



# user manual

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

## Important Warranty Information Regarding Television Format Viewing

See the warranty card for more information on warranty terms. Wide screen format LED Displays with aspect ratios of 16:9 (the ratio of the screen width to screen height) are primarily designed to display wide screen format full-motion video. The images displayed on them should primarily be in the wide screen 16:9 ratio format, or expanded to fill the screen if your model offers this feature and the images are constantly moving. Displaying stationary graphics and images on screen, such as the dark sidebars on non-expanded standard format television video and programming, should be limited to no more than 5% of the total television viewing per week. Additionally, viewing other stationary images and text such as stock market crawls, video game displays, station logos, web sites or content patterns should be limited as described above for all televisions. Displaying stationary images that exceed the above guidelines can cause uneven aging of LED Displays that leave subtle, but permanent burned-in ghost images in the LED picture. To avoid this, vary the programming and images, and primarily display full screen moving images, not stationary patterns or dark bars. On LED models that offer picture sizing features, use these controls to view different formats as a full screen picture. Be careful in the selection and duration of television formats you use for viewing. Uneven LED aging as a result of format selection and use, as well as burned-in images, are not covered by your Samsung limited warranty.

### SAMSUNG ELECTRONICS NORTH AMERICAN LIMITED WARRANTY STATEMENT

Subject to the requirements, conditions, exclusions and limitations of the original Limited Warranty supplied with Samsung Electronics (SAMSUNG) products, and the requirements, conditions, exclusions and limitations contained herein, SAMSUNG will additionally provide Warranty Repair Service in the United States on SAMSUNG products purchased in Canada, and in Canada on SAMSUNG products purchased in the United States, for the warranty period originally specified, and to the Original Purchaser only. The above described warranty repairs must be performed by a SAMSUNG Authorized Service Center. Along with this Statement and the Original Limited Warranty Statement, a dated Bill of Sale as Proof of Purchase must be presented to the Service Center. Transportation to and from the Service Center is the responsibility of the purchaser. Conditions covered are limited only to manufacturing defects in material or workmanship, and only those encountered in normal use of the product. Exclusions include, but are not limited to, any originally specified provisions for in-home or on-site services, minimum or maximum repair times, exchanges or replacements, accessories, options, upgrades, or consumables.

For the location of a SAMSUNG Authorized Service Center, please call toll-free:

—In the United States : 1-800-SAMSUNG (1-800-726-7864)

—In Canada : 1-800-SAMSUNG



BN96-04801G-02

## The On Screen Menus

Your TV has two kinds of menus, the Main menu and the various Tools menus. The Main menu gives you access to most or all of the menu options available on your TV. The Tools menus display a selected number of frequently used menu options that change depending on the screen you are viewing. A Tools menu symbol (T) in the lower right side of the screen indicates that a Tools menu is available. The Main menu has seven primary categories:

- Picture
- Sound
- Channel
- Setup
- Input
- Application
- Support

To view the Main menu, press the MENU button on your remote. To view a Tools menu, press the TOOLS button on your remote. The menu options that appear in the Main menu depend on the Source you have selected. For example, if you have selected the HDMI source, the Channel category will not appear. To see the Channel category, you must first select TV in the Source List. The Menu options are presented below, arranged by Main menu categories. A Tools button symbol (T) next to an option name indicates the option is also available in one of the Tools menus.

## Picture Menu

### Mode (TOOLS2)

Select your preferred picture mode.

- When your TV is connected to a PC, you can only select **Entertain** and **Standard**.
- Dynamic**: Brightens the screen. Suitable for a bright room.
- Standard**: Suitable for a normal room brightness.
- Movie**: Darkens the screen, making it less glary. Suitable for watching movies in a darkened room.
- Entertain**: Sharpens the picture. Suitable for games.
- Only available when the TV is connected to a PC.

### Samsung MagicAngle (for 19", 22" models)

Adjust screen viewing Angle to optimize screen quality according to your viewing position.

- Samsung MagicAngle**: When viewing the screen at an angle from below or above by setting the appropriate mode for each position you can obtain a similar picture quality as viewing the screen directly from the front.
- Off**: Select when viewing from the front position.
- Lean Back Mode**: Select when viewing from a slightly lower position.
- Standing Mode**: Select when viewing from the upper position.
- Movie**: Adjust screen viewing angle.
- When **Samsung MagicAngle** is set to **Lean Back Mode** or **Standing Mode**, **Gamma** is not available.

### Backlight / Contrast / Brightness / Sharpness / Color / Tint (G/R)

- Backlight**: Adjusts the brightness of the screen by adjusting the brightness of the individual pixels.
- Contrast**: Increases or decreases the contrast between dark and light areas of the picture.
- Brightness**: Adjusts the brightness of the screen. Not as effective as Backlight.
- Sharpness**: Sharpens or dulls the edges of objects.
- Color**: Adjusts the color saturation. The higher the Color setting, the more intense the color. Low settings remove color and the picture becomes black, white, and gray.

- Tint**: Adjusts the amount of green and red in the picture. As you increase the amount of green, the amount of red decreases and vice versa.
- When the TV is connected to a PC, you can only make changes to **Backlight**, **Contrast**, **Brightness**, and **Sharpness**.

## Advanced Settings

- Available in **Standard** and **Movie** mode only. Compared to previous models, new Samsung TVs offer a more precise picture with more precise controls.
- When your TV is connected to a PC, you can only make changes to **Gamma** and **White Balance**.
- Dynamic Contrast**: Adjusts the screen contrast.
- Black Tone**: Selects the black level to adjust the screen depth. Darker settings make blacks look darker.
- Flesh Tone**: Adjusts the amount of red in skin tones.
- Color Space**: Auto automatically matches the range of colors (the variety and number of colors) available to create pictures with the color range of the video source. Native provides a color range wider than the color range of the video source.
- White Balance**: Adjusts the color temperature of the picture so that white objects look white (instead of, for example, slightly pink or slightly yellow) and the overall color of the picture looks natural.
- R-Off / G-Offset / B-Offset**: Adjusts how dark each color (red, green, blue) is.
- R-Gain / G-Gain / B-Gain**: Adjusts how bright each color (red, green, blue) is.

