for clock source is 'ATV', you can get the clock information of teletext at the number of program. Set up the program in accordance with the condition of the hotel clock source.

- **Time Zone** : The city corresponding to the state designated in the TV settings is set as default. You can change the selected city to Offset. If the selected city is changed to Offset, you can change the time value from GMT+12 to GMT-11.

- **IP Address** : You can set the IP address and port number to receive time information.

NOTE

- Options of Clock Display, Dimming Standby and Dimming PowerOn are only available for the models that support the external LED clock.
- For clock setup, select 'YES' for Clock Display only if the LED clock is connected to your TV. If you do not use the LED clock, select 'NO' for Clock Display. If you connect an external device, other than the LED clock, to the port for the LED clock connection on the TV, it may cause damage to the TV.
- If the current setting for clock source is 'Pro:Centric', 'City' and 'Offset' deactivates.

DOWNLOAD EXTRA CONTENTS

(* Only for LX5**H, LX3**H series)

Download Extra Contents(flash file) toTV set

- The Pro:Centric application can be downloaded to your TV.

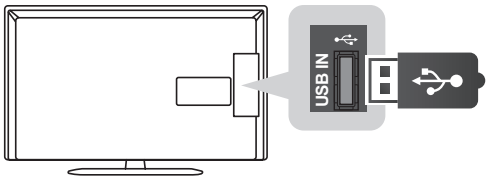
FLASH (*.SWF) / GEM supporting file

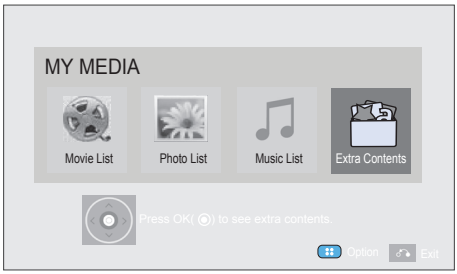
An SWF file complied with Flash Lite 3.0 or earlier (the 3.0 version is recommended)

- **Mode** must be set to **Flash** or **GEM** under **Pro:Centric** in **Installation Menu**.
- The folder called /hcapfs/as/abs_service/ must exist in USB drive root directory.
- The file called xait.xml must exist in the /hcapfs/as/abs_service/ folder.
- The file called I_AM_FLASH must exist in the /hcapfs/config/ folder with **Flash** mode.The file called I_AM_GEM must exist in the /hcapfs/config/ folder with **GEM** mode.
- You will have no response even if selecting **Yes** in step 3 when the above conditions are not met.

- Image shown may differ from your TV.

- Connect the USB device to the USB IN jack on the TV.





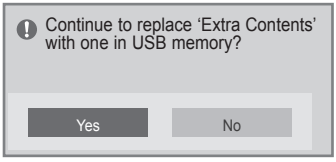
1 Select **Extra Contents**.

2 Enter a four digit password.
- The TV is set with the initial password “1-1-0-5”.

NOTE

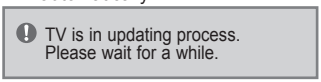
- You can not select the Extra Contents in MY MEDIA when the Mode under Pro:Centric in Installation Menu is set to OFF.

3



Select ‘**Yes**’.

4 Wait till the download process is completed. After completion of download, TV set will restart automatically.



5 You can see a new Application File on TV.



To stop playing the Application file

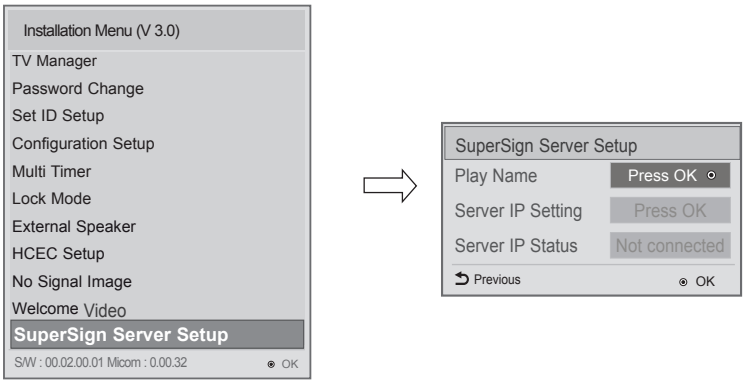
- Change Mode other than Flash or GEM under Pro:Centric in Installation Menu.
- When you change the Mode, the downloaded content is deleted from the memory.

