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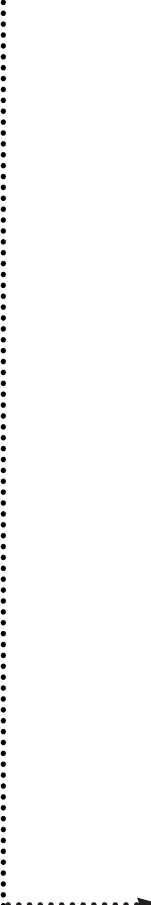
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SAMSUNG

LN-R1550P
LN-R2050P

TFT-LCD TELEVISION



Owner's Instructions

This device is a Class B digital apparatus.

Register your product at
www.samsung.com/global/register

Precautions When Displaying a Still Image

A still image may cause permanent damage to the TV screen.

- Do not display a still image on the LCD panel for more than 2 hours as it can cause screen image retention. This image retention is also known as "screen burn".

To avoid such image retention, reduce the degree of brightness and contrast of the screen when displaying a still image.

-  Watching the LCD TV in 4:3 format for a long period of time may leave traces of borders displayed on the left, right and center of the screen caused by the difference of light emission on the screen.
Playing a DVD or a game console may cause a similar effect to the screen.
Damages caused by the above effect are not covered by the Warranty.
- Displaying still images from Video games and PC for longer than a certain period of time may produce partial after-images.
To prevent this effect, reduce the 'brightness' and 'contrast' when displaying still images.

Précautions à prendre lors de l'affichage d'une image fixe

Une image fixe peut causer des dommages irréversibles à l'écran du téléviseur.

- N'affichez pas une image fixe sur l'écran LCD plus de 2 heures. Cela pourrait provoquer une rémanence de l'image à l'écran. Cette rémanence de l'image est également appelée "brûlure de l'écran".

Pour éviter une telle rémanence de l'image à l'écran, réduisez la luminosité et le contraste de l'écran lorsque vous laissez une image fixe affichée.

-  Regarder l'écran LCD du téléviseur en format 4:3 pendant une longue période peut laisser des traces de bordures à gauche, à droite et au centre de l'écran, à cause de la différence d'émission de lumière sur l'écran.
La lecture d'un DVD ou l'utilisation d'une console de jeu peut avoir un effet similaire sur l'écran.
Les dommages provoqués par les effets qui précèdent ne sont pas couverts par la garantie.
- L'affichage d'images fixes de jeux vidéo et d'ordinateurs pendant plus longtemps qu'une période spécifique peut provoquer des rémanences. Pour éviter cela, réduisez la "luminosité" et le "contraste" lors de l'affichage d'images fixes.

Precauciones al mostrar en la pantalla una imagen fija

La imagen fija puede causar daños permanentes en la pantalla del televisor.

- No deje una imagen fija en la pantalla LCD durante más de dos horas ya que se podría producir una retención de la imagen en la pantalla. Este fenómeno de retención de imágenes también se denomina "quemadura de pantalla".

Para evitar que se produzca esa persistencia de la imagen, reduzca el nivel de luminosidad y de contraste de la pantalla cuando muestre imágenes fijas.

-  El uso del televisor LCD en formato 4:3 durante un tiempo prolongado puede dejar rastros de bordes en las partes izquierda, derecha y central de la pantalla debido a las diferencias en la emisión luminica de la pantalla.
La reproducción de un DVD o el uso de una consola de videojuegos pueden provocar un efecto similar en la pantalla.
Reproducir un DVD o una videoconsola puede causar un efecto similar en la pantalla. La garantía no cubre estos daños.
- Ver imágenes fijas de videojuegos y PC durante más tiempo del indicado puede producir restos de imágenes parciales.
Para evitar este efecto, reduzca el 'brillo' y el 'contraste' cuando vea imágenes fijas.