- Reset**: Resets the **White Balance** to its default settings.
- Gamma**: Adjusts the picture color intensity.
- Motion Lighting**: When on, the TV automatically adjusts the brightness of the screen in response to the brightness of the room. In bright light, the screen brightens. In dim light, the screen dims.
- Available in **Standard** mode only.

## Picture Options

- When the TV is connected to a PC, you can only make changes to the **Color Tone**, **Size**, and **HDMI Black Level**.
- Color Tone**: Cool makes the picture blue (cooler), Warm 1 and Warm 2 make the picture redder (warmer).
- Warm 1** and **Warm 2** are deactivated when the picture mode is set to **Dynamic**.
- Size**: Set the size and aspect ratio of the picture on the screen. Your cable box or satellite receiver may have its own set of screen sizes as well. However, we highly recommend you use the TVs 16:9 mode most of the time.
- 16:9**: Sets the picture to the 16:9 wide screen format.
- Zoom1**: Provides moderate magnification of the picture. Sides, top, and bottom are cut off.
- Zoom2**: Provides larger magnification of the picture. Sides, top, and bottom are cut off.
- Wide Fit**: Enlarges the aspect ratio of the picture so the picture fits the entire screen.
- 4:3**: Sets the picture to the old, 4:3 format and puts black or gray borders on the right and left of the picture.
- Do not watch your TV in the 4:3 format for a long time. Traces of borders displayed on the left, right and center of the screen may cause image retention (screen burn) which is not covered by the warranty.

- Screen Fit**: Displays the full image without any cut-off when your TV is inputting HDMI (720p / 1080i / 1080p) or Component (1080i / 1080p) HD signals.
- High Definition**: Has a 16:9 aspect ratio and 1080i/1080p (1920x1080) or 720p (1280x720) resolution.

- 16:9**: Sets the picture to the 16:9 wide screen format.
- Zoom1**: Provides moderate magnification of the picture. Sides, top, and bottom are cut off.
- Zoom2**: Provides larger magnification of the picture. Sides, top, and bottom are cut off.
- Wide Fit**: Enlarges the aspect ratio of the picture so the picture fits the entire screen.
- 4:3**: Sets the picture to the old, 4:3 format and puts black or gray borders on the right and left of the picture.

- Do not watch your TV in the 4:3 format for a long time. Traces of borders displayed on the left, right and center of the screen may cause image retention (screen burn) which is not covered by the warranty.
- Screen Fit**: Displays the full image without any cut-off when your TV is inputting HDMI (720p / 1080i / 1080p) or Component (1080i / 1080p) HD signals.
- High Definition**: Has a 16:9 aspect ratio and 1080i/1080p (1920x1080) or 720p (1280x720) resolution.

- You can adjust and store settings for each external device you have connected to an input on the TV. Picture Sizes available by Input Source are listed below.

Input Source	Picture Size
ATV, AV, Component (480i, 480p)	16:9, Zoom1, Zoom2, 4:3
DTV (1080i, 1080p), Component (1080i, 1080p), HDMI (720p, 1080i, 1080p)	16:9, Wide Fit, 4:3, Screen Fit

- Digital Clean View**: If the broadcast signal received by your TV 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 all the **Digital Clean View** options until the TV displays the best picture.
- MPEG Noise Filter**: Reduces MPEG noise to provide improved picture quality.
- HDMI Black Level**: For HDMI signals, select the black level to adjust the screen depth. Low make blacks look darker.
- Available only in HDMI mode (RGB signals).
- Film Mode**: Sets the TV to automatically sense and process film signals from all sources and adjusts the picture for optimum quality.
- Available in ATV, DTV (interlace), AV, COMPONENT (480i / 1080i) and HDMI (480i / 1080i).
- LED Clear Motion**: Removes drag from fast scenes with a lot of movement to provide a clear picture.

## Picture Reset

Resets the picture settings to their factory defaults.

## Sound Menu

### Mode (TOOLS2)

- 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 sounds to allow a better listening experience for the hearing impaired.

## Equalizer

- Available in **Standard** sound mode only.
- Balance L/R**: 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.

## DTS TruSurround

- Available in **Standard** sound mode only.
- DTS TruSurround is a patented DTS technology that solves the problem of playing 5.1 multichannel content through two speakers. TruSurround delivers a compelling, virtual surround sound experience through its two-speaker playback system, including internet television speakers. It is fully compatible with all multichannel formats.

## Preferred Language

- Digital channels only.
- Digital-TV broadcasts can transmit many audio tracks simultaneously (for example, simultaneous translations of a program into foreign languages).

- You can only select a language from among the ones being broadcast.

## Multi-Track Sound

Analog channels only.

- Mono**: Select for channels that are broadcasting in mono or if you are having difficulty receiving a stereo signal.
- Stereo**: Select for channels that are broadcasting in stereo.
- SAP**: Select to listen to the Separate Audio Program, which is usually a foreign-language translation.
- Depending on the program being broadcast, you can listen to **Mono**, **Stereo** or **SAP**.

## Auto Volume

Because each station has its own broadcasting conditions, the volume may fluctuate each time you change the channel. This feature automatically adjusts the volume of a channel by lowering the sound output when the modulation signal is high or by raising the sound output when the modulation signal is low.

