OWNER'S MANUAL

Safety and Reference

LED TV*
*LG LED TV applies LCD screen with LED backlights.

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

28TK420S 24TL520S 24TL510S
28TL520S 28TL510S

www.lg.com

Copyright © 2019 LG Electronics Inc. All Rights Reserved.

Table of contents

Licenses ---------- **3**

Open source software notice information ---------- **3**

Preparing ---------- **3**

Lifting and moving the TV ---------- **4**

Setting up the TV ---------- **4**

Using the button ---------- **5**

Mounting on a table ---------- **6**

Mounting on a wall ---------- **7**

Connections (notifications) ---------- **8**

Remote control ---------- **9**

Maintenance ---------- **11**

Troubleshooting ---------- **11**

Specifications ---------- **12**

Licenses

Supported licenses may differ by model. For more information about licenses, visit *www.lg.com*.

HIGH-DEFINITION MULTIMEDIA INTERFACE

Open source software notice information

To obtain the source code under GPL, LGPL, MPL, and other open source licenses, that is contained in this product, please visit *http://opensource.lge.com*.

In addition to the source code, all referred license terms, warranty disclaimers and copyright notices are available for download.

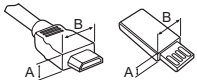
LG Electronics will also provide open source code to you on CD-ROM for a charge covering the cost of performing such distribution (such as the cost of media, shipping, and handling) upon email request to *opensource@lge.com*.

This offer is valid for a period of three years after our last shipment of this product. This offer is valid to anyone in receipt of this information.

Preparing

NOTE

- Image shown may differ from your TV.
- Your TV's OSD (On Screen Display) may differ slightly from that shown in this manual.
- The available menus and options may differ from the input source or product model that you are using.
- New features may be added to this TV in the future.
- The TV can be placed in standby mode in order to reduce the power consumption. And the TV should be turned off if it will not be watched for some time, as this will reduce energy consumption.
- The energy consumed during use can be significantly reduced if the level of brightness of the picture is reduced, and this will reduce the overall running cost.
- The items supplied with your product may vary depending on the model.
- Product specifications or contents of this manual may be changed without prior notice due to upgrade of product functions.
- For an optimal connection, HDMI cables and USB devices should have bezels less than 10 mm thick and 18 mm width. Use an extension cable that supports USB 2.0 if the USB cable or USB memory stick does not fit into your TV's USB port.



*A ≦ 10 mm
*B ≦ 18 mm

- Use a certified cable with the HDMI logo attached. If you do not use a certified HDMI cable, the screen may not display or a connection error may occur.
- Recommended HDMI cable types
  - High-Speed HDMI®/™ cable
  - High-Speed HDMI®/™ cable with Ethernet

CAUTION

- Do not use any unapproved items to ensure the safety and product life span.
- Any damage or injuries caused by using unapproved items are not covered by the warranty.

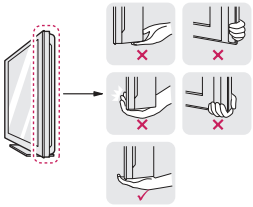
Lifting and moving the TV

Please note the following advice to prevent the TV from being scratched or damaged and for safe transportation regardless of its type and size.

- It is recommended to move the TV in the box or packing material that the TV originally came in.
- Before moving or lifting the TV, disconnect the power cord and all cables.
- When holding the TV, the screen should face away from you to avoid damage.



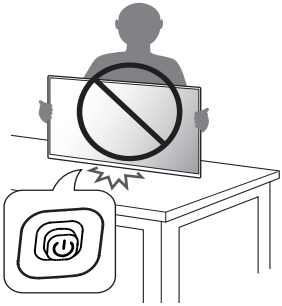
- Hold the top and bottom of the TV frame firmly. Make sure not to hold the transparent part, speaker, or speaker grill area.



- When transporting the TV, do not expose the TV to jolts or excessive vibration.
- When transporting the TV, keep the TV upright, never turn the TV on its side or tilt towards the left or right.
- Do not apply excessive pressure to cause flexing/bending of frame chassis as it may damage screen.