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General Information

List of Features

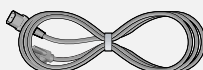
- Adjustable picture settings that can be stored in the TV's memory.
- Dynamic Contrast: Automatically detects the input visual signal and adjusts to create optimum contrast.
- Automatic timer to turn the TV on and off.
- A special sleep timer.
- V-Chip function.

List of Parts

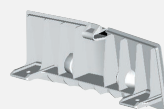
Please make sure the following items are included with your LCD TV.
If any items are missing, contact your dealer.



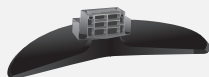
Remote Control & Batteries (AAA x 2)
(BN59-00487A)



Power Cord
(3903-000085)



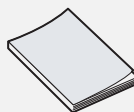
Cover-Bottom
(BN63-02177A)



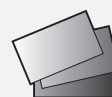
Stand
(23, 27": BN96-02639A)
(32": BN96-02633A)



M4 X L16
Stand Screw
(6002-001294) x 4

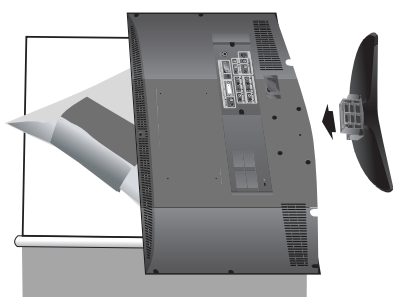


Owner's Instructions

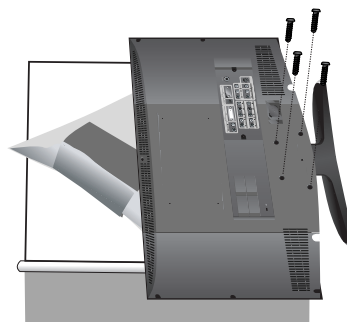


Warranty Card / Registration Card
/Safety Guide Manual
(Not available in all locations)

Installing the Stand



< 2 >



< 3 >

1. Place the TV faced down on a soft cloth or cushion on a table.
2. Put the stand into the hole at the bottom of the TV.
3. Insert screw into the hole indicated and tighten