## SPDIF Output (for 32" and above models)

- The SPDIF (Sony Philips Digital Interface) outputs an uncompressed digital audio signal when you connect the digital audio jack on the back of the TV to a digital audio in jack on a receiver or home theater.
- Audio Format**: You can select the Digital Audio output (SPDIF) format. The available Digital Audio output format may differ depending on the input source.
- By connecting the TV to a receiver or home theater with **Dolby Digital** and 5.1ch speakers and selecting **Dolby Digital**, you can maximize your interactive 3D sound experience.
- Audio Delay**: Lets you correct timing mismatches between the audio track and the video when you are watching the TV and listening to digital audio output from the TV through an external device such as an AV receiver. When you select **Audio Delay**, a slider appears. Use the left and right arrow buttons to adjust the slider. Press ENTER (T) when done (0ms - 250ms).

## Speaker Select

- If you are listening to the sound track of a broadcast or movie through an external receiver, you may hear a sound echo caused by the difference in decoding speed between the TV's speakers and the speakers attached to your audio receiver. If this occurs, set the TV to **External Speaker**.
- When you set **Speaker Select** to **External Speaker**, the TV's speakers are turned off. You will hear sound through the external speakers only. When you set **Speaker Select** to **Speaker** both the TV's speakers and the external speakers are on. You will hear sound through both.
- When **Speaker Select** is set to **External Speaker**, the VOLUME and MUTE buttons will not operate and the sound settings will be limited.
- If there is no video signal, both the TV's speakers and the external speakers will be mute.

## Visual Impaired

- Adds verbal description to the main audio to help the visually impaired.

## Sound Reset

Resets all sound settings to the factory

## Channel Menu

## Memorizing Channels

If you are not using a cable box or satellite box, when you first set up your TV using **Plug & Play**, the TV memorized the channels that were available over the air or through your cable system and added them to the **Channel List**. The **Antenna** and **Auto program** functions described below let you re-run the channel memorization function without having to re-run the **Plug & Play** procedure.

## Antenna (Switch to Cable / Switch to Air (TOOLS2))

Before your television can memorize the available channels, you must select your TV's signal source, **Air** (using an antenna) or **Cable**. Select Menu > Channel > Antenna > Air or Cable. After you have selected the signal source, go on to the Auto Program function.

- Selecting the signal source using the **Antenna** function also determines the signal source the TV is tuned to. For example, if you receive your TV signal over the air, and you select **Cable**, you will see only **Now**. You must select **Air** to see a picture.

## Auto Program

The Auto Program function memorizes all channels that are available over the air or through your cable system and adds them to the **Channel List**.

- If your TV is connected to a cable box or satellite box, you do not need to run **Auto Program**. You will use the tuner in the box, not the tuner in the TV, to select channels.
- To start **Auto Program**, follow these steps:

- Push MENU (M) -> **Channel** -> **Auto Program** -> ENTER (T) on your remote. The Antenna Source screen appears.
- On the Antenna Source screen, select the source of your TV signal.

### Air

If your TV is connected to an antenna choose **Air**, and then press ENTER (T). The TV will automatically start memorizing channels.

### Cable

If your TV is connected to a cable outlet, choose **Cable**, and then press ENTER (T). Go to Step 3.

### Auto

- If you choose **Auto**, and then press ENTER (T), the TV will automatically select the correct Antenna source. Go to Step 3.
- On the Cable type screen, use the <T> / >T> buttons to select the type of digital and analog cable systems you have: **STD**, **HRC**, **IRC**. Most systems are **STD (Standard)**. When done, select **Start**, and then press ENTER (T). The TV will start memorizing channels.
- Channel memorization can take up to 45 minutes, depending on your cable system.
- Memorized channels are added to the **Added Channels** list. These are the channels you will see when you use the **Channel** buttons on your remote.

## Clear Scrambled Channel

This function filters out scrambled channels after **Auto Program** is completed. This process may take 20-30 minutes.

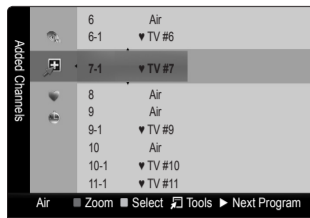
- Press the ENTER (T) button to stop **Clear Scrambled Channel**.
- This function is only available in **Cable** mode.

## Managing Channels

### Channel List

See your list of Added channels. Favorite channels, or channels you've scheduled for viewing, Add or delete Favorite channels, add or delete channels from the **Added Channels** list, schedule channels or programs for viewing. Select a channel to watch on the **All Channels**, **Added Channels**, or **Favorite** screen by pressing the <T> / >T> buttons, and then pressing the ENTER (T) button.

- If you use a cable box or satellite box, you cannot use the **Channel List** functions.



**Channel List Screens icons are listed on the left side. Select an icon using the <T> / >T> buttons to view each list.**

- All Channels**: Shows all currently available channels including those you deleted from the **Added Channels** list.
- Added Channels**: Shows all Added Channels. These are the channels that appear when you press the CH button.
- Favorite**: Shows all favorite channels.
- Programmed**: Shows all channels and programs currently scheduled using **Timer Viewing**.
- Remote control buttons active on the **Channel List** screen.
  - Green (Zoom)**: Enlarges or shrinks a channel number.
  - Yellow (Select)**: Move the cursor to a channel. Press the Yellow button to select the channel. A <T> / >T> mark appears. Repeat to select additional channels. Then, open the Tools menu and apply a function to the channels you selected.
  - T (Tools)**: Displays the **Channel List** Tools menu. (The Tools menu may differ depending on the situation.)
  - Next Program**: Displays next programs.

## Display Icons Used in the Channel List Screens

Icons	Meaning
✓	A selected channel.
♥	A Favorite channel.
⊖	A reserved program.
⊞	A program currently being broadcast.

## The Channel List Tools Menu

The Channel List Tools menu contains most of the functions you can use on the **All Channel**, **Added Channels**, and **Favorite List** screens. To view, select a screen, select a channel, and then press the TOOLS button.

- Channel List** -> (TOOLS2)

The Channel List Tools menu contains most of the functions you can use on the **All Channel**, **Added Channels**, and **Favorite List** screens. To view, select a screen, select a channel, and then press the TOOLS button.

- Add / Delete**: Delete a channel from or add a channel to the **Added Channels** list.