⚠ CAUTION

- Avoid touching the screen at all times, as this may result in damage to the screen.
- When handling the TV, be careful not to damage the protruding joystick button. (Depending on model)



Setting up the TV

⚠ CAUTION

- When attaching the stand to the TV set, place the screen facing down on a cushioned table or flat surface to protect the screen from scratches.
- Do not carry the TV upside-down by holding the stand body (or stand base) as this may cause it to fall off, resulting in damage or injury.
- Do not apply foreign substances (oils, lubricants, etc.) to the screw parts when assembling the product. (Doing so may damage the product.)

NOTE

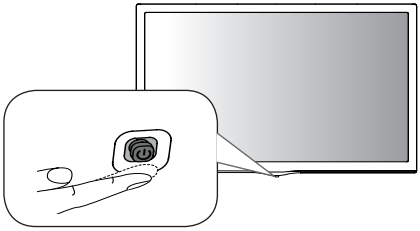
- Remove the stand before installing the TV on a wall mount by performing the stand attachment in reverse. (Only TK420S/TL520S)
- Lift up the latch at the bottom of the stand base and detach the stand base from the TV. (Only TL510S)

Using the button

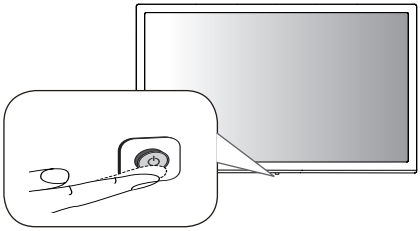
You can simply operate the TV functions, using the button. (Depending on model)

- Image shown may differ from your TV.

<TK420S>



<TL520S/TL510S>



Basic functions

<TK420S>

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

1 If the menu button is on the screen, pressing and holding the button will let you exit the menu.

NOTE

- If you press the joystick button first, you may not be able to adjust the volume level and saved programmes.

CAUTION

- With your finger on the joystick button, when moving it up, down, left or right be careful not to press the button in.

<TL520S/TL510S>

	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.

Adjusting the menu

When the TV is turned on, press the button one time. You can adjust the menu items using the buttons. (Depending on model)

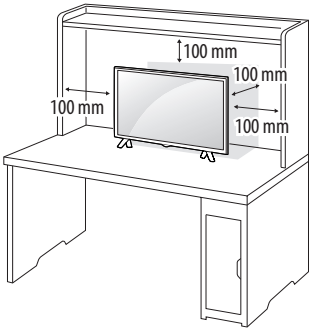
	Turns the power off.
	Accesses the setting menu.
	Clears on-screen displays and returns to TV viewing.
	Changes the input source.
	Scrolls through the saved programmes.
	Adjusts the volume level.

ENGLISH

Mounting on a table

- Image shown may differ from your TV.

1 Lift and tilt the TV into its upright position on a table.
  - Leave a 100 mm (minimum) space from the wall for proper ventilation.



2 Connect the AC-DC Adapter and power cord to a wall outlet.

CAUTION

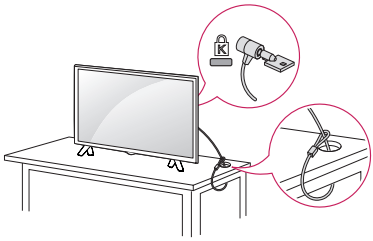
- Do not place the TV near or on sources of heat, as this may result in fire or other damage.
- Please be sure to connect the TV to the AC/DC power adapter before connecting the TV's power plug to a wall power outlet.

Using the kensington security system

(This is not available for all models.)

- Image shown may differ from your TV.

The Kensington security system connector is located at the rear of the TV. For more information of installation and using, refer to the manual provided with the Kensington security system or visit *http://www.kensington.com.* Connect the Kensington security system cable between the TV and a table.

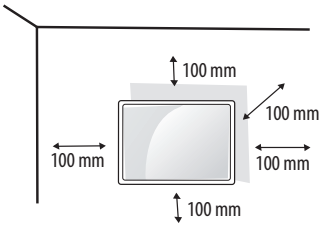


NOTE

- The Kensington security system is optional. You can obtain additional accessories from most electronics stores.

Mounting on a wall

For proper ventilation, allow a clearance of 100 mm on each side and from the wall. Detailed installation instructions are available from your dealer, see the optional Tilt Wall Mounting Bracket Installation and Setup Guide.



If you intend to mount the TV to a wall, attach Wall mounting interface (optional parts) to the back of the TV.

When you install the TV using the wall mounting interface (optional parts), attach it carefully so it will not drop.

