SERIES 3 | TD310

T24D310ES
T24D310EW
T28D310ES
T28D310EW
T24D310EX
T28D310EX
T31D310EW

LED TV

user manual

Thank you for purchasing this Samsung product. To receive more complete service, please register your product at

www.samsung.com/register

Model _____ Serial No. _____

SAMSUNG

Figures and illustrations in this User Manual are provided for reference only and may differ from actual product appearances. Product design and specifications may be changed without notice.

Digital TV notice

1. Functionalities related to Digital TV (DVB) are only available in countries/areas where DVB-T (MPEG2 and MPEG4 AVC) digital terrestrial signals are broadcasted or where you are able to access to a compatible DVB-C (MPEG2 and MPEG4 AAC) cable-TV service. Please check with your local dealer the possibility to receive DVB-T or DVB-C signal.
2. DVB-T is the DVB European consortium standard for the broadcast transmission of digital terrestrial television and DVB-C is that for the broadcast transmission of digital TV over cable. However, some differentiated features like EPG (Electric Programme Guide), VOD (Video On Demand) and so on, are not included in this specification. So, they cannot be workable at this moment.
3. Although this TV set meets the latest DVB-T and DVB-C standards, as of [August, 2008], the compatibility with future DVB-T digital terrestrial and DVB-C digital cable broadcasts cannot be guaranteed.
4. Depending on the countries/areas where this TV set is used some cable-TV providers may charge an additional fee for such a service and you may be required to agree to terms and conditions of their business.
5. Some Digital TV functions might be unavailable in some countries or regions and DVB-C might not work correctly with some cable service providers.
6. For more information, please contact your local Samsung customer care centre.

   ✎ The reception quality of TV may be affected due to differences in broadcasting method between the countries. Please check the TV performance in the local SAMSUNG Authorized Dealer, or the Samsung Call Centre whether it can be improved by reconfiguring TV setting or not.

Still image warning

Avoid displaying still images (like jpeg picture files) or still image element (like TV programme logo, panorama or 4:3 image format, stock or news bar at screen bottom etc.) on the screen. Constant displaying of still picture can cause ghosting of LED screen, which will affect image quality. To reduce risk of this effect, please follow below recommendations:

- Avoid displaying the same TV channel for long periods.
- Always try do display any image on full screen, use TV set picture format menu for best possible match.
- Reduce brightness and contrast values to minimum required to achieve desired picture quality, exceeded values may speed up the burnout process.
- Frequently use all TV features designed to reduce image retention and screen burnout, refer to e-Manual for details.

Contents

Getting Started

- Safety Precautions 4
- Accessories and Cables 11
- Using the TV's Controller (Panel Key) 12
- The Standard Remote Control Buttons 13
- How to use the e-Manual 15
- How to Navigate Menus 17
- Connecting the Power Cord and the Aerial or Cable Connection 18
- Setup 18

Connections

- Connecting to AV Devices (Blu-ray Players, DVD Players, etc.) (T24D310EW T28D310EW T24D310EX T28D310EX) 19
- Connecting to Audio Devices (T24D310EW T28D310EW T24D310EX T28D310EX) 21
- Connecting to a PC (T24D310EW T28D310EW T24D310EX T28D310EX) 22
- Connections (T31D310EW) 23
- Connections (TD310ES) 24
- Connecting to a COMMON INTERFACE slot (Your product viewing Card Slot) 25
- Changing the Input Source 27

Basic Features

- Correct posture to use the product 28
- Changing the Preset Picture Mode 29
- Adjusting Picture Settings 30
- Changing the Picture Size 31
- Picture In Picture (PIP) 32
- Changing the Picture Options 33
- Changing the Preset Sound Mode 35
- Adjusting Sound Settings 36
- Memorizing Channels 40
- Using the INFO button (Now & Next guide) 43
- Using the Channel Menu 43
- Other Features 47

Preference Features

- Setting the Time 52
- Using the Sleep Timer 53
- Economical Solutions 55
- Locking Programme 56
- Other Features 57
- Support Menu 59
- Viewing the Contact Samsung 61

Advanced Features

- Application 62
- Playing the Photos / Videos / Music 64
- Viewing the e-Manual 67
- Using the Football Mode 67

Other Information

- Troubleshooting 68
- Supported Subtitle and Media Play file formats 72
- Teletext Feature 74
- Installing the Wall Mount 75
- Securing the TV to the Wall 76
- Securing the Installation Space 77
- Anti-theft Kensington Lock 78
- Licence 79
- Specifications 80
- Index 81

Check the Symbol!

Note

Indicates additional information.

Step by Step Guide

Check here for instructions on how to open the relevant submenu within the OSD (on screen display).

Getting Started

Safety Precautions

Icons used for safety precautions

WARNING	Failing to follow the precautions marked with this sign may result in a serious injury or even a fatality.
CAUTION	Failing to follow the precautions marked with this sign may result in a personal injury or property damage.

Do not perform.

Must be followed.

CAUTION

RISK OF ELECTRIC SHOCK DO NOT OPEN

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). THERE ARE NO USER SERVICEABLE PARTS INSIDE. REFER ALL SERVICING TO QUALIFIED PERSONNEL.

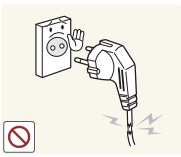
This symbol indicates that high voltage is present inside. It is dangerous to make any kind of contact with any internal part of this product.

This symbol alerts you that important literature concerning operation and maintenance has been included with this product.

Power Related

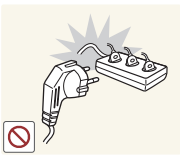
✎ The following images are for your reference and may differ depending on models and countries.

Warning



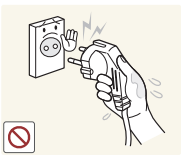
Avoid using a damaged power cord or plug or a loose power outlet.

- Otherwise, it may result in electric shock or fire.



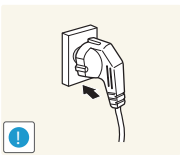
Avoid connecting multiple electric appliances to a single wall outlet.

- Otherwise, it may result in fire due to overheating of the wall outlet.



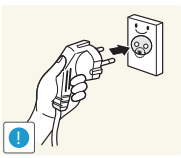
Avoid plugging in or unplugging the power supply with wet hands.

- Otherwise, it may result in electric shock.



Plug the power plug in firmly.

- Otherwise, it may result in fire.

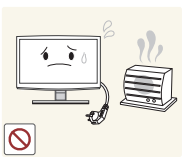


Make sure to connect the power cord to a grounded wall outlet (for insulation class 1 equipment only).

- Otherwise, it may result in electric shock or injury.

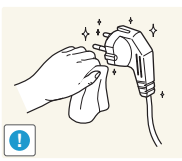
Avoid bending or twisting the power cord excessively and avoid placing heavy objects on the cord.

- Otherwise, it may result in electric shock or fire due to a damaged power cord.



Keep the power cord and the product away from a heater.

- Otherwise, it may result in electric shock or fire.



If the pins of the power plug or the wall outlet are covered in dust, clean it using a dry cloth.

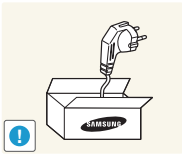
- Otherwise, it may result in fire.

Getting Started

Caution

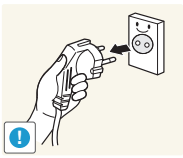
Avoid unplugging the power plug while the product is operating.

- Otherwise, it may damage the product due to electric shock.



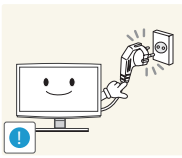
Make sure to use only the power cord supplied by our company. In addition, do not use the power cord of another electric appliance.

- Otherwise, it may result in electric shock or fire.



When unplugging the power plug from the wall outlet, make sure to hold it by the plug and not by the cord.

- Otherwise, it may result in electric shock or fire.



Connect the power plug to a wall outlet that can be easily reached.

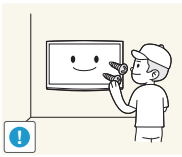
- When a problem occurs with the product, you must unplug the power plug to cut the power off completely. You cannot cut the power off completely using only the power button on the product.

Installation Related

Warning

Avoid placing burning candles, mosquito coil, cigarettes on the product.

- Otherwise, it may result in fire.



Ask an installation engineer or relevant company to install the product onto the wall.

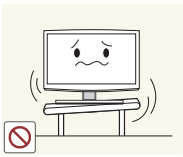
- Otherwise, it may result in injury.
- Make sure to use the specified wall mount.

Avoid installing the product in a badly-ventilated location such as inside a bookshelf or closet.

- Otherwise, it may result in fire due to internal over-heating.

Keep the plastic bags used to pack the product away from children.

- If children place the plastic bags over their heads, they may suffocate.



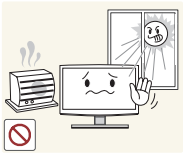
Avoid installing the product in a location that is unstable or exposed to excessive vibration such as on an unstable or slanted shelf.

- The product may fall and this may result in damage to the product or injury.
- If you use the product in a location exposed to excessive vibrations, it may result in a problem with the product or fire.

Avoid installing the product in a location exposed to dust, moisture (sauna), oil, smoke or water (rain drops) and installing it within a vehicle.

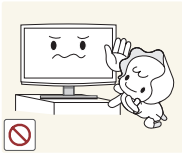
- This may result in electric shock or fire.

Getting Started



Avoid installing the product in a location exposed to direct sunlight and installing the product near a heat source such as a fireplace or heater.

- This may shorten the product life cycle or cause fire.

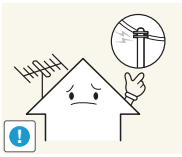


Avoid installing the product where children may reach it.

- If a child touches the product, the product may fall and this may result in injury.
- Since the front part is heavier, install the product on a flat and stable surface.

Bend the outdoor aerial cable downwards at the location where it comes in the house so that rainwater does not flow in.

- If rainwater enters the product, it may result in electric shock or fire.



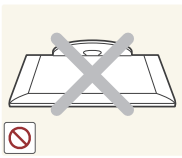
Install the aerial far away from any high voltage cables.

- If the aerial touches or falls onto a high voltage cable, it may result in electric shock or fire.

Caution

Do not let the product drop while moving it.

- This may result in a problem with the product or injury.



Do not place the product face down on the floor.

- This may damage the panel of the product.

When installing the product on a console or shelf, make sure that the front of the product does not protrude out of the console or shelf.

- Otherwise, this may cause the product to fall off and result in a malfunction or injury.
- Make sure to use a cabinet or shelf suitable to the size of the product.

When putting the product down, handle it gently.

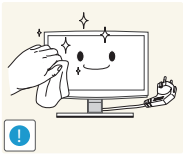
- Otherwise, it may result in a problem with the product or injury.

If the product is installed in a location where the operating conditions vary considerably, a serious quality problem may occur due to the surrounding environment. In this case, install the product only after consulting one of our service engineers about the matter.

- Places exposed to microscopic dust, chemicals, too high or low temperature, high humidity, airports or stations where the product is continuously used.

Cleaning Related

Warning



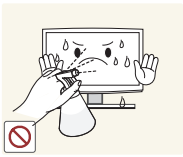
Before cleaning the product, unplug the power cord.

- Otherwise, it may result in electric shock or fire.

When cleaning the product, do not spray water directly over the product parts.

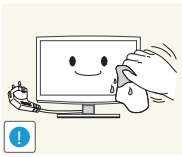
- Make sure that water does not enter the product.
- Otherwise, it may result in fire, electric shock or a problem with the product.

Caution



Avoid spraying cleansing agent directly onto the product.

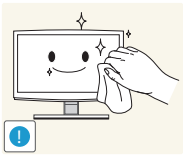
- This may result in discolouration or cracking of the exterior of the product or the panel coming off.



When cleaning the product, disconnect the power cord and clean the product with the supplied cleaning cloth.

- Avoid using chemicals such as wax, benzene, alcohol, thinner, mosquito coil, fragrance, lubrication or cleansing agent when cleaning the product.

  This may result in the exterior being deformed or the print being removed.



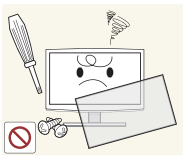
If you can't get the product clean with just the supplied cloth, use a soft, damp cloth with a "monitor-exclusive cleansing agent" and wipe the product with it.

- If no monitor-exclusive cleansing agent is available, dilute a cleansing agent with water at a ratio of 1:10 before cleaning the product.

Since the exterior of the product is easily scratched, be sure to use the supplied cleansing cloth.

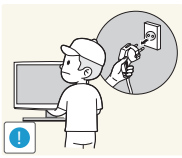
Usage Related

Warning



Since a high voltage runs through the product, never disassemble, repair or modify the product yourself.

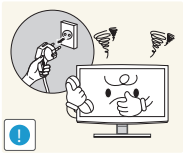
- Otherwise, it may result in fire or electric shock.
- If the product needs to be fixed, contact a service centre.



To move the product, turn the power off and unplug the power cord, the aerial cable and any other wires connected to the product.

- Otherwise, it may result in electric shock or fire due to the damaged power cord.

Getting Started

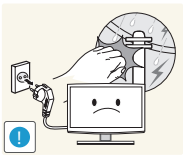


If the product generates a strange noise, a burning smell, or smoke, unplug the power plug immediately and contact a service centre.

- Otherwise, it may result in electric shock or fire.

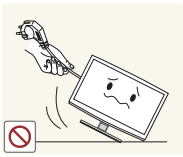
If you drop the product or the case is damaged, turn the power off and unplug the power cord. Contact a service centre.

- Otherwise, it may result in fire or electric shock.



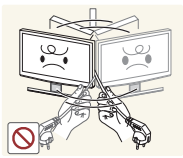
When thunder or lighting occurs, unplug the power cord and under no circumstance touch the aerial cable as this is dangerous.

- Otherwise, it may result in electric shock or fire.



Avoid moving the product by pulling the power cord or aerial cable.

- Otherwise, it may result in electric shock, fire or a problem with the product due to damage to the cable.

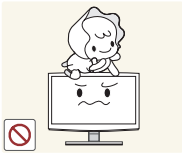


Avoid lifting up or moving the product by holding only the power cord or signal cable.

- Otherwise, it may result in electric shock, fire or a problem with the product due to damage to the cable.

Take care not to block the vent by a table cloth or curtain.

- Otherwise, it may result in fire due to internal overheating.

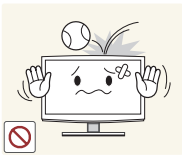


Avoid letting children hang or climb onto the product.

- Otherwise, it may result in the product falling and this may result in injury or death.

Avoid placing objects such as toys and cookies on top of the product.

- If a child hangs over the product to grab an object, the object or the product may fall and this may result in injury or even death.

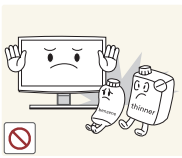


Avoid dropping an object over the product or cause impact to the product.

- Otherwise, it may result in electric shock or fire.

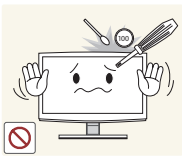
When a gas leak occurs, do not touch the product or the power plug and ventilate immediately.

- A spark may result in an explosion or fire.
- During a thunder or lighting storm, do not touch the power cord or aerial cable.



Avoid using or placing inflammable spray or objects near the product.

- This may result in an explosion or fire.



Avoid inserting metal objects such as a chopsticks, coins or hairpins, or inflammable objects into the product (the vents, ports, etc).

- If water or substances enters the product, turn the power off, unplug the power cord and contact a service centre.
- Otherwise, it may result in a problem with the product, electric shock or fire.

Avoid placing a liquid container such as a vase, flowerpot, beverage, cosmetics or drugs, or a metal object over the product.

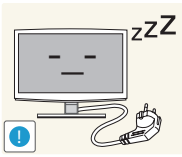
- If water or substances enter the product, turn the power off, unplug the power cord and contact a service centre.
- Otherwise, it may result in a problem with the product, electric shock or fire.

Do not press down hard on the product. The product may become deformed or damaged.

Caution

Displaying a still image for a long time may create a persistent image or stain on the screen.

- If you do not use the product for a long time, use the power-saving mode or set the screensaver to the moving picture mode.

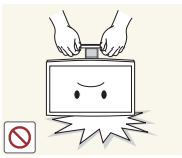


When not using the product for a long time such as leaving your home, unplug the power cord from the wall outlet.

- Otherwise, it may cause dust accumulation and result in fire caused by overheating or short circuit or result in an electric shock.