NOTE

- When playing the Application file(FLASH or GEM file), the buttons are controlled according to the settings of the Extra Contents option.

SUPERSIGN SERVER SETUP

(* Only for LX5**S series)



- Use the ∨ ∧ button to select the SuperSign Server Setup.

1 Play Name

- You can set the name of a player you want to control in SuperSign Manager. (Up to 20 characters.)

2 Server IP Setting

- You can set the IP address of the computer (server) on which SuperSign Manager is installed.

3 Server IP Status

- It displays the connection status with the server.
  - Not connected: Your TV is not connected to the SuperSign server.
  - Waiting for Approval: Your TV is connected to the SuperSign server but not yet approved.
  - Rejected: Your TV is connected to the SuperSign server but has been rejected.
  - Connected: Your TV is connected to the SuperSign server and has been approved.

IR CODES

- This feature is not available for all models.

Code (Hexa)	Function	Note
08	⏻ (POWER)	Remote control Button (Power On/Off)
F0	TV/RAD	Remote control Button
39	SUBTITLE	Remote control Button
91	AD	Remote control Button
79	RATIO	Remote control Button
0B	INPUT	Remote control Button
10-19	Number Key 0-9	Remote control Button
53	LIST	Remote control Button
1A	Q.VIEW	Remote control Button
02	◿ +	Remote control Button
03	◿ -	Remote control Button
1E	FAV	Remote control Button
AB	GUIDE	Remote control Button
09	MUTE	Remote control Button
00	P ∧ / PAGE ∧	Remote control Button
01	P ∨ / PAGE ∨	Remote control Button
20	TEXT	Remote control Button
21	T.OPT(T. Option)	Remote control Button
43	SETTINGS	Remote control Button
45	Q.MENU	Remote control Button
AA	INFO	Remote control Button
5B	EXIT	Remote control Button
28	BACK ⮌	Remote control Button
44	OK	Remote control Button
40	^	Remote control Button
41	v	Remote control Button
07	<	Remote control Button
06	>	Remote control Button
72	RED	Remote control Button
71	GREEN	Remote control Button
63	YELLOW / − ☼	Remote control Button
61	BLUE / ☼ +	Remote control Button
B1	■	Remote control Button
B0	▶	Remote control Button
BA	⏸	Remote control Button
8E	▶▶	Remote control Button
8F	◀◀	Remote control Button
7E	SIMPLINK	Remote control Button
30	AV MODE	Remote control Button
E8	ALARM	Remote control Button
0C	PORTAL	Remote control Button
95	ENERGY SAVING	Remote control Button

EXTERNAL CONTROL DEVICE SETUP

RS-232C Setup

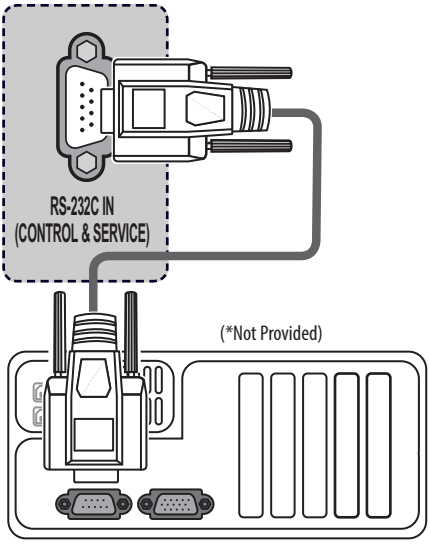
- Image shown may differ from your TV.

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.

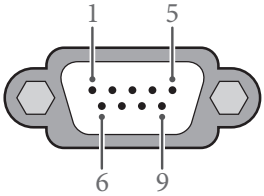
Connect the serial port of the control device to the RS-232C jack on the product back panel.