1 If you use screw longer than standard, the TV might be damaged internally.

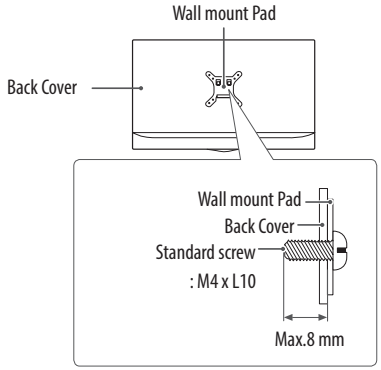
2 If you use improper screw, the product might be damaged and drop from mounted position. In this case, LG Electronics is not responsible for it.

Separate purchase (Wall mounting bracket)

Model	24TL520S 24TL510S	28TK420S 28TL520S 28TL510S
Wall mount (A x B) (mm) 	75 x 75	100 x 100
Standard screw	M4 x L10	
Number of screws	4	
Wall mount bracket (optional)	RW120	

CAUTION

- Must use the enclosed screw in the box. (Depending on model)
- Disconnect the power first, and then move or install the TV. Otherwise electric shock may occur.
- If you install the TV on a ceiling or slanted wall, it may fall and result in severe injury.
- Use an authorized LG wall mount and contact the local dealer or qualified personnel.
- Do not over tighten the screws as this may cause damage to the TV and void your warranty.
- Use the screws and wall mounts that meet the VESA standard. Any damages or injuries by misuse or using an improper accessory are not covered by the warranty.
- Screw length from outer surface of back cover should be under 8 mm.



NOTE

- Use the screws that are listed on the VESA standard screw specifications.
- The wall mount kit includes an installation manual and necessary parts.
- The wall mount bracket is optional. You can obtain additional accessories from your local dealer.
- The length of screws may differ depending on the wall mount. Be sure to use the proper length.
- For more information, refer to the instructions supplied with the wall mount.

Connections (notifications)

Connect various external devices to the TV and switch input modes to select an external device. For more information about an external device's connection, refer to the manual supplied with each device. Available external devices are: HD receivers, DVD players, VCRs, audio systems, USB storage devices, PC, gaming devices, and other external devices.

NOTE

- The external device connection may differ from the model.
- Connect external devices to the TV regardless of the order of the TV port.
- If you record a TV programme on a DVD recorder or VCR, make sure to connect the TV signal input cable to the TV through a DVD recorder or VCR. For more information of recording, refer to the manual provided with the connected device.
- Refer to the external equipment's manual for operating instructions.
- If you connect a gaming device to the TV, use the cable supplied with the gaming device.
- In PC mode, there may be noise associated with the resolution, vertical pattern, contrast or brightness. If noise is present, change the PC output to another resolution, change the refresh rate to another rate or adjust the brightness and contrast on the [Picture] menu until the picture is clear.
- In PC mode, some resolution settings may not work properly depending on the graphics card.

Antenna connection

Connect the TV to a wall antenna socket with an RF cable (75 Ω) (Not Provided).

- Use a signal splitter to use more than 2 TVs.
- If the image quality is poor, install a signal amplifier properly to improve the image quality.
- If the image quality is poor with an antenna connected, try to realign the antenna in the correct direction.
- An antenna cable and converter are not supplied.
- Supported DTV Audio : MPEG, Dolby Digital, Dolby Digital Plus, HE-AAC

Satellite dish connection

(Only satellite models)

Connect the TV to a satellite dish to a satellite socket with a satellite RF cable (75 Ω).

CI module connection

(Depending on model)

View the encrypted (pay) services in digital TV mode.

- Check if the CI module is inserted into the PCMCIA card slot in the right direction. If the module is not inserted properly, this can cause damage to the TV and the PCMCIA card slot.
- If the TV does not display any video and audio when CI+ CAM is connected, please contact to the Terrestrial/Cable/Satellite Service Operator.

PC connection

When connecting your PC to the HDMI input, set the HDMI input's [Input Label] to [PC]

(INPUT) (Remote control) ⇨ **[All Inputs]** ⇨ **[EDIT ICON]** ⇨ **[PC]**

Other connections

Connect your TV to external devices. For the best picture and audio quality, connect the external device and the TV with the HDMI cable. Some separate cable is not provided.