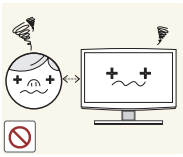
Set the appropriate resolution and frequency for the product.

- Otherwise, it may result in eye strain.



Avoid turning the product upside down or move the product holding only the stand.

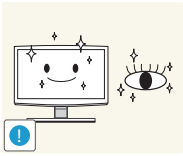
- This may cause the product to fall, resulting in damage to the product or injury.



Watching the product from too close a distance continuously may damage your eyesight.

Avoid using a humidifier or cooker near the product.

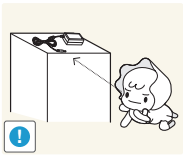
- Otherwise, it may result in electric shock or fire.



It is important to give your eyes some rest (5 minutes every hour) when viewing the product screen for long periods of time.

- This will alleviate any eye strain.

Since the display panel is hot after using it for a long time, do not touch the product.



Keep the small accessories in a location out of the reach of children.

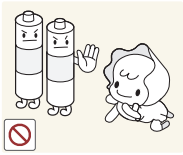
Take care when adjusting the angle of the product or the height of the stand.

- If your hand or finger is caught, you may be injured.
- If the product is tilted excessively, the product may fall and this may result in injury.

Getting Started

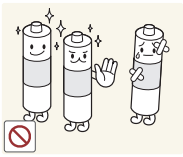
Avoid placing a heavy object over the product.

- Otherwise, it may result in a problem with the product or injury.



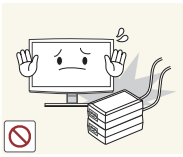
Be careful that children do not place the batteries in their mouths when removed from the remote control. Place the battery in a location that children or infants cannot reach.

- If children have had the battery in their mouths, consult your doctor immediately.



Use only specified standard batteries. Do not use new and used batteries together.

- This may cause a battery to break or leak and may cause fire, injury, or contamination (damage).



Do not place the adapter on top of another adapter.

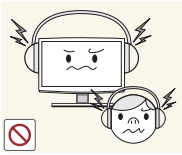
- Otherwise, it may result in fire.

Remove the vinyl cover of the adapter before using the adaptor.

- Otherwise, it may result in fire.

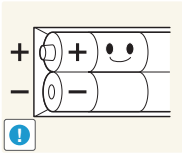
Be careful that adaptor should not be in contact with water and therefore not be wet.

- This may cause a malfunction, electric shock or fire. Do not use adaptor by the waterside or outside particularly when it rains or snows. Be careful that adaptor should not be wet while cleaning floor with water.



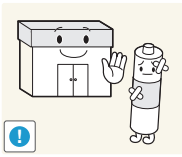
When using headphones or earphones, do not turn the volume too high.

- Having the sound too loud may damage your hearing.



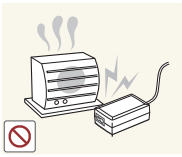
When replacing the batteries, insert them with right polarity (+, -).

- Otherwise, the battery may become damaged or it may cause fire, personal injury or damage due to leakage of the internal liquid.



The batteries (and rechargeable batteries) are not ordinary refuse and must be returned for recycling purposes. The customer is responsible for returning the used or rechargeable batteries for recycling.

- The customer can return used or rechargeable batteries to a nearby public recycling centre or to a store selling the same type of the battery or rechargeable battery.

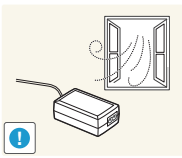


Keep power adaptor away from any other heat source.

- Otherwise, it may result in fire.

Do not let water enter the DC power device or get the device wet.

- An electric shock or fire may result.
- Avoid using the product outdoors where it can be exposed to rain or snow.
- Be careful not to get the DC power adapter wet when you wash the floor.



Always keep power adaptor in well-ventilated area.

Getting Started

Accessories and Cables

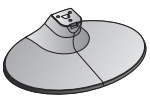
✎ Please make sure the following items are included with your product. If any items are missing, contact your dealer.

✎ The items' colours and shapes may vary depending on the model.

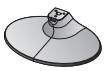
✎ Make sure that there are no accessories hidden behind or under packing materials after you open the box.

⚠ **[CAUTION] INSERT SECURELY LEST SHOULD BE DETACHED IN SET**

- Remote Control & Batteries (AAA x 2)
- Power Cord
- Warranty Card / Safety Guide / Quick Setup Guide / Regulatory Guide (Depending on the model)
- S/W CD

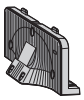


T28D310



T24D310

Stand Base



T28D310

Stand Connector

T31D310EW

Stand Base

Stand Connector

Getting Started

Using the TV's Controller (Panel Key)

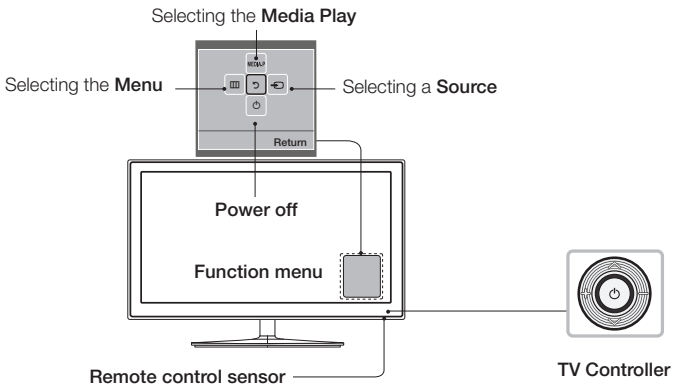
The TV's Controller, a small joy stick like button on the rear left side of the TV, lets you control the TV without the remote control.

✎ Some functions which require a PIN code may not be available.

✎ The product colour and shape may vary depending on the model.

✎ Exits the menu when pressing the controller more than 1 second.

✎ When using the controller in the up/down/left/right directions, make sure you do not push the controller in first. If you push the controller in first it will not move in the up/down/left right directions.



Standby mode

Do not leave your TV in standby mode for long periods of time (when you are away on a holiday, for example). A small amount of electric power is still consumed even when the power button is turned off. It is best to unplug the power cord.

Initial Setup

When the TV is initially powered on, a sequence of on-screen prompts will assist in configuring basic settings. Press the POWER⏻ button. Setup is available only when the source is set to TV.

✎ If you connect any device to HDMI IN 1(STB) before starting the installation, Channel Source will be changed to automatically. If you do not want to select Set-top box, please select Aerial.

If You Want to Reset This Feature...

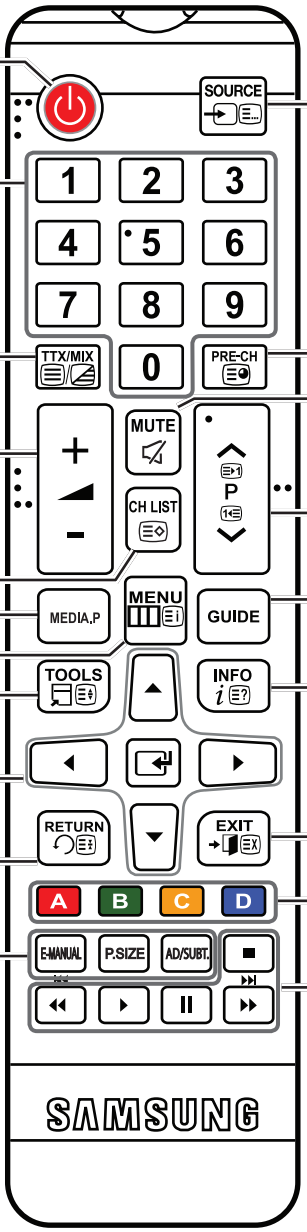
Select System - Setup (Initial Setup). Enter your 4 digit PIN number. The default password is "0-0-0-0". If you want to change the PIN number, use the Change PIN function.

You should do Setup (MENU → System) again at home even though you did in shop already.

✎ If you forget the PIN code, press the remote control buttons in the following sequence in Standby mode, which resets the PIN to "0-0-0-0": MENU → 8 → 2 → 4 → POWER (on)

The Standard Remote Control Buttons

✎ This remote control has Braille points on the Power, Channel, and Volume buttons and can be used by visually impaired persons.



Turn the product on and off.

Give direct access to channels.

Alternately select Teletext ON, Double, Mix or OFF.

Adjust the volume.

Display channel lists on the screen.

View the Media Play.

Open the OSD (Menu).

Quickly select frequently used functions. Use this button in a specific feature.

Move the cursor, select the on-screen menu items, and change the values seen on the TV's menu.

Return to the previous menu.

E-MANUAL: Displays the e-Manual.
P.SIZE: Lets you select the Picture Size.
AD/SUBT.: Turn the audio description on and off (not available in some locations). / Display digital subtitles.

Display and selects the available video sources.

Return to the previous channel.

Cut off the sound temporarily.

Change channels.

You can enter Guide menu.

Display information on the product screen.

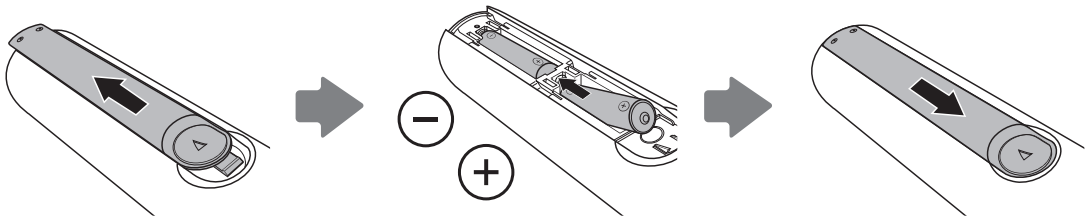
Exit the menu.

Use these buttons according to the directions on TV's screen.

Use these buttons in a specific feature.

Installing batteries (Battery size: AAA)

Match the polarity of the batteries to the symbols in the battery compartment.



✎ NOTE

- Install the batteries so that the polarity of the batteries (+/-) matches the illustration in the battery compartment.
- Use the remote control within 7 m of the product.
- Bright light may affect the performance of the remote control. Avoid using it near fluorescent lights or neon signs.
- The colour and shape of the remote may vary depending on the model.

Getting Started

How to use the e-Manual

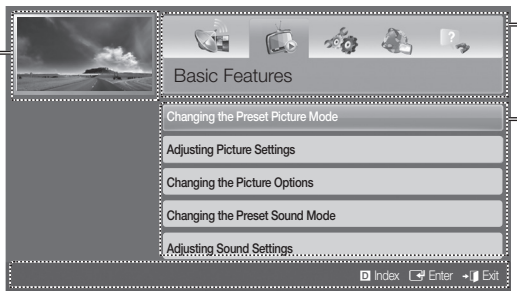
You can find instructions about your TV's features in the e-Manual in your TV. To use, press the E-MANUAL button on your remote. Move the cursor using the up/down/right/left buttons to highlight a category, then a topic, and then press the ENTER button. The e-Manual displays the page you want to see.

You can also access it through the menu:

MENU → Support → e-Manual → ENTER

✎ To return to the e-Manual main menu, press the E-MANUAL button on the remote.

Screen Display



Currently displayed video, TV Programme, etc.

The category list. Press ◀ or ▶ button to select the category you want.

Displays the sub-menu list. Use the arrow buttons on your remote to move the cursor. Press ENTER button to select the sub-menu you want.

Operation Buttons

D Index: Displays the index screen.

Enter: Selects a category or sub-menu.

Exit: Exit the e-Manual.

<Viewing the Contents>

A Try Now: Displays the OSD menu that corresponds to the topic. To return to the e-Manual screen, press the E-MANUAL button.

B Home: Moves to the e-Manual home screen.

◀▶ Page: Moves to previous or next page.

C Zoom: Magnifies a screen.

✎ Press the C (Zoom) button to magnify the screen. You can scroll through the magnified screen by using the ▲ or ▼ buttons. To return to the screen to normal size, press the RETURN button.

How to toggle between an e-Manual topic and the corresponding OSD menu(s).

✎ This function is not enabled in some menus.

✎ You cannot use the Try Now function if the menu is not activated.

Method 1	Method 2
1. If you want to use the menu that corresponds to an e-Manual topic, press the red button to select Try Now. 2. To return to the e-Manual screen, press the E-MANUAL button.	1. Press the ENTER button when a topic is displayed. "Are you sure?" appears. Select Yes, and then press the ENTER button. The OSD window appears. 2. To return to the e-Manual screen, press the E-MANUAL button.

How to search for a topic on the index page

✎ This function may not be supported depending on the language.

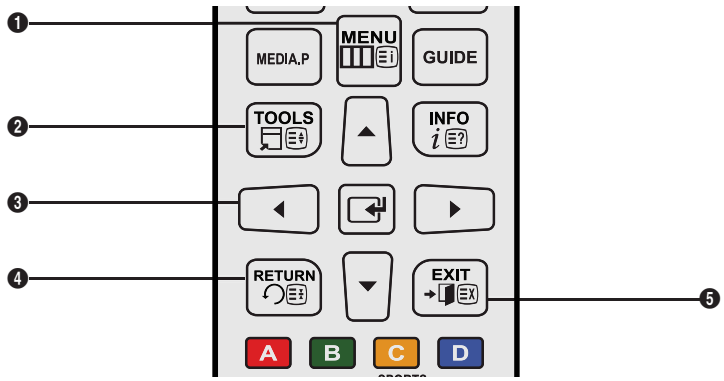
1. If you want to search a keyword, press the blue button to select Index.
2. Press the ◀ or ▶ button to select a character order you want.
3. Press the ▲ or ▼ button to select a keyword you want to see, and then press the ENTER button.
4. You can view the corresponding e-Manual instruction screen.

   ✎ To close the Index screen, press the RETURN button.

Getting Started

How to Navigate Menus

Your product's Main and Tools menus contains functions that let you control the product's features. For example, in the Main menu you can change the size and configuration of the picture, its brightness, its contrast and so on. There are also functions that let you control the product's sound, channel configuration, energy use, and a host of other features. To access the main, on-screen menu, press the MENU button on your remote. To access Tools menus, press the TOOLS button. Tools menus are available when the TOOLS menu Icon is displayed on the screen.



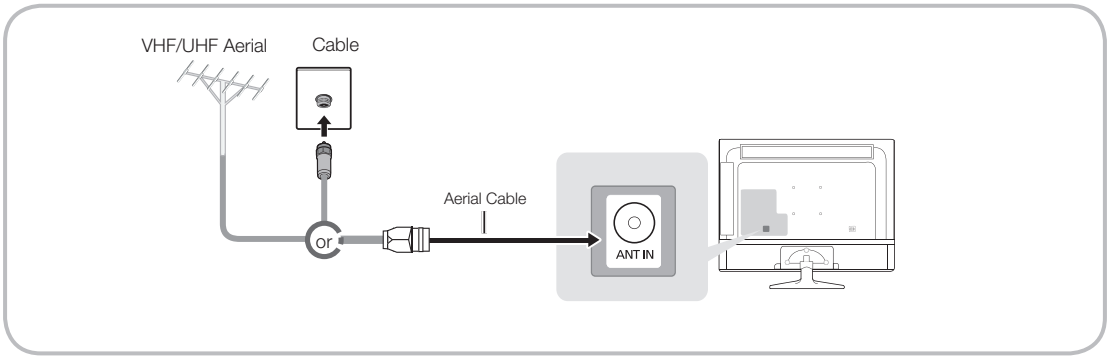
1. MENU button: Displays the main on-screen menu.
2. TOOLS button: Displays the Tools menus when available.
3. and Direction buttons: Use the Direction buttons to move the cursor and highlight an item. Use the button to select an item or confirm the setting.
4. RETURN button: Returns to the previous menu.
5. EXIT button: Exits the on-screen menu.

How to Operate the Main Menu (OSD - On Screen Display)

The access steps may differ depending on the menu option you select.

1	MENU	The main menu options appear on the screen: Picture, Sound, Broadcasting, Applications, System, Support.
2	▲ / ▼	Select a main menu option on the left side of the screen with the ▲ or ▼ button.
3		Press to access the sub-menus.
4	▲ / ▼	Select the desired sub-menu with the ▲ or ▼ button.
5	▲ / ▼ / ◀ / ▶	Adjust the value of an item with the ◀, ▶, ▲, or ▼ button. The adjustment in the OSD may differ depending on the selected menu.
6		Press to confirm the selection.
7	EXIT	Press EXIT.