- To delete channels from the **Added Channels** list, follow these steps:

  - Select one or more channels in the **Added Channels** list using the <T> / >T> buttons and the **Yellow (Select)** button on your remote.
  - Press the TOOLS button on your remote. The Tools menu appears.
  - Select **Delete** in the Tools menu, and then press the ENTER (T) button.

- To add channels to the **Added Channels** list, follow these steps:

  - Select one or more channels in the **All Channels** list using the <T> / >T> buttons and the **Yellow (Select)** button on your remote.
  - Press the TOOLS button on your remote. The Tools menu appears.
  - Select **Add** in the Tools menu, and then press the ENTER (T) button.
  - All deleted channels are shown on the **All Channels** list. You add channels back to the **Added Channels** list on the **All Channels** list.
  - A gray-colored channel indicates the channel has been deleted from the **Added Channels** list.
  - The **Add** menu option only appears for deleted channels.
  - Add to Favorite / Delete from Favorite (TOOLS2)**: Lets you add channels to or delete channels from your **Favorites** list.

- To add channels to the **Favorites** list, follow these steps:

  - Select one or more channels in the **All Channels** list using the <T> / >T> buttons and the **Yellow (Select)** button on your remote.
  - Press the TOOLS button on your remote. The Tools menu appears.
  - Select **Add to Favorite** in the Tools menu, and then press the ENTER (T) button.

- To delete channels from the **Favorites** list, follow these steps:

  - Select one or more channels in the **Favorite Channels** list using the <T> / >T> buttons and the **Yellow (Select)** button on your remote.
  - Press the TOOLS button on your remote. The Tools menu appears.
  - Select **Delete** from **Favorite** in the Tools menu, and then press the ENTER (T) button.

- Timer Viewing**: You can schedule a channel to be displayed automatically at a set time, even when you are watching another channel. You must set the current time first in the **Time > Clock** function to use **Time Viewing**.
- To schedule a channel, follow these steps:

- Select a channel in the **Added Channels** list using the <T> / >T> buttons and the **Yellow (Select)** button on your remote.
- Press the TOOLS button on your remote. The Tools menu appears.
- Select **Delete from Favorite** in the Tools menu, and then press the ENTER (T) button.

- Time Viewing**: You can schedule a channel to be displayed automatically at a set time, even when you are watching another channel. You must set the current time first in the **Time > Clock** function to use **Time Viewing**.
- To schedule a channel, follow these steps:

  - Select a channel in the **Added Channels** list using the <T> / >T> buttons and the **Yellow (Select)** button on your remote.
  - Press the TOOLS button on your remote. The Tools menu appears.
  - Select **Delete from Favorite** in the Tools menu, and then press the ENTER (T) button.

- Time Viewing**: You can schedule a channel to be displayed automatically at a set time, even when you are watching another channel. You must set the current time first in the **Time > Clock** function to use **Time Viewing**.
- To schedule a channel, follow these steps:

- Select a channel in the **Added Channels** list using the <T> / >T> buttons and the **Yellow (Select)** button on your remote.
- Press the TOOLS button on your remote. The Tools menu appears.
- Select **Delete from Favorite** in the Tools menu, and then press the ENTER (T) button.

- Time Viewing**: You can schedule a channel to be displayed automatically at a set time, even when you are watching another channel. You must set the current time first in the **Time > Clock** function to use **Time Viewing**.
- To schedule a channel, follow these steps:

- Select a channel in the **Added Channels** list using the <T> / >T> buttons and the **Yellow (Select)** button on your remote.
- Press the TOOLS button on your remote. The Tools menu appears.
- Select **Delete from Favorite** in the Tools menu, and then press the ENTER (T) button.

- Time Viewing**: You can schedule a channel to be displayed automatically at a set time, even when you are watching another channel. You must set the current time first in the **Time > Clock** function to use **Time Viewing**.
- To schedule a channel, follow these steps:

- Select a channel in the **Added Channels** list using the <T> / >T> buttons and the **Yellow (Select)** button on your remote.
- Press the TOOLS button on your remote. The Tools menu appears.
- Select **Delete from Favorite** in the Tools menu, and then press the ENTER (T) button.

- Time Viewing**: You can schedule a channel to be displayed automatically at a set time, even when you are watching another channel. You must set the current time first in the **Time > Clock** function to use **Time Viewing**.
- To schedule a channel, follow these steps:

- Select a channel in the **Added Channels** list using the <T> / >T> buttons and the **Yellow (Select)** button on your remote.
- Press the TOOLS button on your remote. The Tools menu appears.
- Select **Delete from Favorite** in the Tools menu, and then press the ENTER (T) button.

- If you select **Everyday** or **Every Week**, the date you select in the Date field becomes the start date for your scheduled viewing.
- For **Everyday**, the TV will turn on every day, at the time you selected, starting from that date. For **Everyweek**, the TV will turn on every week, on the same day of the week as the start date you selected, at the time you selected, from that day on. If you select **Once**, the TV will turn on once, on the date and time you selected.

- Press the ENTER (T) button on your remote when done.
- Only **Added Channels** can be scheduled.
- Scheduled programs and channels are displayed in the **Programmed List**.
- When you select a digital channel, press the >T> button to view the digital program list. If you highlight a program in the list, and then press the ENTER (T) (Schedule) button, you set **Timer Viewing** for that program directly.

- Channel Name Edit**: Analog channels only. Lets you assign a name of up to five characters to an analog channel. For example, **Hist**, **Food**, **Golf**, etc. This makes it easier to find and select a channel.
- Deselect All**: Deselect all the selected displayed channels.
- You can only select **Deselect All** when one or more channels are selected.
- Select All**: Select all the channels in the displayed channel list.
- Auto Program**: See **Auto Program** under Memorizing Channels.

### Programmed List (on the Channel List Screen)

The **Programmed List** displays the channels and programs you have scheduled for viewing using the **Time Viewing** function. You can view, modify, or delete a show you have scheduled using the functions on the **Programmed List** screen. Tools menu.