- Supported HDMI Audio format:
  Dolby Digital / Dolby Digital Plus (32 kHz, 44.1 kHz, 48 kHz), DTS (44.1 kHz, 48 kHz), PCM (32 kHz, 44.1 kHz, 48 kHz, 96 kHz, 192 kHz) (Depending on model)

Remote control

The descriptions in this manual are based on the buttons on the remote control. Please read this manual carefully and use the TV correctly.

To replace batteries, open the battery cover, replace batteries (1.5 V AAA) matching the ⊕ and ⊖ ends to the label inside the compartment, and close the battery cover. To remove the batteries, perform the installation actions in reverse.

⚠ CAUTION

- Do not mix old and new batteries, as this may damage the remote control.
- The remote control will not be included for all sales market.

Make sure to point the remote control toward the remote control sensor on the TV.



(Some buttons and services may not be provided depending on models or regions.)

1 To use the button, press and hold for more than 3 seconds.

(Power) Turns the TV on or off.

TV/RAD Selects Radio, TV and DTV programme.

(INPUT) Changes the input source.

(Q.Settings) Accesses the Quick Settings.

LIVE ZOOM By zooming in on the selected area, you can view it in full screen.

SUBTITLE Recalls your preferred subtitle in digital mode.

Number buttons Enters numbers.

Alphabet buttons Enters letters.

LIST Accesses the saved programme list.

(Space) Opens an empty space on the screen keyboard.

GUIDE Shows programme guide.

QUICK ACCESS[1] You can access apps or Live TV using the number buttons corresponding to the features.

+ ◿ — Adjusts the volume level.

INFO Views the information of the current programme and screen.

(SEARCH) Search for content such as TV programmes, movies and other videos, or perform a web search by entering text in the search bar.

(MUTE) Mutes all sounds.

(MUTE)[1] Accesses the [Accessibility] menu.

∧**P**∨ Scrolls through the saved programmes.

∧**PAGE**∨ Moves to the previous or next screen.

 # Streaming Service buttons Connects to the Video Streaming Service.

(HOME) Shows the Home menu.

(HOME)[1] Shows the previous history.

BACK Returns to the previous level.

EXIT Clears on-screen displays and returns to TV viewing.

Navigation buttons (up/down/left/right) Scrolls through menus or options.

OK Selects menus or options and confirms your input.

Teletext buttons (TEXT / T.OPT) These buttons are used for teletext.

MAGIC LINK[1] Provides content related to the program you are currently watching.

AD Audio descriptions function will be enabled.

● REC/∗ Starts to record and displays record menu.
(Only Time Machine[Ready] supported model)

LIVE TV Returns to LIVE TV.

Control buttons (■, ◀◀, ▶, ❚❚, ▶▶) Controls media contents.

(•), (••), (⁂), (⠿) These access special functions in some menus.

Maintenance

Cleaning your TV

Clean your TV regularly to keep the best performance and to extend the product lifespan.

- Make sure to turn the power off and disconnect the power cord and all other cables first.
- When the TV is left unattended and unused for a long time, disconnect the power cord from the wall outlet to prevent possible damage from lightning or power surges.

Screen, frame, cabinet and stand

To remove dust or light dirt, wipe the surface with a dry, clean, and soft cloth.

To remove major dirt, wipe the surface with a soft cloth dampened in clean water or a diluted mild detergent. Then wipe immediately with a dry cloth.

- Avoid touching the screen at all times, as this may result in damage to the screen.
- Do not push, rub, or hit the screen surface with your fingernail or a sharp object, as this may result in scratches and image distortions.
- Do not use any chemicals as this may damage the product.
- Do not spray liquid onto the surface. If water enters the TV, it may result in fire, electric shock, or malfunction.

Power cord

Remove the accumulated dust or dirt on the power cord regularly.

Preventing "Image burn" or "Burn-in" on your TV screen

- If a fixed image displays on the TV screen for a long period of time, it will be imprinted and become a permanent disfigurement on the screen. This is "image burn" or "burn-in" and not covered by the warranty.
- If the aspect ratio of the TV is set to 4:3 for a long period of time, image burn may occur on the letterboxed area of the screen.
- Avoid displaying a fixed image on the TV screen for a long period of time (2 or more hours for LCD) to prevent image burn.

Troubleshooting

Cannot control the TV with the remote control.

- Check the remote control sensor on the product and try again.
- Check if there is any obstacle between the product and the remote control.
- Check if the batteries are still working and properly installed (⊕ to ⊕, ⊖ to ⊖).

No image display and no sound is produced.