Connecting the Power Cord and the Aerial or Cable Connection



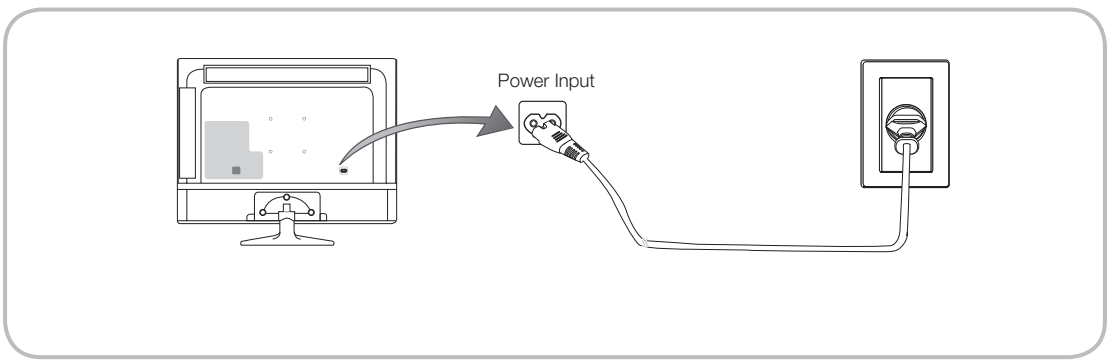
✎ Plug the power cord into a wall outlet only after you have made all other connections.

✎ If you are connecting your product to a cable or satellite box using HDMI, Component, or Composite connections, you do not need to connect the ANT IN jack to an aerial or a cable connection.

✎ Use caution when you move or swivel the product if the aerial cable is tightly connected. You could break the aerial jack off the product.

Connecting the Power

✎ The picture may vary depending on the model.



Setup

The initial setup dialog appears when the TV is first activated.

Follow the on-screen instructions to finish the initial setup process, including menu language choice, country choice, channel source choice, channel scan, and more.

At each step, either make a choice or skip the step.

Users can manually perform this process at a later time under the System > Setup menu.

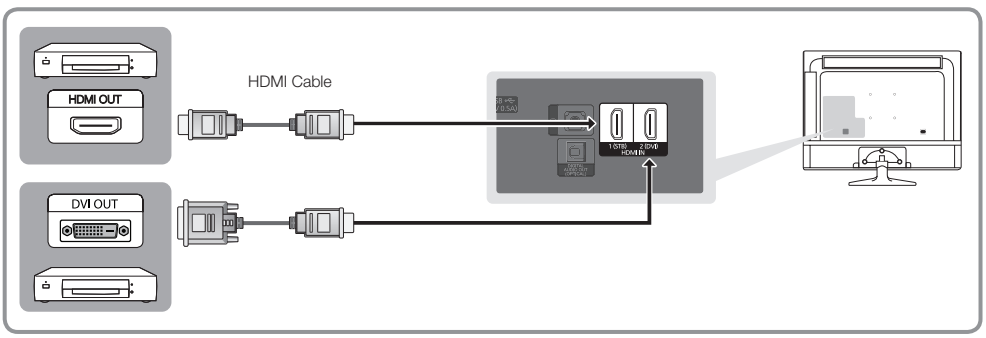
✎ The default PIN code is: 0-0-0-0.

Connecting to AV Devices (Blu-ray Players, DVD Players, etc.) (T24D310EW T28D310EW T24D310EX T28D310EX)

Using an HDMI Cable for an HD connection (up to 1080p, HD digital signals)

For the best quality HD picture, we recommend using an HDMI connection.

Use with DVD players, Blu-ray players, HD cable boxes, and HD Set-Top-Box satellite receivers.



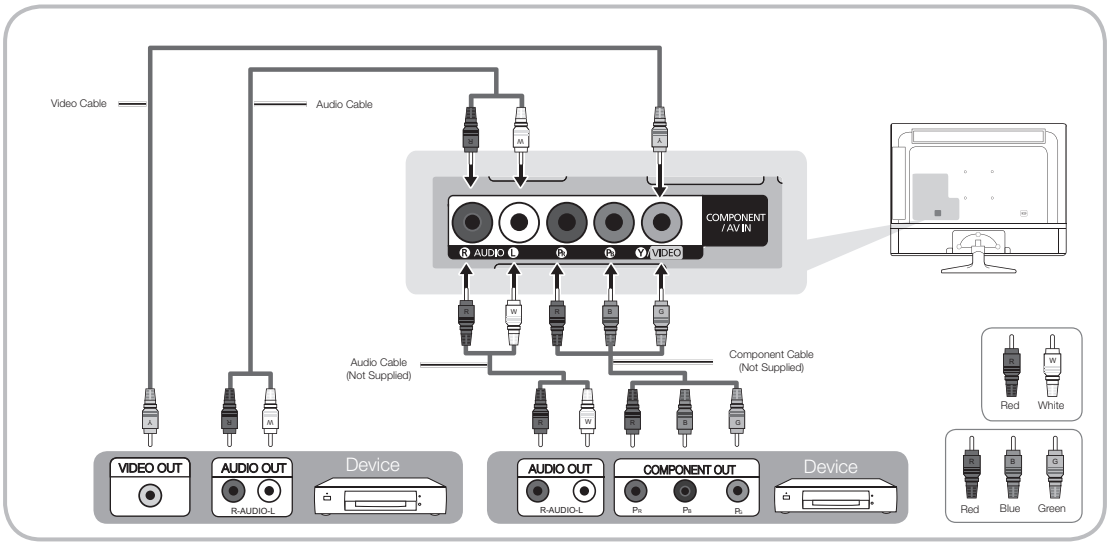
✎ **HDMI IN 1 (STB) / HDMI IN 2 (DVI)**

- For the best picture and audio quality, connect digital devices to the product using HDMI cables.
- An HDMI cable supports digital video and audio signals, and does not require an audio cable.
  - To connect the product to a digital device that does not support HDMI output, use an HDMI to DVI cable and audio cables.
- If you connect an external device to the product that uses an older version of HDMI, the video and audio may not work. If this occurs, ask the manufacturer of the device about the HDMI version and, if it is out of date, request an upgrade.
- Be sure to purchase a certified HDMI cable. Otherwise, the picture may not display or a connection error may occur.
- We recommend using a basic high-speed HDMI cable or an HDMI cable that is Ethernet compatible. Note that this product does not support the Ethernet function via HDMI.

Connections

Using a Component Cable (up to 1080p HD signals) or an Audio/Video Cable (480i analogue signals only)

Use with DVD players, Blu-ray players, cable boxes, STB satellite receivers, VCRs.

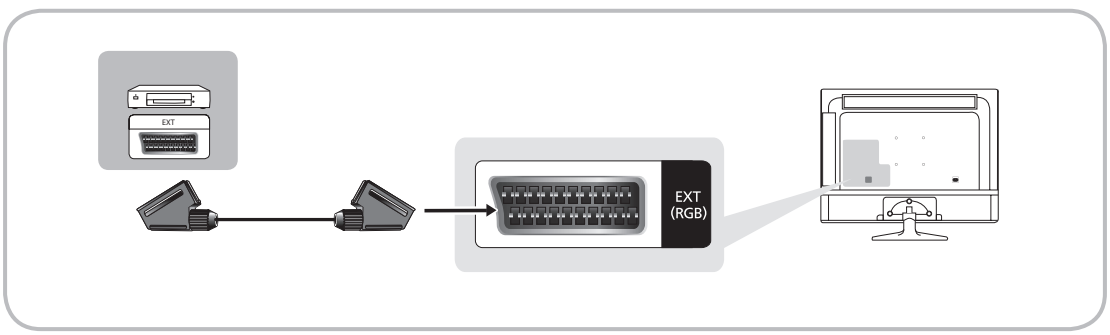


✎ For better picture quality, we recommend the Component connection over the A/V connection.

✎ When you connect a Video cable to **COMPONENT / AV IN**, the colour of the **COMPONENT / AV IN [VIDEO]** jack (green) will not match the video cable (yellow).

Using a Scart Cable

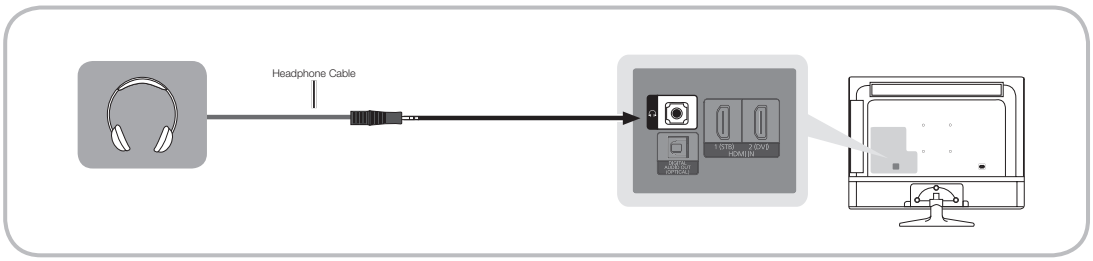
Available devices: DVD, VCR



✎ In Ext. mode, DTV Out supports MPEG SD Video and Audio only.

Connecting to Audio Devices (T24D310EW T28D310EW T24D310EX T28D310EX)

Using a Headphone Cable Connection



✎ **Headphones** 🎧: You can connect your headphones to the headphone output jack on your product. While the headphones are connected, the sound from the built-in speakers will be disabled.

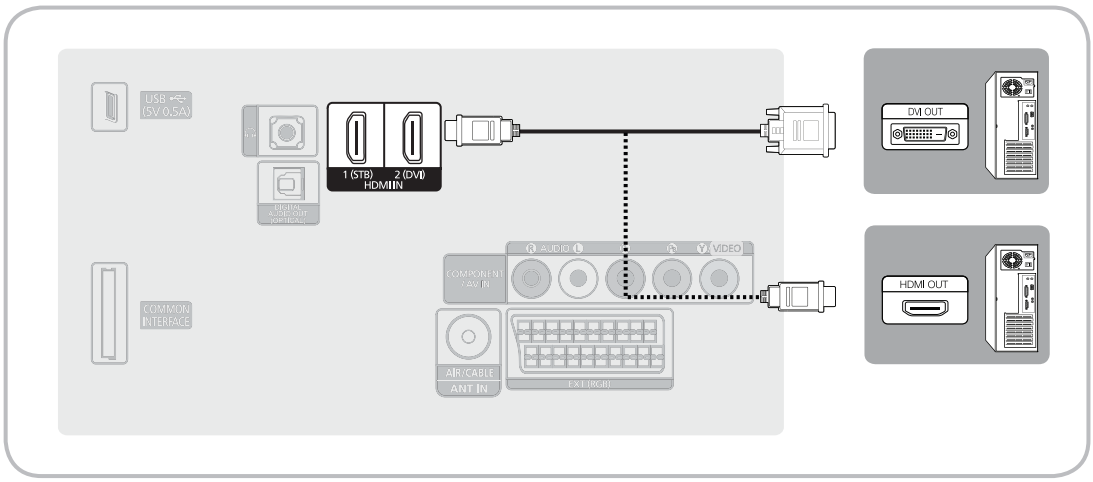
- The sound function may be restricted when you connect headphones to the product.
- Headphone volume and product volume are adjusted separately.
- The earphone jack supports only the 3 conductor tip-ring-sleeve (TRS) type.

Connecting to a PC (T24D310EW T28D310EW T24D310EX T28D310EX)

Using an HDMI Cable or an HDMI to DVI Cable or a D-sub Cable Connection

✎ Your PC may not support an HDMI connection.

✎ Use your PC speakers for audio.



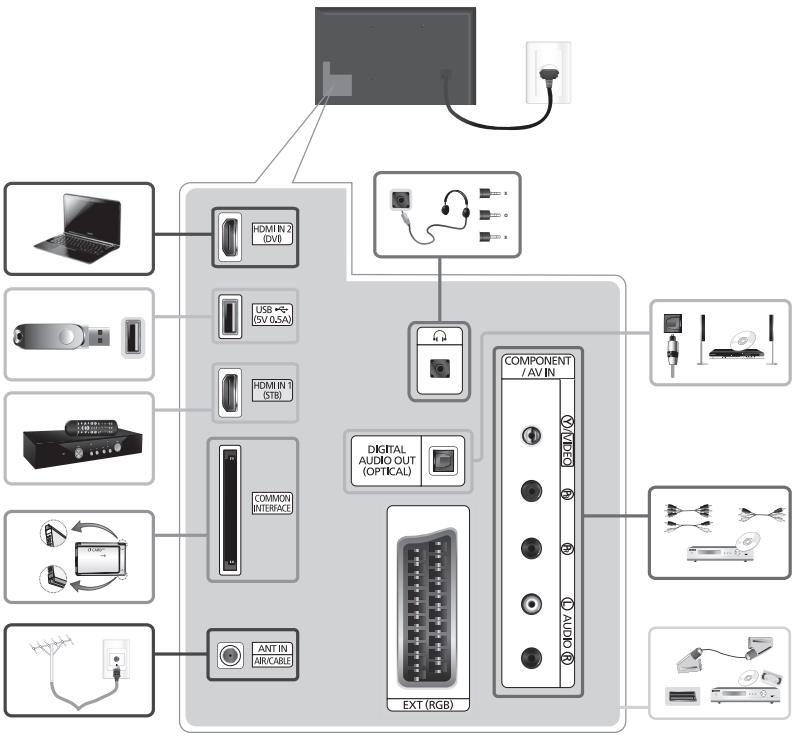
✎ **NOTE**

- For an HDMI to DVI cable connection, you must use the **HDMI IN 2 (DVI)** jack.
- For PC's with DVI video out jacks, use an HDMI to DVI cable to connect the DVI out on the PC to the **HDMI IN 2 (DVI)** jack on the product. Use the PC's speakers for audio.

Connections

Connections (T31D310EW)

HDMI connection	AV connection	Component connection
Set top Box / BD Player / PC	BD Player	BD Player



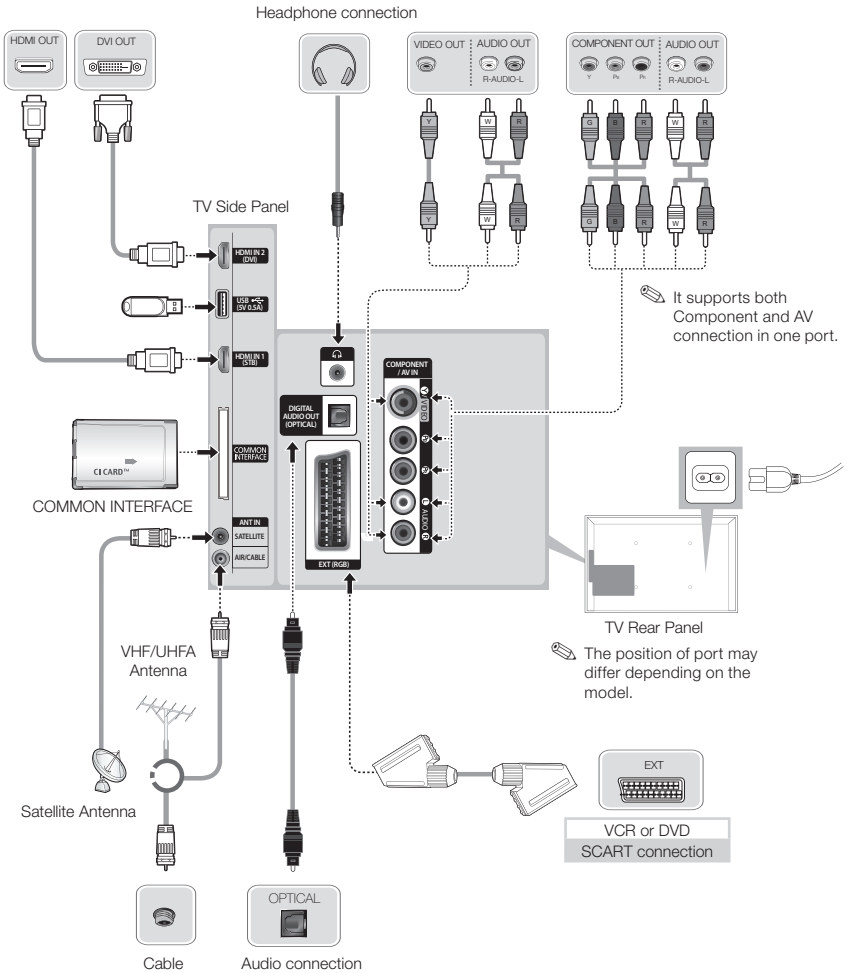
✎ **NOTE**

- Connecting through the HDMI cable may not be supported depending on the PC.
- If a DVI to HDMI cable is connected to HDMI IN 2 (DVI) port, there will be no audio.
- For set-top box connection using HDMI cable, we highly recommend you to connect the HDMI IN 1 (STB) port.
- The headphone jack supports only the 3 conductor tip-ring-sleeve (TRS) type.