- Change Info**: Change the scheduling information for a show or channel you have scheduled.

### Programmed List Screen Tools Menu

- Channel List** -> **Programmed** -> (TOOLS2)
- Change Info**: Change the scheduling information for a show or channel you have scheduled.

- To change the information, follow these steps:

  - Select the **Programmed List** icon on the left side of the **Channel List** screen, and then press the ENTER (T) button.
  - On the **Programmed List** screen, select the show or channel entry you want to change, and then press the TOOLS button. The Tools Menu appears.

- Select **Change Info**, and then press the ENTER (T) button. The **Time Viewing** screen appears.
- Use the <T> / >T> buttons to move from entry field to entry field and the <T> / >T> buttons to change the entries. Where numbers are displayed, you can also enter numbers directly using the number keypad on your remote.

**Press the ENTER (T) button when done.**

- Cancel Schedules**: Cancel a show or channel you have scheduled.
- To cancel a scheduled show or channel, follow these steps:

- Select the **Programmed List** icon on the left side of the **Channel List** screen, and then press the ENTER

File Extension	Container	Video Codec	Resolution	Frame rate (fps)	Bit rate (Mbps)	Audio Codec
*.mp4	MP4	Divx3.11.4 v. 5.1.6.0	1920x1080	6-30	30Mbps	MPEG / AAC
		H264	1920x1080	6-30	30Mbps	MPEG / AAC
		AVC	1920x1080	6-30	30Mbps	MPEG / AAC
**avi *.m2ts	AVI M2TS	Divx3.11.4 v. 5.1.6.0	1920x1080	6-30	30Mbps	MPEG / AAC
		MPEG2 SP ASP	1920x1080	6-30	30Mbps	MPEG / AAC
		H264	1920x1080	6-30	30Mbps	MPEG / AAC
**_avi *_wmv*	AVI WMV	Divx3.11.4 v. 5.1.6.0	1920x1080	6-30	30Mbps	MPEG / AAC
		MPEG2 SP ASP	1920x1080	6-30	30Mbps	MPEG / AAC
		H264	1920x1080	6-30	30Mbps	MPEG / AAC
**_avi *_wmv*	ASP	Divx3.11.4 v. 5.1.6.0	1920x1080	6-30	30Mbps	MPEG / AAC
		MPEG2 SP ASP	1920x1080	6-30	30Mbps	MPEG / AAC
		H264	1920x1080	6-30	30Mbps	MPEG / AAC
**_ts *_h264 *_m2ts*	TS	Divx3.11.4 v. 5.1.6.0	1920x1080	6-30	30Mbps	MPEG / AAC
		MPEG2	1920x1080	6-30	30Mbps	MPEG / AAC
		H.264 BPT/MP4HP	1920x1080	6-30	30Mbps	MPEG / AAC
*_dat *_mpg *_mpeg *_vod*	PS	MPEG1	1920x1080	24/25/30	30Mbps	MPEG / AAC
		MPEG2	1920x1080	24/25/30	30Mbps	MPEG / AAC
		H.264 BPT/MP4HP	1920x1080	6-30	30Mbps	MPEG / AAC
*_3gp	3GPP	MPEG4 SP ASP	1920x1080	6-30	30Mbps	MPEG / AAC
		H.264	1920x1080	6-30	30Mbps	MPEG / AAC
		H.264	1920x1080	6-30	30Mbps	MPEG / AAC
*_tv formats	Sorenson H.263	1920x1080	6-30	30Mbps	MPEG / AAC	

### 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 Supported Video Formats table.
- If the Index Table contains an error, the Seek (Jump) function will not work.
- The menu may take longer to appear if the video's bit rate exceeds 10Mbps.
- Video content may not play if there is too much content in one file.

Video Decoder	Supported up to H.264, Level 4.1 H.264 FMO / ASO / RS, VCI SP / MP / AP L4 and AVCHD are not supported.
MPEG4 SP, ASP	Below 1280 x 720: 60 frame max Above 1280 x 720: 30 frame max H.263 is not supported. GMC is not supported.

Audio Decoder	Supported up to WMA7, 8, 9 STD, 9 PRO, and 10 PRO WMA 9 PRO and WMA 10 PRO support 5.1 channel. (LBR mode of WMA Pro is not supported.) WMA Lossless is not supported.
AC3 / MPEG / AAC	