- Check if the product is turned on.
- Check if the power cord is connected to a wall outlet.
- Check if there is a problem in the wall outlet by connecting other products.

The TV turns off suddenly.

- Check the power control settings. The power supply may be interrupted.
- Check if the [Sleep Timer] / [Timer Power Off] is activated in the [Timers] settings.
- Check if the [Auto Power Off] is activated in the [General] ⇨ [Eco Mode] settings. (Depending on model)
- If there is no signal while the TV is on, the TV will turn off automatically after 15 minutes of inactivity.

When connecting to the PC (HDMI), [No Signal] or [Invalid Format] is displayed.

- Turn the TV off/on using the remote control.
- Reconnect the HDMI cable.
- Restart the PC with the TV on.

Specifications

Product specifications may be changed without prior notice due to upgrade of product functions.

Models	Dimensions (W x H x D) (mm)		Weight (kg)		Power consumption	Power requirement
	With stand	Without stand	With stand	Without stand		
28TK420S	641.5 x 428.7 x 159.2	641.5 x 396.3 x 59.5	4.6	4.5	28 W	19 V ⎓ 2.0 A
24TL520S	563.1 x 367 x 150.1	563.1 x 340.9 x 58	3.3	3.25	25 W	19 V ⎓ 2.0 A
28TL520S	649.4 x 420 x 150.1	649.4 x 393.8 x 61.4	4.55	4.5	28 W	19 V ⎓ 2.0 A
24TL510S	563.1 x 393.8 x 148.6	563.1 x 340.9 x 58	3.6	3.25	25 W	19 V ⎓ 2.0 A
28TL510S	649.4 x 447.8 x 187.5	649.4 x 393.8 x 61.4	4.95	4.5	28 W	19 V ⎓ 2.0 A

Wireless module specification

- As band channels can vary per country, the user cannot change or adjust the operating frequency. This product is configured for the regional frequency table.
- For consideration of the user, this device should be installed and operated with a minimum distance of 20 cm between the device and the body.

CE

Wireless LAN module(LGSWFAC71) Specification	
Wireless LAN (IEEE 802.11a/b/g/n/ac)	
Frequency Range	Output Power(Max.)
2400 to 2483.5 MHz	13 dBm
5150 to 5725 MHz	16.5 dBm
5725 to 5850 MHz (Not for EU)	10 dBm

* "IEEE 802.11ac" is not available in all countries.

AC/DC Adapter	Manufacturer: Lien Chang Model: LCAP16B-E, LCAP21C Manufacturer: Honor Model: ADS-45FSN-19 19040GPG, ADS-45SN-19-3 19040G
	In: AC 100 – 240 V ~ 50/60 Hz Out: DC 19 V ⎓ 2.1 A

CI module Size (W x H x D)	100.0 mm x 55.0 mm x 5.0 mm

Environment condition	**Operating Temperature**	0 ℃ to 40 ℃
	Operating Humidity	Less than 80 %
	Storage Temperature	-20 ℃ to 60 ℃
	Storage Humidity	Less than 85 %

(Depending on country)

	Digital TV			**Analogue TV**
	Satellite	**Terrestrial**	**Cable**	**Terrestrial / Cable**
Television system	DVB-S/S2*	DVB-T DVB-T2*	DVB-C	PAL/SECAM B/G, D/K, I,SECAM L
Programme coverage	950 ~ 2150 Mhz	VHF III : 174 ~ 230 Mhz UHF IV : 470 ~ 606 Mhz UHF V : 606 ~ 862 Mhz S Band II : 230 ~ 300 Mhz S Band III : 300 ~ 470 Mhz	46 ~ 890 Mhz	46 ~ 862 Mhz
Maximum number of storable programmes	6000	2000		
External antenna impedance	75 Ω			

* Only DVB-T2/C/S2 support models.

WARNING!

Never place a television set in an unstable location. A television set may fall, causing serious personal injury or death. Many injuries, particularly to children, can be avoided by taking simple precautions such as:

- Using cabinets or stands recommended by the manufacturer of the television set.
- Only using furniture that can safely support the television set.
- Ensuring the television set is not overhanging the edge of the supporting furniture.
- Not placing the television set on tall furniture (for example, cupboards or bookcases) without anchoring both the furniture and the television set to a suitable support.
- Not placing the television set on cloth or other materials that may be located between the television set and supporting furniture.
- Educating children about the dangers of climbing on furniture to reach the television set or its controls.