Connections

Connections (TD310ES)

HDMI connection	AV connection	Component connection
Set top Box / BD Player / PC	BD Player	BD Player



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- The headphone jack supports only the 3 conductor tip-ring-sleeve (TRS) type.

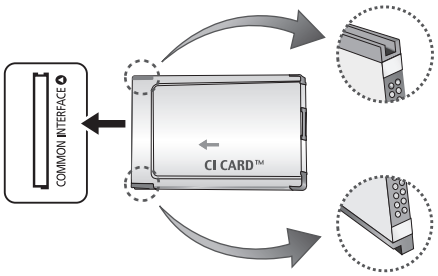
Connecting to a COMMON INTERFACE slot (Your product viewing Card Slot)

✎ Turn the TV off to connect or disconnect a CI card.

Using the “CI or CI+ CARD”

To watch paid channels, the “CI or CI+ CARD” must be inserted.

- If you don’t insert the “CI or CI+ CARD”, some channels will display the message “Scrambled Signal”.
- The pairing information containing a telephone number, the “CI or CI+ CARD” ID the Host ID and other information will be displayed in about 2~3 minutes. If an error message is displayed, please contact your service provider.
- When the configuration of channel information has finished, the message “Updating Completed” is displayed, indicating the channel list is updated.



✎ The image may differ depending on the model.

✎ **NOTE**

- You must obtain a “CI or CI+ CARD” from a local cable service provider.
- When removing the “CI or CI+ CARD”, carefully pull it out with your hands since dropping the “CI or CI+ CARD” may cause damage to it.
- Insert the “CI or CI+ CARD” in the direction marked on the card.
- The location of the COMMON INTERFACE slot may be different depending on the model.
- “CI or CI+ CARD” is not supported in some countries and regions; check with your authorized dealer.
- If you have any problems, please contact a service provider.
- Insert the “CI or CI+ CARD” that supports the current aerial settings. The screen will be distorted or will not be seen.

Display Modes (D-Sub and HDMI/DVI Input)

The optimal PC display resolution for this product is 1366 x 768 @ 60 Hz. We very strongly recommend you set the video output of your computer to the optimal resolution. You can also select one of the standard resolutions listed in the table below and the product will be automatically adjust to the resolution you choose. If you set your computer's video output to a resolution not listed in the table, the product screen may go blank and only the power indicator will turn on. To resolve this issue, adjust the resolution according to the following table, referring to the user guide for the graphics card.

- Optimal resolution: 1366 x 768 pixels

Display Mode			Horizontal Frequency (KHz)	Vertical Frequency (Hz)	Pixel Clock (MHz)	Sync Polarity (H / V)
Mode	Resolution					
IBM	720 x 400	70Hz	31.469	70.087	28.322	-/+
VESA DMT	640 x 480	60Hz	31.469	59.940	25.175	-/-
MAC	640 x 480	67Hz	35.000	66.667	30.240	-/-
VESA DMT	640 x 480	72Hz	37.861	72.809	31.500	-/-
VESA DMT	640 x 480	75Hz	37.500	75.000	31.500	-/-
VESA DMT	800 x 600	60Hz	37.879	60.317	40.000	+/+
VESA DMT	800 x 600	72Hz	48.077	72.188	50.000	+/+
VESA DMT	800 x 600	75Hz	46.875	75.000	49.500	+/+
MAC	832 x 624	75Hz	49.726	74.551	57.284	-/-
VESA DMT	1024 x 768	60Hz	48.363	60.004	65.000	-/-
VESA DMT	1024 x 768	70Hz	56.476	70.069	75.000	-/-
VESA DMT	1024 x 768	75Hz	60.023	75.029	78.750	+/+
VESA DMT	1280 x 720	60Hz	45.000	60.000	74.250	+/+
VESA DMT	1366 x 768	60Hz	47.712	59.790	85.500	+/+

✎ For an HDMI to DVI cable connection, you must use the **HDMI IN 2 (DVI)** jack.

✎ The interlace mode is not supported.

✎ The set may operate abnormally if you select a non-standard video format.

✎ Separate and Composite modes are supported. SOG(Sync On Green) is not supported.

✎ DPM(Display Power Management) Function does not work if you used in connection with the HDMI port of this product.

✎ If an HDMI to DVI cable is connected to the **HDMI IN 2 (DVI)** port, the audio does not work.

Changing the Input Source

Source

TV / Ext. / HDMI1 / HDMI2/DVI / AV / Component

Use to select TV or other external input sources such as DVD / Blu-ray players / cable box / STB satellite receiver connected to the TV.

✎ Press the SOURCE button. In the displayed Source list, connected inputs will be highlighted.

✎ PC(D-Sub) input is not supported. If you want to connect PC to the TV, you can connect the HDMI to DVI cable with the HDMI IN 2 (DVI) port on the TV.

✎ Ext. always stays activated.

✎ Press the TOOLS button.

- Edit Name

  You can set an external input source name you want.

  – When connecting a PC to the HDMI IN 2 (DVI) port with HDMI cable, you should set the TV to PC mode under Edit Name.

  – When connecting a PC to the HDMI IN 2 (DVI) port with HDMI to DVI cable, you should set the TV to DVI PC mode under Edit Name.

  – When connecting an AV devices to the HDMI IN 2 (DVI) port with HDMI to DVI cable, you should set the TV to DVI Devices mode under Edit Name.

- Information

  You can see detailed information about the connected external device.

Correct posture to use the product

Use the product in the correct posture as follows.

- Straighten your back.
- Allow a distance of 45 to 50cm between your eye and the screen, and look slightly downward at the screen. Keep your eyes directly in front of the screen.
- Adjust the angle so light does not reflect on the screen.
- Keep your forearms perpendicular to your upper arms and level with the back of your hands.
- Keep your elbows at about a right angle.
- Adjust the height of the product so you can keep your knees bent at 90 degrees or more, your heels attached to the floor, and your arms lower than your heart.

Changing the Preset Picture Mode

Picture Mode

MENU → Picture → Picture Mode

Select your preferred picture type.

- Dynamic

  Suitable for a bright room.

- Standard

  Suitable for a normal environment.

- Movie

  Suitable for watching movies in a dark room.

- Entertain

  Sharpens the picture. Suitable for games.

  ✎ It is only available when connecting a PC.

Adjusting Picture Settings

Backlight

MENU → Picture → Backlight

Adjusts the brightness of the screen by adjusting the brightness of the individual pixels.

Contrast

MENU → Picture → Contrast

Increases or decreases the contrast between dark and light areas of the picture.

Brightness

MENU → Picture → Brightness

Adjusts the brightness of the screen. Not as effective as Backlight.

Sharpness

MENU → Picture → Sharpness

Sharpens or dulls the edges of objects.

Colour

MENU → Picture → Colour

Adjust colour saturation levels.

Tint (G/R)

MENU → Picture → Tint (G/R)

Adjust tint levels for green and red.

To adjust picture quality, follow these steps:

1. Select an option you want to adjust. When you select an option, a slider screen appears.
2. Adjust the option value using your remote.

✎ When you make change to option value, the OSD will be adjusted accordingly.

✎ You can adjust and store Settings for each external device connected to the product.

✎ Lowering picture brightness reduces power consumption.

Changing the Picture Size

Picture Size

MENU → Picture → Picture Size → ENTER

Set the various picture options such as picture size and aspect ratio.

✎ The available items may differ depending on the selected mode.

✎ Depending on the input source, the picture size options may vary.

- Picture Size

  Your cable box/satellite receiver may have its own set of screen sizes as well. However, we highly recommend you use 16:9 mode most of the time.

  Auto Wide: Automatically adjusts the picture size to the 16:9 aspect ratio.

  16:9: Sets the picture to 16:9 wide mode.

  Wide Zoom: Magnifies the picture size more than 4:3.

  ✎ Adjusts the Position by using ▲ / ▼ buttons.

  Zoom : Magnifies the 16:9 wide pictures vertically to fit the screen size.

  ✎ Adjusts the Zoom or Position by using ▲ / ▼ button.

  4:3: Sets the picture to basic (4:3) mode.

  ✎ Do not watch in 4:3 format for a long time. Traces of borders displayed on the left, right and centre of the screen may cause image retention (screen burn) which are not covered by the warranty.

  Screen Fit: Displays the full image without any cut-off when HDMI (720p / 1080i / 1080p) or Component (1080i / 1080p) signals are inputted.

- Zoom/Position: Adjust the picture size and position. It is only available in Zoom.
- Position: Adjust the picture position. It is only available in Screen Fit or Wide Zoom.

✎ **NOTE**

✎ After selecting Screen Fit in HDMI (1080i / 1080p) or Component (1080i / 1080p) mode, you may need to centre the picture:

1. Select the Position. Press the ENTER button.
2. Press the ▲, ▼, ◄ or ► button to move the picture.

✎ If you want to reset the position you adjusted, select Reset in the Position screen. The picture will be set to its default position.

✎ If you use the Screen Fit function with HDMI 720p input, 1 line will be cut at the top, bottom, left and right as in the overscan function.

- 4:3 Screen Size: Available only when picture size is set to Auto Wide. You can determine the desired picture size at the 4:3 WSS (Wide Screen Service) size or the original size. Each European country requires different picture size.

Picture In Picture (PIP)

PIP

MENU → Picture → PIP → ENTER

You can watch the TV tuner and one external video source simultaneously. For example, if you have a cable box connected to the Cable In jack, you can use PIP to watch programs from the cable box and watch a movie from a Blu-ray player attached to the HDMI In jack. PIP does not function in the same mode.

✎ NOTE

- If you turn the TV off while watching in PIP mode, the PIP window will disappear.
- You may notice that the picture in the PIP window becomes slightly unnatural when you use the main screen to view a game or karaoke.
- PIP settings

Main picture	Sub picture
Component, HDMI1, HDMI2/DVI	TV

- PIP: Activate or deactivate the PIP function.
- Aerial: Select either Air or Cable as the input source for the sub-screen.
- Channel: Select the channel for the sub-screen.
- Size (/): Select a size for the sub-picture.
- Position (/ / /): Select a position for the sub-picture.
- Sound Select: You can choose the desired sound in PIP mode.

Changing the Picture Options

Advanced Settings

MENU → Picture → Advanced Settings → ENTER

(available in Standard / Movie mode)

You can adjust the detailed setting for the screen including colour and contrast.

✎ When connecting a PC, you can only make changes to the White Balance and Gamma.

- Dynamic Contrast: Adjust the screen contrast.
- Black Tone: Select the black level to adjust the screen depth.
- Flesh Tone: Adjust the flesh tone colour.
- RGB Only Mode: Displays the Red, Green and Blue colour for making fine adjustments to the hue and saturation.
- Colour Space: Adjust the range of colours available to create the image.
- White Balance: You can adjust the colour temperature of the picture to make white objects look white, and the overall picture appear natural.

  2 Point: Controls the white balance in 2 point interval by adjusting the red, green, and blue brightness.

  - R-Offset / G-Offset / B-Offset: Adjusts each colour's (red, green, blue) darkness.
  - R-Gain / G-Gain / B-Gain: Adjusts each colour's (red, green, blue) brightness.
  - Reset: Resets the White Balance to its default settings.
- Gamma: Adjust the primary colour intensity.
- Motion Lighting: Reduce power consumption by brightness control adapted motion.

  ✎ Only available in Standard mode.

  ✎ When changing a setting value of Backlight / Brightness or Contrast, Motion Lighting will be set to Off.

Picture Options

MENU → Picture → Picture Options → ENTER

When connecting a PC, you can only make changes to the Colour Tone.

- Colour Tone

  ✎ Warm1 or Warm2 will be deactivated when the picture mode is Dynamic.

  ✎ Settings can be adjusted and stored for each external device connected to an input on the TV.

- Digital Clean View: If the broadcast signal received by your product is weak, you can activate the Digital Clean View feature to reduce any static and ghosting that may appear on the screen.

  ✎ When the signal is weak, try other options until the best picture is displayed.

  Auto Visualisation: When changing analogue channels, displays signal strength.

  ✎ Only available for analogue channels.

  ✎ When the INFO button is pressed, the signal strength bar is displayed.

  ✎ When bar is green, you are receiving the best possible signal.

- MPEG Noise Filter: Reduces MPEG noise to provide improved picture quality.
- HDMI Black Level: Selects the black level on the screen to adjust the screen depth.

  ✎ Available only in HDMI mode (RGB signals).

- Film Mode: Sets the TV to automatically sense and process film signals from all sources and adjust the picture for optimum quality.

  ✎ Available in TV mode and external input mode which supports SD (480i / 576i) and HD (1080i) except in PC mode.

  ✎ If the screen does not seem natural, change its option to Off / Auto1 / Auto2 in Film Mode.

- LED Clear Motion: Removes drag from fast scenes with a lot of movement to provide a clear picture.

  ✎ It will be deactivated when the picture mode is set to Natural.

  ✎ The screen may become slightly darker when you play LED Clear Motion.

  ✎ It may depend on the model.

Picture Off

MENU → Picture → Picture Off

The screen is turned off but the sound remains on. Press any button except power and volume button to turn on the screen.

Reset Picture

MENU → Picture → Reset Picture

Resets your current picture mode to its default settings.

Changing the Preset Sound Mode

Sound Mode

MENU → Sound → Sound Mode

Sound modes apply preset adjustments to the sound.

- Standard

  Selects the normal sound mode.

- Music

  Emphasizes music over voices.

- Movie

  Provides the best sound for movies.

- Clear Voice

  Emphasizes voices over other sounds.

- Amplify

  Increase the intensity of high-frequency sound to allow a better listening experience for the hearing impaired.

  ✎ If Speaker Select is set to External Speaker, Sound Mode is disabled.

Adjusting Sound Settings

Sound Effect

MENU → Sound → Sound Effect

✎ Available only when the Sound Mode is set to Standard.

- DTS TruSurround HD

  This function provides a virtual 5.1 channel surround sound experience through a pair of speakers using HRTF (Head Related Transfer Function) technology.

- DTS TruDialog

  This function allows you to increase the intensity of a voice over background music or sound effects so that dialogue can be heard more clearly.

- Equaliser

  Use Equaliser to customize sound setting for each speaker.

  Balance: Adjusts the balance between the right and left speaker.

  100Hz / 300Hz / 1kHz / 3kHz / 10kHz (Bandwidth Adjustment): Adjusts the loudness of specific bandwidth frequencies.

  Reset: Resets the equalizer to its default settings.

  ✎ If Speaker Select is set to External Speaker, Sound Effect is disabled.

Speaker Settings

MENU → Sound → Speaker Settings → ENTER

- Speaker Select

  A sound echo may occur due to a difference in decoding speed between the main speaker and the audio receiver. In this case, set the TV to External Speaker.

  ✎ When Speaker Select is set to External Speaker, the volume and MUTE buttons will not operate and the sound settings will be limited.

  ✎ When Speaker Select is set to External Speaker.

  TV Speaker: Off, External Speaker: On

  ✎ When Speaker Select is set to TV Speaker.

  TV Speaker: On, External Speaker: On

  ✎ If there is no video signal, both speakers will be mute.

- Auto Volume

  To equalize the volume level on each channel, set to Normal.

  Night: This mode provides an improved sound experience compared to Normal mode, making almost no noise. It is useful at night.

  ✎ To use the volume control on the source device connected to the TV, set Auto Volume to Off on the TV. Otherwise, a change to the volume control of the source device may not be applied.

Additional Settings

MENU → Sound → Additional Settings → ENTER

- DTV Audio Level (digital channels only): This function allows you to reduce the disparity of a voice signal (which is one of the signals received during a digital TV broadcast) to a desired level.

  ✎ According to the type of broadcast signal, MPEG / HE-AAC can be adjusted between -10dB and 0dB.

  ✎ To increase or decrease the volume, adjust between the range 0 and -10 respectively.

- Dolby Digital Comp: Digital Audio out is used to provide digital sound, reducing interference going to speakers and various digital devices such as a DVD player.

  Audio Format: You can select the Digital Audio output format. The available Digital Audio output format may differ depending on the input source.