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

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

- 9 -

<b>Sound Problem</b>	Perform the <b>Sound Test</b> to confirm your TV's audio is working properly. (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.	Check the volume control of the device (Cable/Sat Box, DVD, Blu-ray, etc.) connected to your TV.
The picture is good but there is no sound.	<ul style="list-style-type: none"> <li>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 if you have the cable box's audio output connected to your TV using an HDMI cable.</li> <li>Reboot the connected device by unplugging and then reconnecting the device's power cable.</li> </ul>
The speakers are making an inappropriate noise.	<ul style="list-style-type: none"> <li>Check the cable connections. Make sure a video cable is not connected to an audio input.</li> <li>For Antenna or Cable connections, check the signal information. A weak signal may cause sound distortion.</li> <li>Perform the <b>Sound Test</b> as explained above.</li> </ul>
<b>No Picture, No Video</b>	
The TV will not turn on.	<ul style="list-style-type: none"> <li>Make sure the AC power cord is securely plugged into the wall outlet and the TV.</li> <li>Make sure the wall outlet is working.</li> <li>Try pressing the POWER button on the TV to make sure the problem is not caused by the remote. If the TV turns on, refer to "Remote control does not work" below.</li> </ul>
The TV turns off automatically.	<ul style="list-style-type: none"> <li>Ensure the <b>Sleep Timer</b> is set to <b>Off</b> in the <b>Time menu</b>.</li> <li>If your PC is connected to the TV, check your PC power settings.</li> <li>Make sure the AC power cord is plugged into the wall outlet and TV securely.</li> <li>When you are watching a TV connected to an antenna or to a cable connection, the TV will turn off after 10 - 15 minutes if there is no signal.</li> </ul>
There is no picture/video.	<ul style="list-style-type: none"> <li>Check the cable connections. (Remove and reconnect all cables connected to the TV and external devices).</li> <li>Set your external device's (Cable/Sat 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.</li> <li>Make sure your connected devices are powered on.</li> <li>Be sure that the TV is set to the correct source by pressing the SOURCE button on the remote control.</li> <li>Reboot the connected device by unplugging and then reconnecting the device's power cable.</li> </ul>
<b>RF/Cable/Antenna Connection</b>	
The TV is not receiving all channels.	<ul style="list-style-type: none"> <li>Make sure the coaxial cable is connected securely.</li> <li>Run <b>Auto Program</b> to add available channels to the channel list.</li> <li>Go to MENU - Channel - Auto Program then select <b>Auto</b> and make sure the correct Cable TV signal type is set in the menu. There are 3 options: <b>STD</b>, <b>HFC</b>, and <b>PRO</b>.</li> <li>Verify the antenna is positioned correctly.</li> </ul>
No Caption on digital channels.	<ul style="list-style-type: none"> <li>Check the Caption Setup menu. Try changing <b>Caption Mode Service1</b> to <b>CC1</b>.</li> <li>Some channels may not have caption data.</li> <li>A weak signal can cause picture distortion. This is not a TV problem.</li> </ul>
The picture is distorted: macroblock error, small black dots, pixelization.	<ul style="list-style-type: none"> <li>Compression of video contents may cause picture distortion, especially on fast moving pictures such as sports and action movies.</li> <li>A weak signal can cause picture distortion. This is not a TV problem.</li> </ul>
<b>Others</b>	
Purple/green rolling horizontal bars and buzzing noise from the TV speakers with Component cable connection.	<ul style="list-style-type: none"> <li>Remove the left and right audio connections from the set-top-box. If the buzzing stops, this indicates that the set-top-box has a grounding issue. Replace the Component video cable with an HDMI connection.</li> </ul>
The picture will not display in full screen.	<ul style="list-style-type: none"> <li>HD channels will have black bars on either side of the screen when displaying up scaled SD (4:3) contents.</li> <li>Black bars on the Top &amp; Bottom will be shown on movies that have aspect ratios different from your TV.</li> <li>Adjust the picture size option on your external device or change the TV to full screen.</li> </ul>
The remote control does not work.	<ul style="list-style-type: none"> <li>Replace the remote control batteries. Make sure you install the new batteries with their polarity (+/-) correct.</li> <li>Clean the transmission window located on the top of the remote control.</li> <li>Try pointing the remote directly at the TV from 5-6 feet away.</li> </ul>
The cable/set top box remote control does not turn the TV on or off, or adjust the volume.	<ul style="list-style-type: none"> <li>Program 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.</li> </ul>
A "Mode Not Supported" message appears.	Check the supported resolution of the TV and adjust the external device's output resolution accordingly. Refer to resolution settings in this manual.
<b>Caption</b> on the TV menu is greyed out.	<ul style="list-style-type: none"> <li>You cannot select <b>Caption</b> in the TV menu when watching content from a device connected via HDMI or Component.</li> <li><b>Caption</b> must be activated on the external device.</li> </ul>
There is a plastic smell from the TV.	This smell is normal and will dissipate over time.
<b>TV Signal Strength</b> is unavailable in the <b>Self Diagnosis</b> test menu.	This function is only available for digital channels received through an Antenna/RF/Coax connection.
TV is tilted to the right or left side.	Remove the stand base from the TV and reassemble it.
The <b>Channel</b> menu is greyed out (unavailable).	The <b>Channel</b> menu is only available when an HDMI connection is set up.
Your settings are lost after 30 minutes or every time the TV is turned off.	If TV is in the <b>Store Demo</b> mode, it will reset audio and picture settings every 30 minutes. Please change from <b>Store Demo</b> mode to <b>Home Use</b> mode using the <b>Plug &amp; Play</b> procedure. Press the SOURCE button to select TV mode, go to MENU - Setup - Plug & Play -> ENTER [↵].
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.

- 13 -

Category	Operation	Videos	Music	Photos
<b>Title</b>	You can select another video file to play directly.	✓	✓	✓
<b>Repeat Mode</b>	You can play movies and music repeatedly.	✓	✓	✓
<b>Picture Size</b>	You can adjust the picture size to your preference.	✓	✓	✓
<b>Picture Mode</b>	You can adjust the picture setting.	✓	✓	✓
<b>Sound Mode</b>	You can adjust the sound setting.	✓	✓	✓
<b>Subtitle Setting</b>	You can play the video with Subtitles. This function only works if the subtitles have the video name as the video.	✓	✓	✓
<b>Audio Format</b>	You can select the digital audio output format.	✓	✓	✓
<b>Audio Language</b>	You can change the audio language if the video has more than one language.	✓	✓	✓
<b>Stop Slide Show / Start Slide Show / Slide Show Speed</b>	You can start or stop a Slide Show. You can select the slide show speed during the slide show.	✓	✓	✓
<b>Background Music</b>	You can set and select background music when watching a Slide Show.	✓	✓	✓
<b>Zoom</b>	You can zoom into images in full screen mode.	✓	✓	✓
<b>Rotate</b>	You can rotate images in full screen mode.	✓	✓	✓
<b>Information</b>	You can see detailed information about the played file.	✓	✓	✓

Image	Photo	Resolution
JPEG	Base-line	15360 x 8704
	Progressive	1024 x 768

- ### Other Restrictions
- CMYK and YCCK color space JPEGs are not supported.
- ### Playing Selected Video Files
- Playing selected video/music/photo files
  - On the File List screen, highlight a file, and then press the Yellow button on your remote.
  - Repeat Step 1 to select multiple files.