If your existing television set is being retained and relocated, the same considerations as above should be applied.

Symbols

~	Refers to alternating current(AC).
⎓	Refers to direct current(DC).
⧈	Refers to class II equipment.
⏻	Refers to stand-by.
|	Refers to "ON" (power).
⚡	Refers to dangerous voltage.



The model and serial number of the product are located on the back and on one side of the product.
Record them below in case you ever need service.

MODEL _____

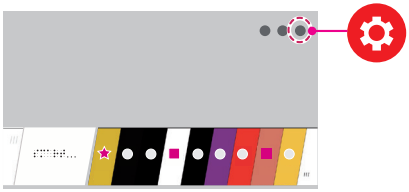
SERIAL No. _____

SMART TV Quick Setup Guide

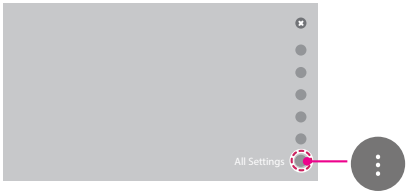
* Image shown may differ from your TV.
* Image shown on a PC or mobile phone may vary depending on the OS(Operating System).
* App icon positions may vary on the platform, depending on the software version.

Network Settings

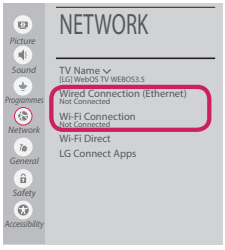
1 Press the **(Home)** button on the remote to access the Home menu. Point the **(Settings)** icon and select by pressing the **Wheel (OK)** button on the remote.



2 Point the **(All Settings)** icon and select by pressing the **Wheel (OK)** button on the remote.



3 Select the **Network** → **Wired Connection (Ethernet)** or **Wi-Fi Connection**.

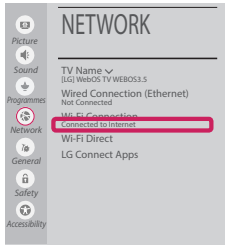


4 The device automatically tries to connect to the network available (wired network first).
When you select the **Wi-Fi Connection**, the network list available is displayed. Choose the network you wish to use.



For wireless AP (Router) that have the symbol, you need to enter the security key.

5 If the connection is successful, the "**Connected to Internet**" is displayed.



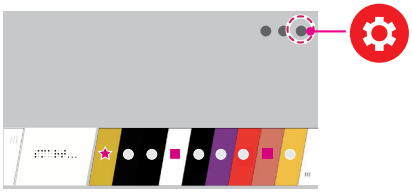
You can check the status of connection in **Advanced Wi-Fi settings**.



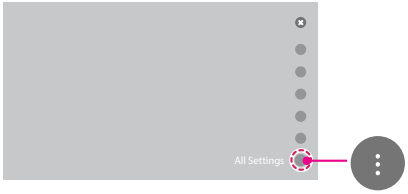


Troubleshooting Network Problems

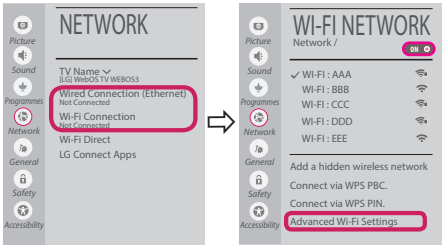
1 Press the **(Home)** button on the remote to access the Home menu. Point the **(Settings)** icon and select by pressing the **Wheel (OK)** button on the remote.



2 Point the **(All Settings)** icon and select by pressing the **Wheel (OK)** button on the remote.



3 Select the **Network → Wired Connection (Ethernet)** or **Wi-Fi Connection → Advanced Wi-Fi settings.**



Follow the instructions below that correlate to your network status.

Check the TV or the AP (Router).



When X appears next to TV:

1. Check the connection status of the TV, AP (Router).
2. Power off and power on the TV, AP (Router).
3. If you are using a static IP, enter the IP directly.
4. Contact internet service provider or AP (Router) company.

Check the AP (Router) or consult your Internet service provider.



When X appears next to Gateway:

1. Unplug the power cord of the AP (Router) and try to connect after 5 seconds.
2. Initialize (Reset) the AP (Router).
3. Contact internet service provider or AP (Router) company.