  ✎ By connecting to 5.1ch speakers in a Dolby Digital setup, maximize your interactive 3D sound experience.

  Audio Delay: Correct audio-video sync problems, when watching TV or video, and when listening to digital audio output using an external device such as an AV receiver (0ms ~ 250ms).

- Dolby Digital Comp: This function minimizes signal disparity between a dolby digital signal and a voice signal (i.e. MPEG Audio, HE-AAC, ATV Sound).

  ✎ Select Line to obtain dynamic sound, and RF to reduce the difference between loud and soft sounds at night time.

  Line: Set the output level for signals greater or less than -31dB (reference) to either -20dB or -31dB.

  RF: Set the output level for signals greater or less than -20dB (reference) to either -10dB or -20dB.

Reset Sound

MENU → Sound → Reset Sound → ENTER

Reset all sound settings to the factory defaults.

Selecting the Sound Mode

When you set to **Dual I II**, the current sound mode is displayed on the screen.

	Audio Type	**Dual I-II**	Default
A2 Stereo	Mono	**Mono**	Automatic change
	Stereo	**Stereo ↔ Mono**	
	Dual	**Dual I ↔ Dual II**	**Dual I**
NICAM Stereo	Mono	**Mono**	Automatic change
	Stereo	**Mono ↔ Stereo**	
	Dual	**Mono ↔ Dual I** **↖ Dual II ↙**	**Dual I**

✎ If the Stereo signal is weak and an automatic switching, occurs, then switch to the Mono.

✎ Only activated in stereo sound signal.

✎ Only available when the input Source is set to TV.

Executing initial setup

Setup

MENU → System → Setup → ENTER

Configure the channels and the time when setting up the TV for the first time or when resetting the unit.

✎ Execute the initial setup following instructions that the TV guides.

Memorizing Channels

Aerial

MENU → Broadcasting → Aerial

✎ Before your television can begin memorising the available channels, you must specify the type of signal source that is connected to the TV.

Auto Tuning

(depending on the country)

MENU → Broadcasting → Auto Tuning → ENTER

✎ Automatically allocated programme numbers may not correspond to actual or desired programme numbers. If a channel is locked, the PIN input window appears.

- Auto Tuning

  Aerial (Air/Cable/Satellite (for TD310 ES model)): Select the aerial source to memorise.

  ✎ When selecting Air, scans for a channel automatically and stores in the TV.

  Channel Type (Digital & Analogue / Digital / Analogue): Select the channel source to memorise.

  Channel Ordering (depending on the model): Select the channel order type.

When selecting Cable → Digital & Analogue, Digital or Analogue

– Operator Selection (depending on the country): Selects a provider of cable services.

– Search Mode: Scans for all channels with active broadcast stations and stores them in the TV.

  ✎ If you select Quick, you can set up the Network, Network ID, Frequency, Modulation and Symbol Rate manually by pressing the button on the remote control.

– Network: Selects the Network ID setting mode among Auto or Manual.

  - Network ID: When Network is Manual, you can set up Network ID using the numeric buttons.
  - Frequency: Displays the frequency for the channel (differs in each country).
  - Modulation: Displays available modulation values.
  - Symbol Rate: Displays available symbol rates.

- Cable Search Option

  (depending on the country & cable channels only)

  Sets additional search options such as the frequency and symbol rate for a cable network search.

  Start Frequency / Stop Frequency: Set the start or stop frequency (differs in each country).

  Symbol Rate: Displays available symbol rates.

  Modulation: Displays available modulation values.

When Antenna Source is set to Air or Cable: (for TD310ES model)

- Digital & Analogue / Digital / Analogue: Select the channel source to memorise. When selecting Cable → Digital & Analogue or Digital: Provide a value to scan for cable channels.
- Search Mode (Full / Network / Quick): Scans for all channels with active broadcast stations and stores them in the TV.

  ✎ If you select Quick, you can set up the Network, Network ID, Frequency, Modulation, and Symbol Rate manually by press the button on the remote control.

When Antenna Source is set to Satellite: (for TD310ES model)

- Channel Type (All / TV / Radio): Select the Channel Type to memorise.
- Satellite: Selects the satellite to scan. The option may differ depending on country.
- Scan Mode (All Channels / Free Channels Only): Selects the scanning mode of the selected satellite.
- Re-initialise (Disable , Enable): Selects the scanning mode of the selected satellite.
- Search Mode (Quick , Full): Sets search mode using up/down functions.

Country (Area)

MENU → Broadcasting → Channel Settings → Country (Area)

Select your country so that the product can correctly auto-tune the broadcasting channels.

✎ The PIN input screen appears. Enter your 4 digit PIN number.

- Digital Channel: Change the country for digital channels.
- Analogue Channel: Change the country for analogue channels.

Manual Tuning

Scans for a channel manually and stores in the TV.

✎ If a channel is locked, the PIN input window appears.

✎ According to the channel source, Manual Tuning may be supported.

When Antenna Source is set to Air or Cable:

- Digital Channel Tuning: Scans for a digital channel manually and stores in the TV. Press the New button to search the digital channels. When scanning has finished, a channel is updated in the channel list.
  - When selecting Aerial → Air: Channel, Frequency, Bandwidth
  - When selecting Aerial → Cable: Frequency, Modulation, Symbol Rate

When Antenna Source is set to Satellite: (for TD310ES model)

- Transponder: Selects the transponder using the up/down buttons.
- Scan Mode (All Channels / Free Channels Only): Selects either free or all channels to store.
- Network Search (Disable / Enable): Enable / Disable network search using the up/down buttons.
- Signal Quality: Display the current status of broadcasting signal.

✎ Information on a satellite and its transponder is subject to change depending on the broadcasting conditions.

✎ When setting is completed, move to Search and press the ENTER button. Channel scan is started.

- Analogue Channel Tuning: Scans for an analogue channel. Press the New button to search the channels by adjusting the Programme, Colour System, Sound System, Channel, Search.

  ✎ Channel mode

  - P (programme mode): When tuning is complete, the broadcasting stations in your area have been assigned to the position numbers from P0 to P99. You can select a channel by entering the position number in this mode.
  - C (aerial channel mode) / S (cable channel mode): These two modes allow you to select a channel by entering the assigned number for each aerial broadcasting station or cable channel.

Using the INFO button (Now & Next guide)

The display identifies the current channel and the status of certain audio-video settings.

The Now & Next guide shows daily TV programme information for each channel according to the broadcasting time.

- Scroll ◀, ▶ to view information for a desired programme while watching the current channel.
- Scroll ▲, ▼ to view information for other channels. If you want to move to the currently selected channel, select ⏎ using your remote.

Using the Channel Menu

Channel List

MENU → Broadcasting → Channel List → ENTER⏎

- Channel List

  The Channel List contains the channels your TV displays when you press the channel button. You can view channel information, All, TV, Radio, Data/Other, Analogue or Favourites 1 - Favourites 5.

  Press ▶ (Mode) button to change the channel mode, or press ◀ (Sorting) button to change the channel order according to channel number or name on the list.

✎ When you press the CH LIST button on the remote control, Channel List screen will be displayed at once.

Channel Sorting

- Number / Name: Arranges the channel order according to channel number or name on the list.

Channel Mode

- Aerial: Switches to Air, Cable or Satellite (for TD310ES model).
- Edit Favourites: Set channels you watch frequently as favourites.

  ✎ For detailed information about using Edit Favourites, refer to “Edit Favourites”.
- Favourites 1 - Favourites 5: Shows all favourite channels, arranged in up to five groups. Each group has a separate screen.

  ✎ The TV displays Favourites 1 - Favourites 5 only if you have added favourites using Edit Favourites.
- All: Shows all currently available channels.
- TV: Shows all currently available TV channels.
- Radio: Shows all currently radio channels.
- Data/Other: Shows all currently available MHP (Multimedia Home Platform) or other channels.
- Analogue: Shows all currently available analogue channels.

Guide

MENU → Broadcasting → Guide → ENTER

The EPG (Electronic Programme Guide) information is provided by broadcasters. Using programme schedules provided by broadcasters, you can specify programmes you want to watch in advance so that the channel automatically changes to the selected programme channel at the specified time. Programme entries may appear blank or out of date depending on a channel status.

- A Red (Quick Nav): Viewing the TV programmes on the list quickly using ▲/▼/◄/► buttons.
- B Green (Channel Category): Select the type of channels you want to display.
- C Yellow (Schedule Manager): Moves to the reserved programmes in Schedule Manager.

Schedule Manager

MENU → Broadcasting → Schedule Manager → ENTER

You can set a desired channel to be displayed automatically at the intended time. In addition, you can view, modify or delete a channel you have reserved to watch.

✎ You must set the current time first using the Time → Clock function in the System menu to use this function.

1. Press the Schedule on the Schedule Manager screen. The Schedule Viewing menu appears.
2. Press the ▲/▼/◄/► buttons to set each option menu.
   - Channel: Select the desired channel.
   - Repeat: Select Once, Manual, Sat~Sun, Mon~Fri or Everyday to set at your convenience. If you select Manual, you can set the day you want.

     ✎ The (✓) mark indicates the day you've selected.
   - Date: You can set the desired date.

     ✎ It is available when you select Once in Repeat.
   - Start Time: You can set the start time you want.

✎ If you want to edit or cancel a reserved schedule, select the reserved schedule on Schedule Manager. Then press the ENTER button and select the Edit or Delete.

Edit Channel

MENU → Broadcasting → Edit Channel → ENTER

You can edit or delete channels.

1. Go to Edit Channel screen.
2. Press the ▲/▼ buttons to select the desired channel, then press the ENTER button. The (✓) mark indicates the channel you've selected.

   ✎ You can select more than one channel.

   ✎ Press the ENTER again to deselect the channel.

✎ Using the coloured and function buttons with the Edit Channel.

- A Red (Change Number): Changes channel order on the channel list.
  - (Done): Completes changing the channel order.

  ✎ Digital channel does not support this function when the Edit Channel Number (depending on the country) is set to Disable.
- B Green (Delete): Deletes a channel from the channel list.
- C Yellow (Lock/Unlock)): Lock a channel so that the channel cannot be selected and viewed. / Unlock the channel that you locked.

  ✎ This function is available only when the Channel Lock is set to On.

  ✎ The PIN input screen appears. Enter your 4-digit PIN. Change the PIN using the Change PIN option.
- D Blue (Select All / Deselect All): Selects or deselects all channels at once.
- 0~9 (Go To) : Goes to channel directly by pressing numbers (0~9).
- (Page): Move to previous or next page.
- (TOOLS): Displays the option menu. The option menu items that appear may differ depending on the channel status and type.
  - Sorting (digital channels only): Changes the list ordered by channel number or channel name.
  - Aerial: Select the desired broadcasting signal.
  - Category: Change the channel mode to All, TV, Radio, Data/Other, Analogue, Recently Viewed, Most Viewed. The selected channel mode is displayed.
  - Edit Favourites: Go to Edit Favourites screen directly.
  - Rename channel (analogue channels only): Assign a name of up to five characters to a channel. For example, Food, Golf, etc. This makes it easier to find and select the channel.
  - Channel Info: Display details of the selected channel.
  - Information: Display details of the selected programme.
  - Search (when the Antenna was set to Satellite): Channel scan is started. (for TD310ES model)

Edit Favourites TOOLS

MENU → Broadcasting → Edit Favourites → ENTER

You can add, edit or delete favourite channels.

1. Go to Edit Favourites screen.
2. Press the ▲/▼ buttons to select the desired channel, and then press ENTER button.
3. Choose a specific favourite list among Favourites 1 - Favourites 5 using B (Change Fav.) button, and then press the D (Add) button. The selected channel has been added in Favourites 1 - Favourites 5.

✎ One favourite channel can be added in several of favourites among Favourites 1 - Favourites 5.

✎ Using the coloured and function buttons with the Edit Favourites.

- A Red (Category / Change order)
  - Category: Changes the channel mode to All, TV, Radio, Analogue, Data/Other, Recently Viewed, Most Viewed. The selected channel mode is displayed.
  - Change order: Changes the favourite channel order.
  - (Done): Completes changing the channel order.
- B Green (Change Fav.): Changes favourite list among Favourites 1 - Favourites 5.
- C Yellow (Select All / Deselect All): Selects or deselects all channels at once.
- D Blue (Add / Delete)
  - Add: Adds selected channels to Favourites 1 - Favourites 5.
  - Delete: Deletes the favourite channel from Favourites 1 - Favourites 5.
- 0~9 (Go To): Goes to channel directly by pressing numbers (0~9).
- (Page): Move to previous or next page.
- (Tools): Displays the option menu. The option menu items that appear may differ depending on the channel status and type.
  - Sorting (digital channels only): Changes the list ordered by channel number or channel name.
  - Aerial: Select the desired broadcasting signal.
  - Edit Channel: Go to Edit Channel screen directly.
  - Information: Display details of the selected programme.

Other Features

- Fine Tune

  (analogue channels only)

  If the signal is weak or distorted, fine tune the channel manually.

  ✎ Fine tuned channels are marked with an asterisk "*".

  ✎ To reset the fine-tuning, select Reset.

- Transfer Channel List

  (depending on the country)

  Imports or exports the channel map. You should connect a USB storage to use this function.

  ✎ The PIN number input screen appears. Enter your 4 digit PIN number.

  ✎ Supported file systems are FAT and exFAT.

- Delete CAM Operator Profile: Selects the CAM operator to delete.

Satellite System (for TD310ES model)

Satellite System is available when Antenna is set to Satellite. Before running Auto Tuning, set Satellite System. Then channel scan is run normally.

- Satellite Selection: You can choose the satellites for this TV.
- LNB Power (Off / On): Enables or disables the power supply for the LNB.
- LNB Settings: Configures the outdoor equipment.
  - Satellite: Selects the satellite for receiving digital broadcasts.
  - Transponder: Selects a transponder from the list or adds a new transponder.
  - DiSEqC Mode: Selects DiSEqC mode for the selected LNB.
  - Lower LNB Oscillators: Sets the LNB oscillators to a lower frequency.
  - Upper LNB Oscillators: Sets the LNB oscillators to a higher frequency.
  - Tone 22 kHz (Off / On / Auto): Selects the Tone 22 kHz depending on the LNB type. For a universal LNB it should be Auto.
  - Signal Quality: Display the current status of broadcasting signal.
- Positioner Settings: Configures the antenna positioner.

  Positioner (On / Off): Enables or disables the positioned control.

  Positioner Type (USALS / DiSEqC 1.2): Sets the positioned type between DiSEqC 1.2 and USALS(Universal Satellite Automatic Location System).
  - My Longitude: Sets the longitude for my location.
  - My Latitude: Sets the latitude for my location.
  - Satellite Longitude Settings: Sets the longitude of user defined satellites.

  User Mode: Sets the position of satellite antenna according to each satellite. If you store the current position of satellite antenna according to a certain satellite, when the signal of that satellite is needed, the satellite antenna can be moved to pre-populated position.
  - Satellite: Selects the satellite to set the position for.
  - Transponder: Selects a transponder from the list for signal reception.
  - Moving Mode: Selects the movement mode between discrete and continuous movement.
  - Step Size: Adjusts the step size degrees for the antenna rotation. Step Size is available when Moving Mode is set to Step.
  - Go To Stored Position: Rotates the antenna to the stored satellite position.
  - Aerial Position: Rotate the aerial and store position for this satellite.
  - Store Current Position: Stores current position as the selected positioner limit.
  - Signal Quality: Display the current status of broadcasting signal.

Installer Mode: Sets limits to the scope of movement of satellite antenna or reset the position. Generally, installation guide uses this function.

- Limit Position (East / West): Selects the direction of the positioner limit.
- Aerial Position: Adjust the aerial position for the positioner limit by pressing the left or right key.
- Store Current Position: Stores the current position as the selected positioner Limit.
- Go to zero: Moves the antenna to the reference position.
- Reset positioner limit: Allows the antenna to rotate over the full arc.

- Reset All Settings (Yes / No): All satellite settings will be reset to the initial values.

Subtitle TOOLS

MENU → Broadcasting → Subtitle → ENTER

Use this menu to set the Subtitle mode.

- Subtitle: Switches subtitles on or off.
- Subtitle Mode: Sets the subtitle mode.

  ✎ If the programme you are watching does not support the Hearing Impaired function, Preferred automatically activates even if the Hearing Impaired mode is selected.

- Subtitle Language: Sets the subtitle language.

  ✎ The available language may differ depending on the broadcast.