- ### Other Information
- A ✓ mark appears to the left of the selected files.
  - To cancel a selection, press the Yellow button again.
  - To deselect all selected files, press the TOOLS button, select **Deselect All**, and then the ENTER [↵] button.
  - Press the TOOLS button, select **Play Selected Contents**, and then press the ENTER [↵] button.



- ### Preparing before installing Wall-Mount
- for 46", 50" models
- To install a wall-mount from another manufacturer, use the Holder-Ring.
  - The product shape may differ depending on the model.

- ### Installing the Wall Mount Kit
- The wall mount kit (sold separately) allows you to mount the TV on the wall.
- For detailed information about installing the wall mount, see the instructions provided with the wall mount kit. Contact a technician for assistance when installing the wall mount bracket. Samsung Electronics is not responsible for any damage to the product or injury to yourself or others if you elect to install the wall mount on your own.



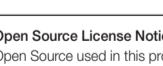
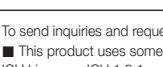
- 10 -

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.
POP (TV's internal banner ad) appears on the screen.	Select <b>Home Use</b> under <b>Plug &amp; Play</b> mode. For details, refer to <b>Plug &amp; Play</b> (Initial Setup).
This TFT LED panel uses a panel consisting of sub pixels which require sophisticated technology to produce. However, there may be a few bright or dark pixels on the screen. These pixels will have no impact on the performance of the product.	
You can watch detailed troubleshooting videos at <a href="http://www.samsung.com/spn">www.samsung.com/spn</a> .	
Some functions and pictures shown in this manual are available on specific models only.	
You can keep your TV in optimum condition by upgrading it with the latest firmware from the Samsung web site ( <a href="http://samsung.com">samsung.com</a> -> Support). To upgrade, download the firmware to your computer, copy the firmware file to a USB memory stick, insert the USB memory stick into the TV's USB slot, and then select <b>Support &gt; Software Upgrade</b> in the TV's menu.	

- ### Storage and Maintenance
- If a sticker was attached to the TV screen, some debris can remain after you remove the sticker. Please clean it before watching the 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 gets into the product may cause a failure, fire, or electric shock.		Clean the product with a soft cloth dampened with in a small amount of water. Do not use a flammable liquid (e.g. benzene, thinner) or a cleaning agent.
---	---	---	--

License	DivX Certified	Dolby Digital
<p><b>DivX Certified</b> to play DivX® video up to HD 1080p, including premium content.</p> <p>ABOUT DIVX VIDEO: DivX® is a digital video format created by DivX, LLC, a subsidiary of Real Corporation. This is an official DivX Certified® device that plays DivX video. Visit <a href="http://divx.com">divx.com</a> for more information and software tools to convert your files into DivX videos. 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 <a href="http://divx.com">divx.com</a> for more information on how to complete your registration. Covered by one or more of the following U.S. patents: 7,295,673; 7,460,668; 7,515,710; 7,519,274 DivX®, DivX Certified® and associated logos are trademarks of Real Corporation or its subsidiaries and are used under license.</p>	<p>Manufactured under license from Dolby Laboratories. Dolby and the double-D symbol are trademarks of Dolby Laboratories.</p>	<p>Manufactured under license from Dolby Laboratories. Dolby and the double-D symbol are trademarks of Dolby Laboratories.</p>

	Manufactured under license from Dolby Laboratories. Dolby and the double-D symbol are trademarks of Dolby Laboratories.
	Manufactured under license from U.S. Patent No's: 5,956,674, 5,974,380, 5,978,782, 6,487,535, 6,226,616, 7,212,872, 7,003,467, 7,272,567, 7,698,723, 7,392,195, 7,930,184, 7,333,929 and 7,548,853. DTS, the Symbol, and DTS and the Symbol together are registered trademarks & DTS of U.S. Patent No's: 6,021,212, 6,021,213, 6,021,214, 6,021,215, 6,021,216, 6,021,217, 6,021,218, 6,021,219, 6,021,220, 6,021,221, 6,021,222, 6,021,223, 6,021,224, 6,021,225, 6,021,226, 6,021,227, 6,021,228, 6,021,229, 6,021,230, 6,021,231, 6,021,232, 6,021,233, 6,021,234, 6,021,235, 6,021,236, 6,021,237, 6,021,238, 6,021,239, 6,021,240, 7,031,474, 7,997,736 and 7,764,802. DTS, the Symbol, and DTS and the Symbol together are registered trademarks & DTS of U.S. Patent No's: 6,021,212, DTS, Inc. All Rights Reserved.
	Manufactured under license from U.S. Patent No's: 6,285,767, 8,027,477, 5,319,713, 5,333,201, 5,638,452, 5,771,295, 5,970,152, 5,912,976, 7,200,236, 7,492,907, 8,050,434, 7,720,240, 7,031,474, 7,997,736 and 7,764,802. DTS, the Symbol, and DTS and the Symbol together are registered trademarks & DTS of U.S. Patent No's: 6,021,212, DTS, Inc. All Rights Reserved.
	The terms HDMI and HDMI High-Definition Multimedia Interface, and the HDMI Logo are trademarks or registered trademarks of HDMI Licensing LLC in the United States and other countries.

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

To send inquiries and requests for questions regarding open sources, contact Samsung via Email ([oss.request@samsung.com](mailto:oss.request@samsung.com)).

■ This product uses some software programs which are distributed under the Independent JPEG Group.

© 2012 Samsung Electronics America, Inc. All Rights Reserved.

COPYRIGHT AND PERMISSION NOTICE

Copyright (c) 1995-2008 International Business Machines Corporation and others All rights reserved.

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, provided that the above copyright notice(s) and this permission notice appear in all copies of the Software and that both the above copyright notice(s) and the permission notice appear in supporting documentation.