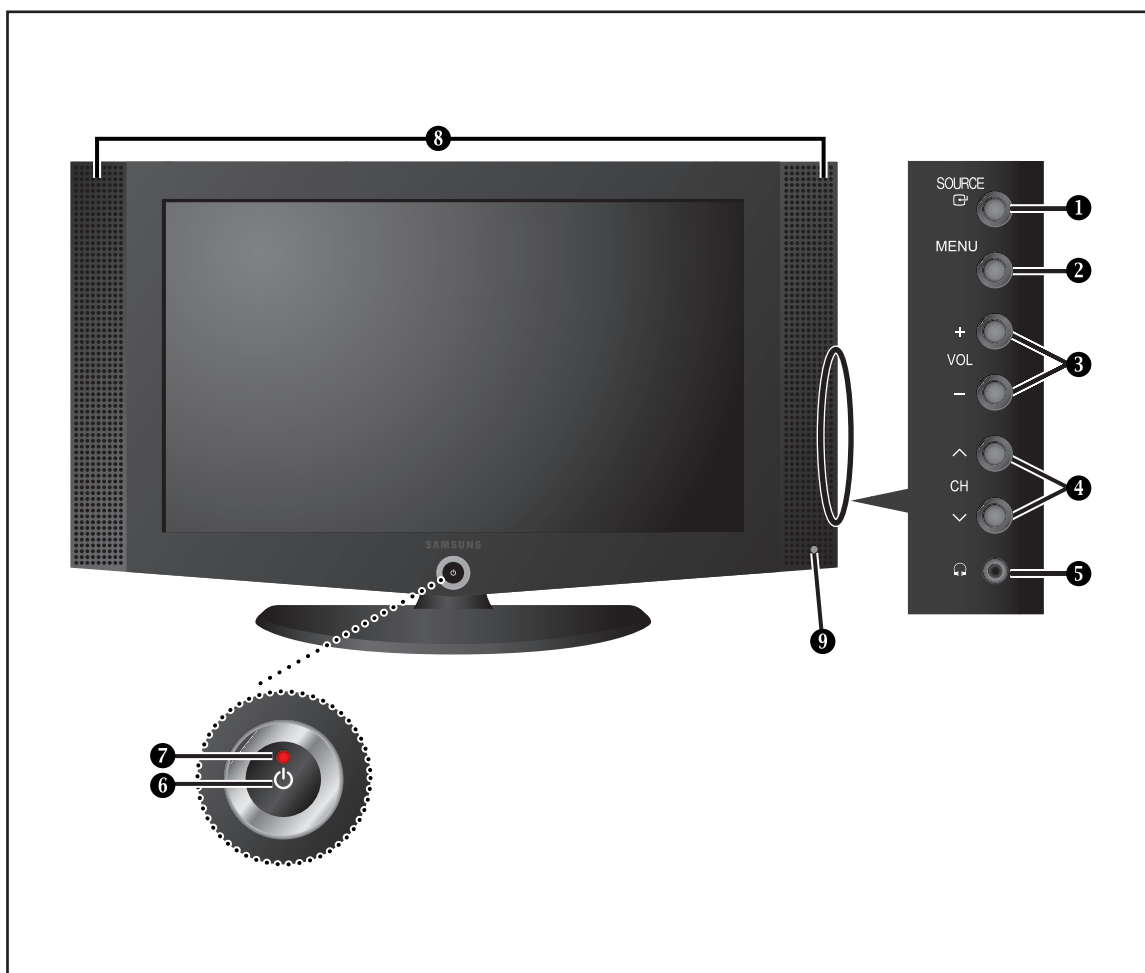
Installing the Wall Mount Kit

Wall mount items (sold separately) allow you to mount the TV on the wall. For the detailed information on installing the Wall Mount, see the instruction in the Wall Mount items. Contact a technician for installing the wall bracket.

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

Viewing the Control Panel

The buttons on the lower-right panel control your TV's basic features, including the on-screen menu. To use the more advanced features, you must use the remote control.



➤ The product color and shape may vary depending on the model.

❶ SOURCE

Displays a menu of all of the available input sources (TV, AV, S-Video, Component, PC).

In the on-screen menu, use this button as you use the **ENTER**  button on the remote control.

❷ MENU

Press to see an on-screen menu of your TV's features.

❸ VOL

Press to decrease or increase the volume.

In the on-screen menu, use the  VOL  buttons as you use the  and  buttons on the remote control.

❹ CH

Press to change channels.

In the on-screen menu, use the  CH  buttons as you use the  and  buttons on the remote control.

❺ (HEADPHONE JACK)

Connect a set of external headphones to this jack for private listening.

❻ (POWER)

Press to turn the TV on and off.