  ✎ English is the default in cases where the selected language is unavailable in the broadcast.

- Primary Subtitle: Sets the primary subtitle.
- Secondary Subtitle: Sets the secondary subtitle.

Audio Format

- Audio Format

  When sound is emitted from both the main speaker and the audio receiver, a sound echo may occur due to the decoding speed difference between the main speaker and the audio receiver. In this case, use the TV Speaker function.

  ✎ Audio Format option may differ depending on the broadcast. 5.1ch Dolby digital sound is only available when connecting an external speaker through an optical cable.

- Audio Description (depending on the country)

  This function handles the Audio Stream for the AD (Audio Description) which is sent along with the Main audio from the broadcaster.

  Audio Description: Turn the audio description function on or off.

  Volume: Adjust the audio description volume.

Teletext Language

(depending on the country)

MENU → Broadcasting → Teletext Language → ENTER

- Teletext Language

  ✎ English is the default in cases where the selected language is unavailable in the broadcast.

- Primary Teletext / Secondary Teletext

  ✎ Primary Teletext and Secondary Teletext may not be supported in some locations.

Digital Text (UK only)

Menu → Broadcasting → Digital Text → ENTER

If the programme broadcasts with digital text, this feature is enabled.

✎ MHEG (Multimedia and Hypermedia Information Coding Experts Group) An International standard for data encoding systems used in multimedia and hypermedia. This is at a higher level than the MPEG system which includes data-linking hypermedia such as still images, character service, animation, graphic and video files as well as multimedia data. MHEG is user runtime interaction technology and is being applied to various fields including VOD (Video-On-Demand), ITV (Interactive TV), EC (Electronic Commerce), tele education, teleconferencing, digital libraries and network games.

Common Interface

MENU → Broadcasting → Common Interface → ENTER

- CI Menu: This enables the user to select from the CAM-provided menu. Select the CI Menu based on the menu PC Card.
- CAM video transcoding: You can configure the setting to transcode the video codec from the CAM automatically. Turn it Off if you do not want to use it.

  ✎ You must use a CAM that supports transcoding the video codec.
- Application Info: View information on the CAM inserted into the CI slot and on the “CI or CI+ CARD” which is inserted into the CAM. You can install the CAM anytime whether the TV is on or off.

  1. Purchase a CI CAM module at your nearest dealer or by phone.
  2. Firmly insert the “CI or CI+ CARD” into the CAM in the direction of the arrow.
  3. Insert the CAM with the “CI or CI+ CARD” into the common interface slot, in the direction of the arrow so that it aligns parallel with the slot.
  4. Check if you can see a picture on a scrambled signal channel.

Setting the Time

Time

MENU → System → Time → ENTER

The current time will appear every time you press the INFO button.

- Clock: Setting the clock is for using various timer features of the TV.

  ✎ If you disconnect the power cord, you have to set the clock again.

  Clock Mode: Set up the current time manually or automatically.

  – Auto: Set the current time automatically using the time from a digital channel.

  ✎ The aerial must be connected in order to set the time automatically.

  – Manual: Set the current time manually.

  ✎ Depending on the broadcast station and signal, the auto time set up may not be correct. In this case, set the time manually.

  Clock Set: Set the Date and Time.

  ✎ Available only when Clock Mode is set to Manual.

  ✎ You can set the Date and Time directly by pressing the number buttons on the remote control.

  Time Zone (depending on the country): Select your time zone.

  ✎ This function is only available when the Clock Mode is set to Auto.

  ✎ When selecting Manual in Time Zone, GMT and DST will be activated.

  Time Offset (depending on the country): Adjusts the time when your TV receives the time information via Internet. Set the right time by selecting an offset.

✎ The current time will be set through a network, if the TV fails to receive the time information including the broadcast signal from TV stations. (ex: Watching TV via set-top box, Satellite receiver, or etc)

Using the Sleep Timer

MENU → System → Time → Sleep Timer → ENTER

- Sleep Timer: Automatically shuts off the TV after a preset period of time. (30, 60, 90, 120, 150 and 180 minutes)

  ✎ Use the ▲/▼ buttons to select a period of time, and then press ENTER. To cancel the Sleep Timer, select Off.

Setting the On / Off Timer

MENU → System → Time → On Timer <or> Off Timer → ENTER

- On Timer: You can set up three separate On Timer configurations. (On Timer 1, On Timer 2, On Timer 3)

  Setup: Select Off, Once, Everyday, Mon~Fri, Mon~Sat, Sat~Sun or Manual to set at your convenience. If you select Manual, you can set up the day you want to activate the timer.

  The c mark indicates the day you've selected.

  Time: Set the hour and minute.

  Volume: Set the desired volume level.

  Source: To select the source of the content that will play when the TV turns on. You can:

  – Select TV and have the TV display a specific air or cable channel.

  – Select USB and have the TV play back photo or audio files from a USB device.

  – Select a source on your TV (HDMI1, HDMI2/DVI, AV, Component, etc.) that you have connected a set-top box to, and have the TV display a channel from the set-top box.

✎ The USB device must be connected to your TV before you can select USB.

✎ If you select a source other than TV or USB, you must:

- Have a cable or satellite set-top box attached to that source
- Set the set-top box to the channel you want to watch when the TV goes on
- Leave the set-top box turned on.

Preference Features

✎ When you select a source other than TV, the Aerial and Channel options will disappear.

Aerial (when the Source is set to TV): Select ATV or DTV.

Channel (when the Source is set to TV): Select the desired channel.

Music / Photo (when the Source is set to USB): Select a folder in the USB device containing music or photo files to be played when the TV is turned on automatically.

- If there is no music file on the USB device or the folder containing a music file is not selected, the timer function does not operate correctly.
- When there is only one photo file in the USB device, the slide show will not play.
- If a folder name is too long, the folder cannot be selected.
- Each USB you use is assigned its own folder. When using more than one of the same type of USB, make sure the folders assigned to each USB have different names.
- It is recommended that you use a USB memory stick and a multi card reader when using On Timer.
- The On Timer function may not work with USB devices with a built-in battery, MP3 players, or PMPs made by some manufacturers because these devices take a long time to be recognized.

- Off Timer: You can set up three separate Off Timer configurations. (Off Timer 1, Off Timer 2, Off Timer 3)

  Setup: Select Off, Once, Everyday, Mon~Fri, Mon~Sat, Sat~Sun or Manual to set at your convenience. If you select Manual, you can set up the day you want to activate the timer.

  ✎ The c mark indicates the day you've selected.

  Time: Set the hour and minute.

Economical Solutions

Eco Solution

MENU → System → Eco Solution

- Energy Saving

  Lets you adjusts the brightness of the product in order to reduce power consumption.

- No Signal Power Off

  To avoid unnecessary energy consumption, you can set how long you want the product to remain on if it's not receiving a signal.

- Auto Power Off

  The product will automatically turn off if you don't press a button on your remote or product controller within 4 hours to prevent overheating.

Other Features

- Menu Language

  MENU → System → Menu Language → ENTER

  Set the menu language.

- Auto Protection Time

  MENU → System → Auto Protection Time → ENTER

- Auto Protection Time (Off / 2 hours / 4 hours / 8 hours / 10 hours):

  If the screen remains idle with a still image for a certain period of time defined by the user, the screen saver is activated to prevent the formation of ghost images on the screen.

Locking Programme

Programme Rating Lock

(depending on the country)

MENU → Broadcasting → Programme Rating Lock → ENTER

Prevent unauthorized users, such as children, from watching unsuitable programme with a user-defined 4-digit PIN code. If the selected channel is locked, the "🔒" symbol will be displayed.

✎ The items of Programme Rating Lock differs depending on the country.

Change PIN

MENU → System → Change PIN → ENTER

Change your password required to set up the TV.

✎ The PIN input screen appears before the setup screen.

✎ Enter your 4-digit PIN. Change the PIN using the Change PIN option.

Channel Lock

MENU → Broadcasting → Channel Lock → ENTER

Lock channels in Channel menu to prevent unauthorized users, such as children, from watching unsuitable programme.

✎ Available only when the Source is set to TV.

Other Features

Menu Language

MENU → System → Menu Language

Set the menu language.

General

MENU → System → General → ENTER

- Game Mode: When connecting to a game console such as PlayStation™ or Xbox™, you can enjoy a more realistic gaming experience by selecting game mode.

  ✎ NOTE

  - Precautions and limitations for game mode
    - To disconnect the game console and connect another external device, set Game Mode to Off in the setup menu.
    - If you display the TV menu in Game Mode, the screen shakes slightly.
  - Game Mode is not available in TV mode.
  - After connecting the game console, set Game Mode to On. Unfortunately, you may notice reduced picture quality.
  - If Game Mode is On:
    - Picture Mode is set to Standard and Sound Mode is set to Movie.
- Panel Lock: Lock or unlock all the keys on the panel at once. when Panel Lock is on, none of the keys on the panel will work.
- Boot Logo: Display Samsung logo when the TV is turned on.

DivX® Video On Demand

MENU → System → DivX® Video On Demand → ENTER

Shows the registration code authorized for the TV. If you connect to the DivX web site and register with 10-digit registration code, you can download the VOD activation file.

Once you play it using Videos, the registration is completed.

✎ For more information on DivX® VOD, visit http://vod.divx.com.

Support Menu

Self Diagnosis

MENU → Support → Self Diagnosis → ENTER

✎ Self Diagnosis might take few seconds, this is part of the normal operation of the TV.

- Picture Test: Use to check for picture problems.
- Sound Test: Use the built-in melody sound to check for sound problems.
  - ✎ If you hear no sound from the TV's speakers, before performing the sound test, make sure Speaker Select is set to TV Speaker in the Sound menu.
  - ✎ The melody will be heard during the test even if Speaker Select is set to External Speaker or the sound is muted by pressing the MUTE button.
- Signal Information (digital channels only): HDTV channel's reception quality is either perfect or the channels are unavailable. Adjust your aerial to increase signal strength.
- Reset: Reset all settings to the factory defaults except network settings.
  - ✎ The PIN input screen appears before the setup screen.
  - ✎ Enter your 4-digit PIN. Change the PIN using the Change PIN option.

Software Update

MENU → Support → Software Update → ENTER

The Software Update menu lets you upgrade your TV's software to the latest version.

✎ When software is upgraded, video and audio settings you have made will return to their default settings. We advise you to write down your settings so that you can easily reset them after the upgrade.

- Update now

  The TV's firmware can be updated through either USB connection or broadcast signal.

  – By USB: Insert a USB drive containing the firmware upgrade file, downloaded from "www.samsung.com" into the TV.

    ✎ Please be careful not to disconnect the power or remove the USB drive until upgrades are complete. The TV will be turned off and on automatically after completing the firmware upgrade.

  – By Channel: Upgrade the software using the broadcasting signal.

    ✎ If the function is selected during the software transmission period, software will be automatically searched and downloaded.

    ✎ The time required to download the software is determined by the signal status.

- Auto update: This option upgrades the TV while it is in Standby Mode. This allows the TV to upgrade itself automatically while it is not in use. Because the TV's internal processes are operating, the screen may emit a faint glow, and this may continue for more than 1 hour until the software download is complete.

Preference Features

Use Mode

MENU → Support → Use Mode → ENTER

Select the Use Mode suitable for your place. We strongly recommend you select Home Use.

- Home Use: Home Use is the default setting.
- Store Demo: Store Demo is for retail environments only. If you select Store Demo, some functions will not work, and the picture settings will be reset every 5 minutes.

Viewing the Contact Samsung

Contact Samsung

MENU → Support → Contact Samsung → ENTER

View this information when your TV does not work properly or when you want to upgrade the software. You can find information regarding our call centres, and how to download products and software.

Application

Application Menu

MENU → Applications

Source List

MENU → Applications → Source List

✎ When you press the SOURCE button, Source screen will be displayed at once.

✎ You can only choose external devices that are connected to the TV. In Source, connected inputs are highlighted.

✎ For the detailed information, refer to “Changing the Input Source” in User Manual.

Connecting a USB Device

1. Turn on your TV.
2. Connect a USB device containing photo, music and movie files to the USB port behind the TV.
3. When USB is connected to the TV, popup window appears. You can select the Photos, Videos or Music directly.

   ✎ It might not work properly with unlicensed multimedia files.

   ✎ Need-to-Know List before using Media Contents.

- MTP (Media Transfer Protocol) is not supported.
- Supported file systems are FAT,exFAT and NTFS.
- Certain types of USB Digital camera and audio devices may not be compatible with this TV.
- Media Contents only supports sequential jpeg format.
- Media Contents only supports USB Mass Storage Class (MSC) devices. MSC is a Mass Storage Class Bulk-Only Transport device. Examples of MSC are Thumb drives, Flash Card Readers (USB HUB are not supported). Devices should be connected directly to the TV’s USB port.
- Before connecting your device to the TV, please back up your files to prevent them from damage or loss of data. SAMSUNG is not responsible for any data file damage or data loss.
- The HDD (Hard Disk Drive) connected to USB is not supported.
- Do not disconnect the USB device while it is loading.
- The higher the resolution of the image, the longer it takes to display on the screen.
- The maximum supported JPEG resolution is 15360 x 8640 pixels.
- For unsupported or corrupted files, the “Not Supported File Format” message is displayed.
- The scene search and thumbnail functions are not supported in the Videos.
- MP3 files with DRM that have been downloaded from a non-free site cannot be played. Digital Rights Management (DRM) is a technology that supports the creation, distribution and management of the content in an integrated and comprehensive way, including the protection of the rights and interests of the content providers, the prevention of the illegal copying of contents, as well as managing billings and settlements.

- PTP connection mode is fully available only with digital cameras. When connecting a smartphone or tablet to the TV using PTP mode, it may not be recognised.
- A USB device that requires high power (more than 500mA or 5V) may not be supported.
- If the TV has been no input during time set in Auto Protection Time, the screen saver will run.
- If a USB extension cable is used, the USB device may not be recognized or the files on the device may not be read.
- If a USB device connected to the TV is not recognized, the list of files on the device is corrupted or a file in the list is not played, connect the USB device to the PC, format the device and check the connection.
- If a file deleted from the PC is still found when Media Contents is run, use the “Empty the Recycle Bin” function on the PC to permanently delete the file.
- If the number of files and folders saved on a USB storage device is approximately over 4000, the files and folders may not appear and some folders may not be opened.

Disconnecting a USB Device

1. Press the SOURCE button.
2. Select a desired USB device, and then press the TOOLS button. The Tools menu appears.
3. Select Disconnect USB Device, and then wait until the selected USB device is disconnected. You can remove a USB device from the TV.

   ✎ To remove a USB device from the TV, we recommend use Disconnect USB Device function.

Media Play

MENU → Applications → Media Play

Enjoy photos, music and movie files saved on a USB Mass Storage Class (MSC) device.

1. Press the MEDIA.P button.
2. Press ◀/▶ button to select desired menu, then press the ↵ button.
3. Press ◀/▶ button to select desired device, then press the ↵ button again.
4. Press the ▲/▼/◀/▶ button to select the desired file in the list, then press the ↵ button or ► (Play) button.

Playing the selected files

1. Press the ▲ button to select Options at the top of each main screen and select Play Selected.
2. Select the desired files.

   ✎ The check box appears to the left of the selected files.

   ✎ Press ↵ button again to deselect the file.
3. Press the ▲ button to select Play.

   ✎ You can select or deselect all files pressing the Select All / Deselect All.

Advanced Features

Playing the Photos / Videos / Music

During playing a file, press the ▲/▼/◄/► button to select the desired menu.

✎ When the option menu is not displayed, press the TOOLS button or ENTER button.

✎ You can also use ►/II/■/◄◄/►► buttons on the remote control during playback.

✎ If you press the INFO button during playback, you can view the playback information.

Playback menu

Button	Operation	Photos	Videos	Music
❮ / ❯	Previous / Next	•		
▶ / II	Start Slide Show / Stop Slide Show	•		
	Play / Pause	Mini Player*	•	•
⏮ / ⏭	Previous / Next	Mini Player*	•	•
◄◄ / ►►	Rewind / Fast Forward		•	•

* When setting the Background Music to Mini Player in Photos, these buttons appear.

Setting menu

- Photos

Button	Operation	
	Slideshow Settings	You can set the Speed and Effects during the slide show.
	Zoom	You can zoom the image.
	Rotate	You can rotate images in full screen mode.
	Background Music / Mini Player	You can set background music when watching a slide show. / You can control simple playback menus.
	Settings	Picture Mode / Sound Mode: You can adjust the picture or sound setting. Information: You can see detailed information about the played file.