THE SOFTWARE IS PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE COPYRIGHT HOLDER OR HOLDERS INCLUDED IN THIS NOTICE BE LIABLE FOR ANY CLAIM, OR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES, OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

Except as contained in this notice, the name of a copyright holder shall not be used in advertising or promotion to sell the software, or use other dealings in this Software without prior written authorization of the copyright holder.

All trademarks and registered trademarks mentioned herein are the property of their respective owners.

- 14 -

### Wall Mount Kit Specifications (VESA)

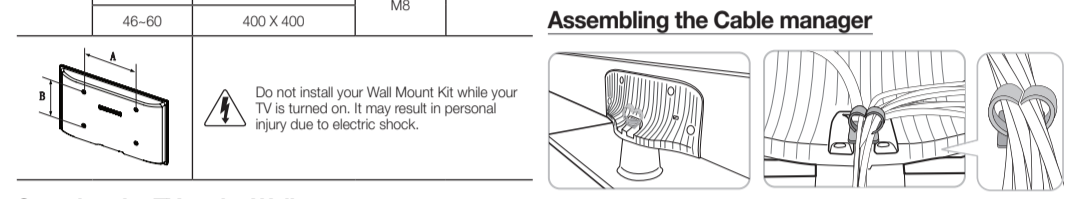
The wall mount kit is not supplied, but sold separately.

Install your wall mount on a solid wall perpendicular to the floor. If you are attaching the wall mount to a wall made of building materials other than drywall, please contact your nearest dealer for information about the appropriate mounting hardware. If you install the TV 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 that are longer than the standard dimension or do not comply with the VESA standard screw specifications. Screws that are too long 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 the wall mount specifications.
- Do not fasten the screws too firmly. 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 customer fails to follow the product installation instructions.
- Do not mount the TV at more than a 15 degree tilt.
- Always have two people mount the TV on a wall.

Product Family	TV size in inches	VESA screw hole specs (A * B) in millimeters	Standard Screw	Quantity
LED-TV	19-22	75 X 75	M4	4
	26-29	100 X 100	M4	
	32-42	200 X 200	M8	
	46-60	400 X 400	M8	



- ### Securing the TV to the Wall
- Caution:** Pulling, pushing, or climbing onto the TV may cause the TV to fall. In particular, ensure that your children do not hang over or dangle from the TV. Doing so may cause the TV to tip over, resulting in serious injuries or death. Follow all safety precautions provided on the included Safety Flyer. For added stability, install the anti-fall device for safety purposes, as described below.

- ### To prevent the TV from falling
- TV Holder kits are sold separately. To purchase a TV Holder kit, contact Samsung Customer Care.
- Insert the screws into the wall brackets and firmly fasten them to the wall. Make sure the screws are firmly fixed to the wall.
  - We strongly recommend you drive the screws into a stud.
  - Insert the screws through the TV brackets, and then fasten the screws to the top VESA screw holes on the back of the TV.

- Verify all connections are properly secured. Periodically check the connections for any sign of fatigue or failure. If you have any doubt about the security of your connections, contact a professional installer.
- Install the TV close to the wall so that it does not fall.
- Connect the string or cable so that the brackets on the wall are at the same height or lower than the brackets on the TV. Untie the string or cable before moving the TV.

- 11 -

Specifications	UN19F4000	UN22F5000	UN29F4000
Environmental Considerations			
Operating Temperature		50°F to 104°F (10°C to 40°C)	
Operating Humidity		10% to 80%, non-condensing	
Storage Temperature		-4°F to 113°F (-20°C to 45°C)	
Storage Humidity		5% to 95%, non-condensing	
Model Name	UN19F4000	UN22F5000	UN29F4000
Display Resolution	1366 x 768	1920 x 1080	1366 x 768
Screen Size (Diagonal)	19" Class (18.5" measured diagonally)	22" Class (21.5" measured diagonally)	29" Class (28.5" measured diagonally)
Sound Output	3W x 2		5W x 2
Dimensions (W x H x D)			
Body	17.8 X 11.2 X 1.9 inches (453.7 X 285.8 X 49.5 (mm))	20.2 X 12.6 X 1.7 inches (513.1 X 321.5 X 43.8 (mm))	26.3 X 15.5 X 1.9 inches (668.6 X 394.7 X 49.5 (mm))
With stand	17.5 X 12.3 X 4.9 inches (453.7 X 314.2 X 124.9 (mm))	17.5 X 12.3 X 4.9 inches (453.7 X 314.2 X 124.9 (mm))	26.3 X 15.4 X 6.6 inches (668.6 X 467.5 X 191.7 (mm))
Weight			
Without Stand	5.5 lbs (2.5 kg)	5.7 lbs (2.6 kg)	9.4 lbs (4.3 kg)
With Stand	5.7 lbs (2.6 kg)	6.3 lbs (2.9 kg)	10.5 lbs (4.8 kg)
Model Name	UN32F4000	UN32F4050	UN32F5000 / UN32F5050
Display Resolution	1366 x 768		1920 x 1080
Screen Size (Diagonal)	32" Class (31.5" measured diagonally)	32" Class (31.5" measured diagonally)	32" Class (31.5" measured diagonally)
Sound Output		10W x 2	
Dimensions (W x H x D)			
Body	29.0 X 17.3 X 1.9 inches (737.9 X 440.5 X 49.5 (mm))	29.0 X 17.3 X 1.9 inches (737.9 X 440.5 X 49.5 (mm))	29.0 X 17.5 X 1.9 inches (738.0 X 445.4 X 49.0 (mm))
With stand	29.0 X 20.0 X 7.5 inches (737.9 X 508.1 X 191.7 (mm))	29.0 X 19.1 X 9.9 inches (737.9 X 487.0 X 252.6 (mm))	29.0 X 19.9 X 7.5 inches (738.0 X 505.8 X 191.7 (mm))
Weight			
Without Stand	11.4 lbs (5.2 kg)	11.4 lbs (5.2 kg)	11.0 lbs (5.0 kg)
With Stand			