NOTE

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



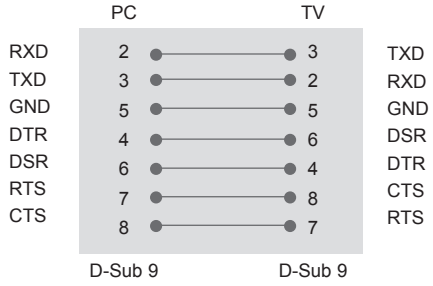
Type of Connector : D-Sub 9-Pin Male



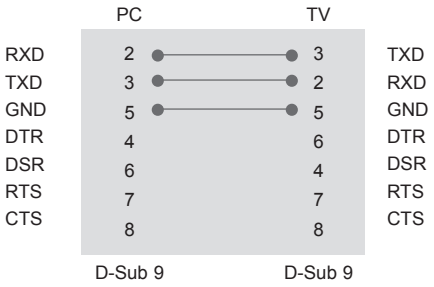
No.	Pin name
1	3.5 V
2	RXD (Receive data)
3	TXD (Transmit data)
4	IR OUT from TV
5	GND
6	No Connection
7	No Connection (5 V available in LX54*H, LX53*H)
8	No Connection
9	No Connection (12 V available in LX54*H, LX53*H)

RS-232C Configurations

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



3-Wire Configurations (Not standard)



Set ID

Set ID number. "**Real Data Mapping**".

1 Press **SETTINGS** or **HOME** to access the main menus.
2 Press the Navigation buttons to scroll to **OPTION** and press **OK**.
3 Press the Navigation buttons to scroll to **Set ID** and press **OK**.
4 Scroll left or right to select a set ID number and select **Close**. The adjustment range is 1-99.
5 When you are finished, press **EXIT**.

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. 50)
03. Screen Mute	k	d	(See p. 50)
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	00 to 05

16. Auto Configuration	j	u	01
17. Equalize	j	v	(See p. 52)
18. Tune Command	m	a	(See p. 52)
19. Programme Add/Skip	m	b	00 to 01
20. Key	m	c	(See p. 52)
21. Control Back Light	m	g	00 to 64
22. Input select (Main)	x	b	(See p. 53)

NOTE

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

Transmission / Receiving Protocol

* Commands may work differently Depending upon model and signal

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 (0x0 to 0x63) on transmission/receiving protocol.

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

[Cr] : Carriage Return
ASCII code '0x0D'

[ ] : ASCII code 'space (0x20)'

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 : 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 '0xFF' 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.

02. 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)
02 : Wide screen (16:9)
04 : Zoom
06 : Original
07 : 14:9
09 : Just Scan
0B : Full Wide
10 to 1F : Cinema Zoom 1 to 16

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 50Hz / 60 Hz, 1080p 24 Hz / 30 Hz / 50 Hz / 60 Hz), Component(720p, 1080i, 1080p 50 Hz / 60 Hz) mode, Just Scan is available.
* Full Wide is supported only for Digital, Analogue(EU only), AV(EU only).

03. 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.

04. 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]

05. 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’. See p. 53.

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

06. 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’. See p. 53.

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

07. 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’. See p. 53.

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

08. 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’. See p. 53.

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

09. 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’. See p. 53.

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’. See p. 53.

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’. See p. 53.

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’. See p. 53.

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 Configure (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]

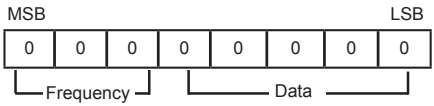
Data 01 : To set

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

17. Equalizer (Command : j v)

► To adjust 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

Data02 : [Antena]
0x00 : Analog Main
0x10 : DTV Main
0x20 : Radio

[Cable]
0x80 : Analog Main
0x90 : DTV Main
0xA0 : Radio

[Satellite]
0x40 : DTV Main
0x50 : Radio Main

Channel data range
Min: 00 Max: 270F (0 to 9999)

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

Data Min: 00 to Max: 7DH

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 Key code - See p. 46.

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

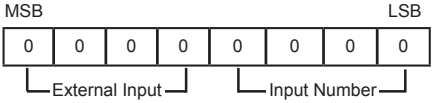
Ack [g][ ][Set ID][ ][OK/NG][Data][x]

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]

*** Real data mapping**

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


LG
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