Advanced Features

✎ During the slide show, all files in the file list will be displayed in order.

✎ When you press the ∂ (Play) button (or ▲ button → Options → Slide Show) in the file list, slide show will be started immediately.

✎ During the slide show, you can adjust the slide show speed using ◄◄ (REW) or ►► (FF) button.

- Supported Photo Formats

  ✎ For the details, refer to User Manual.

- Videos

Button	Operation	
	Search	Search Titles: You can move the other file directly. Search Time Bar: You can search the video using ◄ and ► button at one minute interval or entering the number directly. It may not be supported depending on the input source.
	Repeat Mode	You can play movie files repeatedly.
	Picture Size	You can adjust the picture size to your preference.
	Settings	Subtitle Settings: You can play the video with subtitles. This function only works if the subtitles are the same file name as the video. Picture Mode / Sound Mode: You can adjust the picture or sound setting. Audio Language: You can change the audio language if the video has more than one language. Information: You can see detailed information about the played file.

✎ If video time information is unknown, play time and progress bar are not displayed.

✎ In this mode, you can enjoy movie clips contained on a Game, but you cannot play the Game itself.

- Supported Subtitle / Video Formats

  ✎ For the details, refer to User Manual.

- Music

Button	Operation	
	Repeat	You can play music files repeatedly.
	Shuffle	You can play the music randomly.
	Sound Mode	You can adjust the sound setting.

✎ Only displays the files with supported music file extension. Other file extensions are not displayed, even if they are saved on the same USB device.

✎ If the sound is abnormal when playing music files, adjust the Equaliser in the Sound menu. (An over-modulated music file may cause a sound problem.)

- Supported Music Formats

  ✎ For the details, refer to User Manual.

Setting the Encoding language

Set the encoding language if the text is not supported.

1. Press the ▲ button to select Options at the top of music main screen and select Encoding.
2. Select the desired encoding language.

Viewing the e-Manual

e-Manual

MENU → Support → e-Manual → ENTER

You can read the introduction and instructions about the TV features stored in your TV.

✎ For the detailed information about e-Manual Screen, refer to “How to use the e-Manual” in User Manual.

Using the Football Mode

Football Mode TOOLS

MENU → Applications → Football Mode → ENTER

This mode provides optimized condition for watching sports games.

- A (Zoom): Pause playback and divide the picture into 9 parts. Select a part to zoom it in. Press this button again to resume.

✎ When the Football Mode is on, the picture and sound modes are set to Stadium automatically.

✎ If you turn the TV off while watching Football Mode, the Football Mode will be disable.

✎ When the Data Service is running, the Zoom is not available.

✎ Zoom doesn't operate in the following modes:

- PIP On
- Media play videos

Other Information

Troubleshooting

If you have any questions about the LED TV, first refer to this list. If none of these troubleshooting tips apply, please visit "www.samsung.com," then click on Support, or contact the call centre listed on the back-cover of this manual.

Issues	Solutions and Explanations
Picture Quality	• First of all, please perform the Picture Test and confirm that your TV is properly displaying test image. (go to MENU - Support - Self Diagnosis - Picture Test) If the test image is properly displayed, the poor picture may caused by the source or signal.
The TV image does not look as good as it did in the store.	• If you have an analogue cable/set top box, upgrade to a digital set top box. Use HDMI or Component cables to deliver HD (high definition) picture quality. • Cable/Satellite subscribers: Try HD stations from the channel line up. • Aerial connection: Try HD stations after performing Auto tuning. • Many HD channels are up scaled from SD (Standard Definition) contents. • Adjust the Cable/Set top box video output resolution to 1080i or 720p. • Make sure you are watching the TV at the minimum recommended distance based on the size and definition of the signal.
The picture is distorted: macroblock error, small block, dots, pixelization	• Compression of video contents may cause picture distortion especially in fast moving pictures such as sports and action movies. • Low signal level or bad quality can cause picture distortion. This is not a TV issue. • Mobile phones used close to the TV (cca up to 1m) may cause noise in picture on analogue and digital TV.
Colour is wrong or missing.	• If you're using a component connection, make sure the component cables are connected to the correct jacks. Incorrect or loose connections may cause colour problems or a blank screen.
There is poor colour or brightness.	• Adjust the Picture options in the TV menu. (go to Picture Mode / Colour / Brightness / Sharpness) • Adjust Energy Saving option in the TV menu. (go to MENU - System - Eco Solution - Energy Saving) • Try resetting the picture to view the default picture settings. (go to MENU - Picture - Reset Picture)
There is a dotted line on the edge of the screen.	• If the picture size is set to Screen Fit, change it to 16:9. • Change cable/satellite box resolution.
The picture is black and white.	• If you are using an AV composite input, connect the video cable (yellow) to the Green jack of component input 1 on the TV.
When changing channels, the picture freezes or is distorted or delayed.	• If connected with a cable box, please try to reset the cable box. Reconnect the AC cord and wait until the cable box reboots. It may take up to 20 minutes. • Set the output resolution of the cable box to 1080i or 720p.

Other Information

Issues	Solutions and Explanations
Sound Quality	• First of all, please perform the Sound Test to confirm that your TV audio is properly operating. (go to MENU - Support - Self Diagnosis - Sound Test) • If the audio is ok, the sound problem may be caused by the source or signal.
There is no sound or the sound is too low at maximum volume.	• Please check the volume of the device (Cable/Sat Box, DVD, Blu-ray etc) connected to your TV.
The picture is good but there is no sound.	• Set the Speaker Select option to TV Speaker in the sound menu. • If you are using an external device, make sure the audio cables are connected to the correct audio input jacks on the TV. • If you are using an external device, check the device's audio output option (ex. you may need to change your cable box's audio option to HDMI when you have a HDMI connected to your TV). • If you are using a DVI to HDMI cable, a separate audio cable is required. • Reboot the connected device by reconnecting the device's power cable.
The speakers are making an inappropriate noise.	• Check the cable connections. Make sure a video cable is not connected to an audio input. • For aerial or cable connections, check the signal strength. Low signal level may cause sound distortion.
No Picture, No Video	
The TV will not turn on.	• Make sure the AC power cord is securely plugged in to the wall outlet and the TV. • Make sure the wall outlet is working. • Try pressing the POWER button on the TV to make sure the problem is not the remote. If the TV turns on, refer to "The remote control does not work" below.
The TV turns off automatically.	• Ensure the Sleep Timer is set to Off in the Time menu. • If your PC is connected to the TV, check your PC power settings. • Make sure the AC power cord is plugged in securely to the wall outlet and the TV. • When watching TV from an aerial or cable connection, the TV will turn off after 10 ~ 15 minutes if there is no signal.
There is no picture/video.	• Check cable connections (remove and reconnect all cables connected to the TV and external devices). • Set your external device's (Cable/Set top Box, DVD, Blu-ray etc) video outputs to match the connections to the TV input. For example, if an external device's output is HDMI, it should be connected to an HDMI input on the TV. • Make sure your connected devices are powered on. • Be sure to select the TV's correct source by pressing the SOURCE button on the remote control. • Reboot the connected device by reconnecting the device's power cable.

Other Information

Issues	Solutions and Explanations
Aerial (Air/Cable) Connection	
The TV is not receiving all channels.	• Make sure the Aerial cable is connected securely. • Please try Setup (Initial setup) to add available channels to the channel list. Go to MENU - System - Setup (Initial setup) and wait for all available channels to be stored. • Verify the Aerial is positioned correctly.
The picture is distorted: macro block error small block, dots, pixelization	• Compression of video contents may cause picture distortion, especially on fast moving pictures such as sports and action movies. • A low signal can cause picture distortion. This is not a TV issue.
Others	
The picture will not display in full screen.	• HD channels will have black bars on either side of the screen when displaying up scaled SD (4:3) contents. • Black bars on the top and bottom will appear during movies that have aspect ratios different from your TV. • Adjust the picture size options on your external device or TV to full screen.
The remote control does not work.	• Replace the remote control batteries with the poles (+/–) in the right direction. • Clean the sensor's transmission window on the remote. • Try pointing the remote directly at the TV from 1.5~1.8 m away.
The cable/set top box remote control doesn't turn the TV on or off, or adjust the volume.	• Programme the Cable/Set top box remote control to operate the TV. Refer to the Cable/Set top box user manual for the SAMSUNG TV code.
A "Mode Not Supported" message appears.	• Check the supported resolution of the TV, and adjust the external device's output resolution accordingly.
There is a plastic smell from the TV.	• This smell is normal and will dissipate over time.
The TV Signal Information is unavailable in the Self Diagnosis Test menu.	• This function is only available with digital channels from an Aerial / RF / Coax connection.
TV is tilted to the right or left side.	• Remove the stand base from the TV and reassemble it.
There are difficulties assembling the stand base.	• Make sure the TV is placed on a flat surface. If you cannot remove the screws from the TV, please use a magnetized screw driver.
The Broadcasting menu is grey out (unavailable).	• The Broadcasting menu is only available when the TV source is selected.

Other Information

Issues	Solutions and Explanations
Your settings are lost after 5 minutes or every time the TV is turned off.	• If the TV is in the Store Demo mode, it will reset audio and picture settings every 5 minutes. If you want to change the settings from Store Demo mode to Home Use, press the SOURCE button to select TV mode, and go to MENU → Support → Use Mode.
You have intermittent loss of audio or video.	• Check the cable connections and reconnect them. • Loss of audio or video can be caused by using overly rigid or thick cables. Make sure the cables are flexible enough for long term use. If mounting the TV to the wall, we recommend using cables with 90 degree connectors.
You see small particles when you look closely at the edge of the frame of the TV.	• This is part of the product's design and is not a defect.
The PIP menu is not available.	• PIP functionality is only available when you are using a HDMI or components source.
You turned the TV off 45 minutes ago, and it turned on again.	• It is normal. The TV operates the OTA (Over The Aerial) function itself to upgrade firmware downloaded whilst your watching TV.
The message "Scrambled Signal" or "Weak or No Signal" appears.	• If you are using a CAM CARD (CI/CI+), check that it is installed into the common interface slot. • If there is still a problem, pull the CAM CARD out of the TV and insert it into the slot again.
There are recurrent picture/ sound issues.	• Check and change the signal/source.
A reaction may occur between the rubber cushion pads on the base stand and the top finish of some furniture.	• To prevent this, use felt pads on any surface of the TV that comes in direct contact with furniture.
The message "This file may not be playable properly." appears.	• This may appear because of high bit rate of content. Content generally will play but could experience some playability issue.

- You can keep your LED TV as optimum condition to upgrade the latest firmware on web site (samsung.com → Support → Downloads) by USB.

Recommendation - EU Only

- Hereby, Samsung Electronics, declares that this LED TV is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.
- This equipment may be operated in all EU countries.
- The official Declaration of Conformity may be found at http://www.samsung.com, go to Support > Search Product Support and enter the model name.

Other Information

Supported Subtitle and Media Play file formats

- Supported Video Formats

File Extention	Container	Video Codec	Resolution	Frame rate (fps)	Bit rate (Mbps)	Audio Codec
*.avi / *.mkv *.asf / *.wmv *.mp4 / *.3gp *.vro / *.mpg *.mpeg / *.ts *.tp / *.trp *.mov / *.flv *.vob / *.svi *.divx	AVI MKV ASF MP4 3GP MOV FLV VRO VOB PS TS	DivX 3.11/4.x/5.x/6.x	1920 x 1080	6~30	30	Dolby Digital LPCM ADPCM (IMA, MS) AAC HE-AAC WMA Dolby Digital Plus MPEG (MP3) DTS (Core) G.711(A-Law, μ-Law)
		MPEG4 SP/ASP				
		H.264 BP/MP/HP				
		Motion JPEG	640 x 480		8	
		Window Media Video v9	1920 x 1080		30	
		MPEG2				
		MPEG1				

✎ Other Restrictions

- Video content will not play, or not play correctly, if there is an error in the content or the container.
- Sound or video may not work if the contents have a standard bit rate/frame rate above the compatible Frame/sec listed in the table.
- If the Index Table is in error, the Seek (Jump) function is not supported.
- Some USB/digital camera devices may not be compatible with the player.
- The menu can be displayed late if the video is over 10Mbps(bit rate).

Video decoder	Audio decoder
• Supports up to H.264, Level 4.1 (FMO/ASO/RS are not supported.) • frame rate: – Below 1280 x 720: 60 frame max – Above 1280 x 720: 30 frame max • VC1 AP L4 is not supported. • GMC 2 or higher is not supported.	• WMA 10 Pro supports up to 5.1 channel and M2 profile. • WMA lossless audio is not supported. • Vorbis supports up to 2ch. • Dolby Digital Plus supports up to 5.1 channel.

- Supported Subtitle Formats

- **External**

Name	File extension
MPEG-4 timed text	.ttxt
SAMI	.smi
SubRip	.srt
SubViewer	.sub
Micro DVD	.sub or .txt
SubStation Alpha	.ssa
Advanced SubStation Alpha	.ass
Powerdivx	.psb

- **Internal**

Name	Container	Format
Xsub	AVI	Picture Format
SubStation Alpha	MKV	Text Format
Advanced SubStation Alpha	MKV	Text Format
SubRip	MKV	Text Format
MPEG-4 Timed text	MP4	Text Format

Other Information

Supported Photo Formats

File Extension	Type	Resolution
*.jpg *.jpeg	JPEG	15360 X 8640
*.bmp	BMP	4096 X 4096
*.mpo	MPO	15360 X 8640

✎ The MPO type file does not support Zoom, Rotate and Slide Show Effect functions.

Supported Music Formats

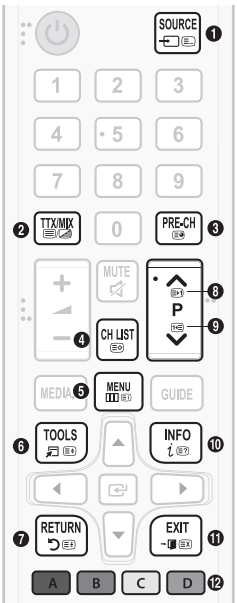
File Extension	Type	Codec	Remark
*.mp3	MPEG	MPEG1 Audio Layer 3	
*.m4a *.mpa *.aac	MPEG4	AAC	
*.flac	FLAC	FLAC	Supports up to 2ch.
*.ogg	OGG	Vorbis	Supports up to 2ch.
*.wma	WMA	WMA	WMA 10 Pro supports up to 5.1 channel and M2 profile. (WMA lossless audio is not supported.)
*.wav	wav	wav	
*.mid *.midi	midi	midi	type 0 and type 1

Other Information

Teletext Feature

The index page of the Teletext service gives you information on how to use the service. For Teletext information to be displayed correctly, channel reception must be stable. Otherwise, information may be missing or some pages may not be displayed.

✎ You can change Teletext pages by pressing the numeric buttons on the remote control.



❶ (mode): Selects the Teletext mode (LIST/FLOF). If pressed during LIST mode, switches the mode to List save mode. In List save mode, you can save a Teletext page into a list using the (store) button.

❷ (Full TTX/Double TTX/mix/off): Activates the Teletext mode for the current channel. Press the button twice to overlap the Teletext mode with the current broadcasting screen. Press it one more time to exit teletext.

❸ (sub-page): Displays the available sub-page.

❹ (store): Stores the Teletext pages.

❺ (index): Displays the index (contents) page at any time while you are viewing Teletext.

❻ (size): Displays the teletext on the upper half of the screen in double-size. To move the text to the lower half of the screen, press it again. For normal display, press it once again.

❼ (hold): Holds the display at the current page, in the case that there are several secondary pages that follow automatically. To undo, press it again.

❽ (page up): Displays the next Teletext page.

❾ (page down): Displays the previous Teletext page.

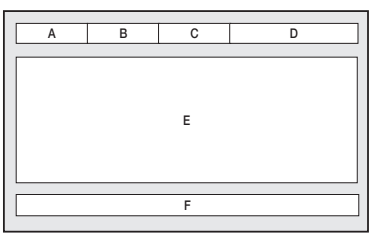
❿ (reveal): Displays the hidden text (answers to quiz games, for example). To display the normal screen, press it again.

⓫ (cancel): Shrinks the Teletext display to overlap with the current broadcast.