When X appears next to DNS:

1. Unplug the power cord of the AP (Router) and try to connect after 5 seconds.
2. Initialize (Reset) the AP (Router).
3. Check that the MAC address of the TV/AP (Router) is registered with your Internet service provider. (The MAC address displayed on the right pane of the network status window should be registered with your Internet service provider.)
4. Check the AP (Router) manufacturer's website to make sure your router has the latest firmware version installed.

SmartShare PC SW Installing & Setting

1 Install the SmartShare PC SW programme on your PC.

2 Go to ***www.lg.com***. Then, select your region.

3 Select **SUPPORT**. Then, select **Drivers & Software**, **SOFTWARE UPDATE** or **Software & Firmware**.

4 Search for your model. Then, select SmartShare PC SW.

5 You can run the programme when installation is complete.

NOTE

- **SmartShare** service is only available if TV and other devices are connected via a single AP (Router).

SmartShare Connection to Smartphone

1 Check that Wi-Fi is enabled on your smartphone. To use **SmartShare**, both devices must on the same local network.

2 Install/run the app for sharing content on your smartphone (It's called **LG TV Plus** on LG phones).

3 Enable your smartphone to share content files with other devices.

4 Open **Device Connector** application.
(Home) → Device Connector → Smartphone → CONTENT SHARE.

5 Select the file type you want to play (movie, audio or photo).

6 Select a movie, music or photo file to play on the TV.

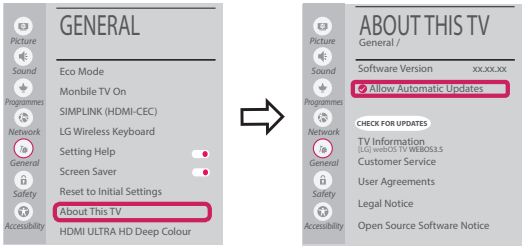
7 Play the media file to view and enjoy it on your TV.

Updating the TV Firmware

* If the TV is turned on for the first time after it was shipped from the factory, initialization of the TV may take a few minutes.

1 **(Home) → (Settings) → (All Settings) → General → About This TV → CHECK FOR UPDATES**

2 After checking the version of the software, update it.
If you check the "**Allow Automatic Updates**", you can update the software automatically.



Wi-Fi Direct Setting



(Home) → **(Settings)** → **(All Settings)** → **Network** → **Wi-Fi Direct**

If a local network is not available, you can connect a portable device directly to the TV using Wi-Fi Direct.

With **SmartShare**, you can share files or screens of devices connected to **Wi-Fi Direct**.

1 When you open **Wi-Fi Direct** menu, a list of available devices appears.

2 When you are prompted to request connection, select **Yes**. **Wi-Fi Direct** is now connected to your TV.

Miracast Setting

Miracast allows a portable device to securely send video and sound to the TV wirelessly.

(Home)/**(Input)** → **Screen Share**

1 **Miracast** should be set to "**ON**" on your portable device.

2 When your TV is detected, select the device on your portable device.
When connection is completed, the device screen appears on the TV screen.

If you turn Listen Mode to **ON** after launching the Screen Share app, you can connect the device without starting the Screen Share app.

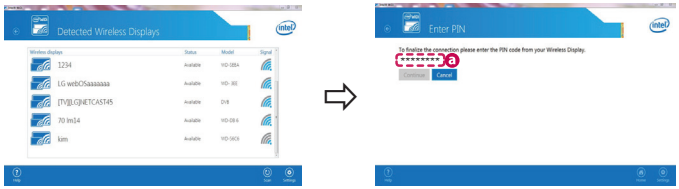
WiDi (Wireless Display) Setting

Intel's WiDi (Wireless Display) technology enables easy and fast connection without wires or internet network for mirrored and dual monitor display on your TV. You can sit back and experience your favorite movies, videos, photos, online shows and more in full HD on your TV with great image clarity and sound.

(Home)/**(Input)** → **Screen Share**

1 Intel's WiDi is set to **On**. Your laptop runs the Intel WiDi programme.

2 It detects LG webOS TVs available, which supports WiDi. In the list, select the TV you want and click Connect. Enter the number shown on the screen into the input field (a) on your laptop and then click Continue.



Notebook Screen

3 The laptop screen appears on the TV screen. The wireless environment may affect the screen display. If the connection is poor, the Intel WiDi connection may be lost.

* LG TVs do not need to register.

Please call LG Customer Service if you experience any problems.