⓬ Colour buttons (red, green, yellow, blue): If the FASTEXT system is used by the broadcasting company, the different topics on a Teletext page are colour-coded and can be selected by pressing the coloured buttons. Press the colour corresponding to the topic of your choice. A new colour coded page is displayed. Items can be selected in the same way. To display the previous or next page, press the corresponding coloured button.

The Teletext pages are organized according to six categories

Part	Contents
A	Selected page number.
B	Broadcasting channel identity.
C	Current page number or search indications.
D	Date and time.
E	Text.
F	Status information. FASTEXT information.



Other Information

Installing the Wall Mount

The wall mount kit (sold separately) allows you to mount the TV on the wall. For detailed information on installing the wall mount, see the instructions provided with the wall mount. Contact a technician for assistance when installing the wall mount bracket. We do not advice you to do it yourself.

Samsung Electronics is not responsible for any damage to the product or injury to yourself or others if you select to install the TV on your own.

Wall Mount Kit Specifications (VESA)

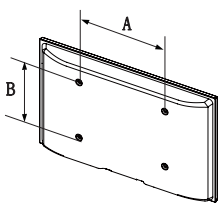
✎ Wall mount kit is not supplied but sold separately.

✎ Install your wall mount on a solid wall perpendicular to the floor. When attaching to other building materials, please contact your nearest dealer. If installed on a ceiling or slanted wall, it may fall and result in severe personal injury.

✎ **NOTE**

- Standard dimensions for wall mount kits are shown in the table below.
- When purchasing our wall mount kit, a detailed installation manual and all parts necessary for assembly are provided.
- Do not use screws that do not comply with the VESA standard screw specifications.
- Do not use screws longer than the standard dimension, as they may cause damage to the inside of the TV set.
- For wall mounts that do not comply with the VESA standard screw specifications, the length of the screws may differ depending on their specifications.
- Do not fasten the screws too strongly, this may damage the product or cause the product to fall, leading to personal injury. Samsung is not liable for these kinds of accidents.
- Samsung is not liable for product damage or personal injury when a non-VESA or non-specified wall mount is used or the consumer fails to follow the product installation instructions.
- Do not exceed 15 degrees tilt when mounting this TV.

inches	VESA Spec. (A * B)	Standard Screw	Quantity
27.5	100 X 100	M4	4
23.6	75 X 75		
32	200 X 200		



Do not install your Wall Mount Kit while your TV is turned on. It may result in personal injury due to electric shock.

Securing the TV to the Wall

Caution: Pulling, pushing, or climbing on the TV may cause the TV to fall. In particular, ensure your children do not hang on or destabilize the TV. Doing so may cause the TV to tip over, causing serious injuries or death. Follow all safety precautions provided in the Safety Flyer included with your TV. For added stability and safety, you can purchase and install the anti-fall device as described below.

To avoid the TV from falling

1. Put the screws into the clamps and firmly fasten them onto the wall. Confirm that the screws have been firmly installed onto the wall.

   ✎ You may need additional material such as an anchor depending on the type of wall.

   ✎ Since the necessary clamps, screws, and string are not supplied, please purchase these additionally.

2. Remove the screws from the centre back of the TV, put the screws into the clamps, and then fasten the screws onto the TV again.

   ✎ Screw Specifications

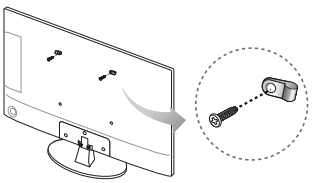
   For a 23.6 / 27.5 / 32 inches: M4

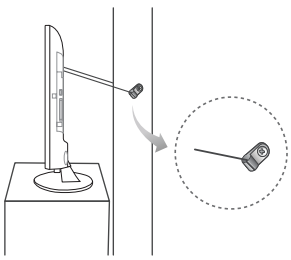
3. Connect the clamps fixed onto the TV and the clamps fixed onto the wall with a strong string and then tie the string tightly.

✎ **NOTE**

- Install the TV near to the wall so that it does not fall backwards.
- It is safe to connect the string so that the clamps fixed on the wall are equal to or lower than the clamps fixed on the TV.
- Untie the string before moving the TV.

4. Verify all connections are properly secured. Periodically check connections for any sign of fatigue for failure. If you have any doubt about the security of your connections, contact a professional installer.





Wall

- The product colour and shape may vary depending on the model.

Other Information

Securing the Installation Space

Keep the required distances between the product and other objects (e.g. walls) to ensure proper ventilation.

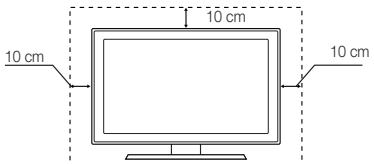
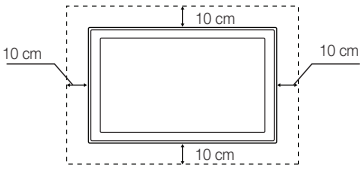
Failing to do so may result in fire or a problem with the product due to an increase in the internal temperature of the product.

✎ When using a stand or wall-mount, use parts provided by Samsung Electronics only.

- If you use parts provided by another manufacturer, it may result in a problem with the product or an injury due to the product falling.

✎ The appearance may differ depending on the product.

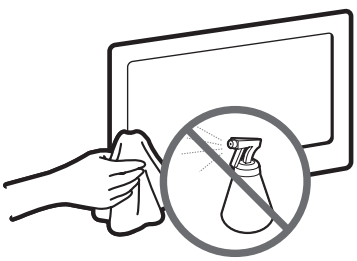
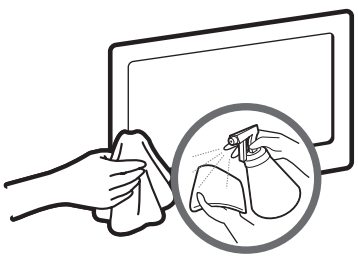
✎ Be careful when you contact the TV because some parts can be somewhat hot.

Installation with a stand.	Installation with a wall-mount.
	

Storage and Maintenance

✎ If you remove the attached sticker on the TV screen, clean the residues and then watch TV.

✎ The exterior and screen of the product can get scratched during cleaning. Be sure to wipe the exterior and screen carefully using a soft cloth to prevent scratches.

	
Do not spray water directly onto the product. Any liquid that goes into the product may cause a failure, fire, or electric shock.	Clean the product with a soft cloth dampened with a small amount of water. Do not use a flammable liquid (e.g. benzene, thinners) or a cleaning agent.

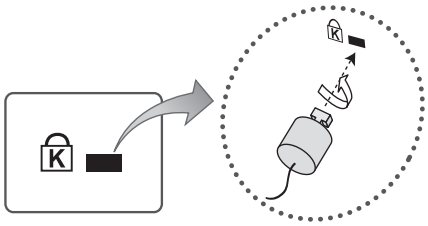
Other Information

Anti-theft Kensington Lock

The Kensington Lock is not supplied by Samsung. It is a device used to physically fix the system when using it in a public place. The appearance and locking method may differ from the illustration depending on the manufacturer. Refer to the manual provided with the Kensington Lock for additional information on proper use.

✎ Please find a "🔒" icon on the rear of the TV. A kensington slot is beside the "🔒" icon.

✎ The position and colour may differ depending on the model.



<Optional>

To lock the product, follow these steps:

1. Wrap the Kensington lock cable around a large, stationary object such as desk or chair.
2. Slide the end of the cable with the lock attached through the looped end of the Kensington lock cable.
3. Insert the locking device into the Kensington slot on the product.
4. Lock the lock.

✎ These are general instructions. For exact instructions, see the User manual supplied with the locking device.

✎ The locking device has to be purchased separately.

Other Information

Licence

Manufactured under licence from Dolby Laboratories.
Dolby and the double-D symbol are trademarks of Dolby Laboratories.

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DivX Certified® to play DivX® video up to HD 1080p, including premium content.

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ABOUT DIVX VIDEO-ON-DEMAND: This DivX Certified® device must be registered in order to play purchased DivX Video-on-Demand (VOD) movies. To obtain your registration code, locate the DivX VOD section in your device setup menu. Go to vod.divx.com for more information on how to complete your registration.

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Covered by one or more of the following U.S. patents: 7,295,673; 7,460,668; 7,515,710; 7,519,274

Open Source Licence Notice

Open Source used in this product can be found on the following webpage. (http://opensource.samsung.com)
Open Source Licence Notice is written only English.

Correct Disposal of This Product (Waste Electrical & Electronic Equipment)

(Applicable in the European Union and other European countries with separate collection systems)

This marking on the product, accessories or literature indicates that the product and its electronic accessories (e.g. charger, headset, USB cable) should not be disposed of with other household waste at the end of their working life. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate these items from other types of waste and recycle them responsibly to promote the sustainable reuse of material resources. Household users should contact either the retailer where they purchased this product, or their local government office, for details of where and how they can take these items for environmentally safe recycling. Business users should contact their supplier and check the terms and conditions of the purchase contract. This product and its electronic accessories should not be mixed with other commercial wastes for disposal.

Correct disposal of batteries in this product

(Applicable in the European Union and other European countries with separate battery return systems)

This marking on the battery, manual or packaging indicates that the batteries in this product should not be disposed of with other household waste at the end of their working life. Where marked, the chemical symbols Hg, Cd or Pb indicate that the battery contains mercury, cadmium or lead above the reference levels in EC Directive 2006/66. If batteries are not properly disposed of, these substances can cause harm to human health or the environment. To protect natural resources and to promote material reuse, please separate batteries from other types of waste and recycle them through your local, free battery return system.

Other Information

Specifications

Environmental Considerations Operating Temperature Operating Humidity Storage Temperature Storage Humidity	 10°C to 40°C (50°F to 104°F) 10% to 80%, non-condensing -20°C to 45°C (-4°F to 113°F) 5% to 95%, non-condensing	
Display Resolution	1366 x 768	
Sound (Output)	5 W x 2	
Model Name	T24D310ES/T24D310EW/T24D310EX	T28D310ES/T28D310EW/T28D310EX
Screen Size	23.6 inches (59 cm)	27.5 inches (69 cm)
Dimensions (W x H x D) Body With stand	 561.84 x 349.12 x 47.92 mm 561.84 x 383.22 x 178.86 mm	 643.4 x 396.5 x 62.9 mm 643.4 x 435.0 x 203.2 mm
Weight Without Stand With Stand	 3.85 kg 4.00 kg	 3.9 kg 4.2 kg
Model Name	T31D310EW	
Screen Size	32 Inches (80 cm)	
Dimensions (W x H x D) Body With stand	 736.1 x 447.4 x 62.9 mm 736.1 x 485.5 x 163.4 mm	
Weight Without Stand With Stand	 4.80 kg 5.30 kg	

✎ Design and specifications are subject to change without prior notice.

✎ For information about power supply, and more about power consumption, refer to the label attached to the product.

✎ Typical power consumption is measured according to IEC 62087 Ed.2

Other Information

Index

A

Advanced Settings 33
Aerial 40
Anti-theft Kensington Lock 78
Audio Format 50
Auto Power Off 55
Auto Tuning 40

B

Backlight 30
Black Tone 33
Brightness 30

C

Channel List 43
Colour 30
Colour Space 33
Colour Tone 34
Contrast 30

D

Digital Clean View 34
DivX® Video On Demand 58
DTS TruDialog 36
Dynamic Contrast 33

E

Eco Solution 55
Energy Saving 55
Entertain 29
Equaliser 36

F

Film Mode 34
Fine Tune 47
Flesh Tone 33

G

Gamma 33
General 57

H

HDMI Black Level 34

L

LED Clear Motion 34
Licence 79

M

Media Play 63
Menu Language 57
Motion Lighting 33
MPEG Noise Filter 34

N

No Signal Power Off 55

P

Picture Mode 29
Picture Options 34
Picture Size 31
PIP 32

R

Reset Picture 35
Reset Sound 35
RGB Only Mode 33

Other Information

S

Self Diagnosis 59
Sharpness 30
Software Update 60
Sound Effect 36
Sound Mode 35
Speaker Settings 37
Supported Subtitle and Media Play file formats 72

T

Time 52
Tint (G/R) 30
Troubleshooting 68

W

White Balance 33

Contact SAMSUNG WORLDWIDE

If you have any questions or comments relating to Samsung products, please contact the SAMSUNG customer care centre.

Country	Customer Care Centre ☎	Web Site
	EUROPE	
AUSTRIA	0800 - SAMSUNG (0800 - 7267864)	www.samsung.com/at/support
BELGIUM	02-201-24-18	www.samsung.com/be/support (Dutch) www.samsung.com/be_fr/support (French)
BOSNIA	051 331 999	www.samsung.com/support
BULGARIA	800 111 31 , Безплатна телефонна линия	www.samsung.com/bg/support
CROATIA	072 726 786	www.samsung.com/hr/support
CZECH	800 - SAMSUNG (800-726786)	www.samsung.com/cz/support
	Samsung Electronics Czech and Slovak, s.r.o. V Parku 2343/24, 148 00 - Praha 4	
DENMARK	70 70 19 70	www.samsung.com/dk/support
FINLAND	030-6227 515	www.samsung.com/fi/support
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GERMANY	0180 6 SAMSUNG bzw. 0180 6 7267864* (*0,20 €/Anruf aus dem dt. Festnetz, aus dem Mobilfunk max. 0,60 €/Anruf)	www.samsung.com/de/support
CYPRUS	8009 4000 only from landline, toll free	www.samsung.com/gr/support
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SLOVENIA	080 697 267 090 726 786	www.samsung.com/si/support
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SWITZERLAND	0800 726 78 64 (0800-SAMSUNG)	www.samsung.com/ch/support (German) www.samsung.com/ch_fr/support (French)
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GEORGIA	0-800-555-555	www.samsung.com/support
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AZERBAIJAN	0-88-555-55-55	www.samsung.com/support
KAZAKHSTAN	8-10-800-500-55-500(GSM: 7799, VIP care 7700)	www.samsung.com/support
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TADJIKISTAN	8-10-800-500-55-500	www.samsung.com/support
MONGOLIA	7-495-363-17-00	www.samsung.com/support
UKRAINE	0-800-502-000	www.samsung.com/ua/support (Ukrainian) www.samsung.com/ua_ru/support (Russian)
BELARUS	810-800-500-55-500	www.samsung.com/support
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Contact SAMSUNG WORLDWIDE

If you have any questions or comments relating to Samsung products, please contact the SAMSUNG customer care centre.

Country	Customer Care Centre ☎	Web Site
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NEW ZEALAND	0800 SAMSUNG (0800 726 786)	www.samsung.com/nz/support
CHINA	400-810-5858	www.samsung.com/cn/support
HONG KONG	(852) 3698 4698	www.samsung.com/hk/support (Chinese) www.samsung.com/hk_en/support (English)
MACAU	0800 333	www.samsung.com/support
INDIA	1800 3000 8282 - Toll Free 1800 266 8282 - Toll Free	www.samsung.com/in/support
INDONESIA	021-56997777 08001128888	www.samsung.com/id/support
JAPAN	0120-363-905	www.samsung.com/jp/support
MALAYSIA	1800-88-9999 603-77137477 (Overseas contact)	www.samsung.com/my/support
PHILIPPINES	1-800-10-7267864 [PLDT] 1-800-8-7267864 [Globe landline and Mobile] 02-4222111 [Other landline]	www.samsung.com/ph/support
SINGAPORE	1800-SAMSUNG(726-7864)	www.samsung.com/sg/support
THAILAND	0-2689-3232, 1800-29-3232	www.samsung.com/th/support
TAIWAN	0800-32-9999	www.samsung.com/tw/support
VIETNAM	1 800 588 889	www.samsung.com/vn/support
	MIDDLE EAST	
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OMAN	800-SAMSUNG (800 - 726 7864)	
KUWAIT	183-CALL (183-2255)	
BAHRAIN	8000-GSAM (8000-4726)	
QATAR	800-CALL (800-2255)	
EGYPT	08000-726786 16580	www.samsung.com/eg/support
ALGERIA	021 36 11 00	www.samsung.com/n_africa/support
TUNISIA	80-1000-12	www.samsung.com/n_africa/support
JORDAN	0800-22273 06 5777444	www.samsung.com/Levant/support (English)
SYRIA	18252273	www.samsung.com/Levant/support (English)
IRAN	021-8255	www.samsung.com/iran/support
MOROCCO	080 100 2255	www.samsung.com/n_africa/support
SAUDI ARABIA	920021230	www.samsung.com/sa/support www.samsung.com/sa_en/support (English)
	AFRICA	
NIGERIA	0800-726-7864	www.samsung.com/africa_en/support
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