❼ POWER INDICATOR

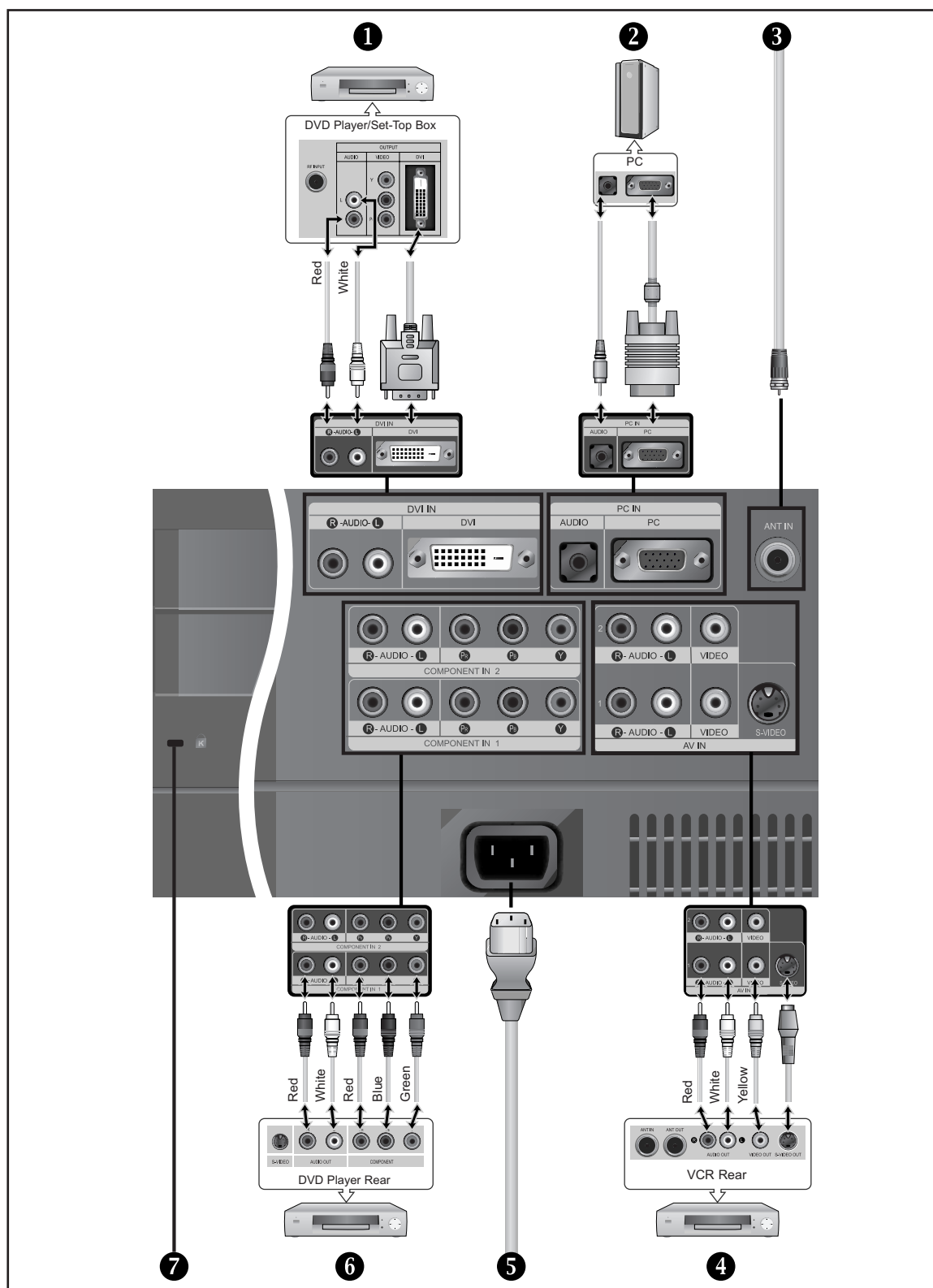
Blinks and turns off when the power is on and lights up in stand-by mode.

❽ SPEAKERS

❾ REMOTE CONTROL SENSOR

Aim the remote control towards this spot on the TV.

Viewing the Connection Panel



- Whenever you connect an external device to your TV, make sure that power on the unit is turned off.
- When connecting an external device, match the color of the connection terminal to the cable.

Viewing the Connection Panel

❶ DVI IN

Connect to the digital video output jack on your DVD/Set-Top Box.
Connect to the audio output jack on your DVD/Set-Top Box.
➤ DVI-D terminal does not support PC.

❷ PC IN

Connect to the video and audio output jack on your PC.

❸ ANT IN

Connect to an antenna or to a cable TV system.

❹ AV IN

Video and audio inputs for external devices, such as a camcorder or VCR.

S-VIDEO

Connect an S-Video signal from a camcorder or VCR.

❺ POWER INPUT

Connect the supplied power cord.

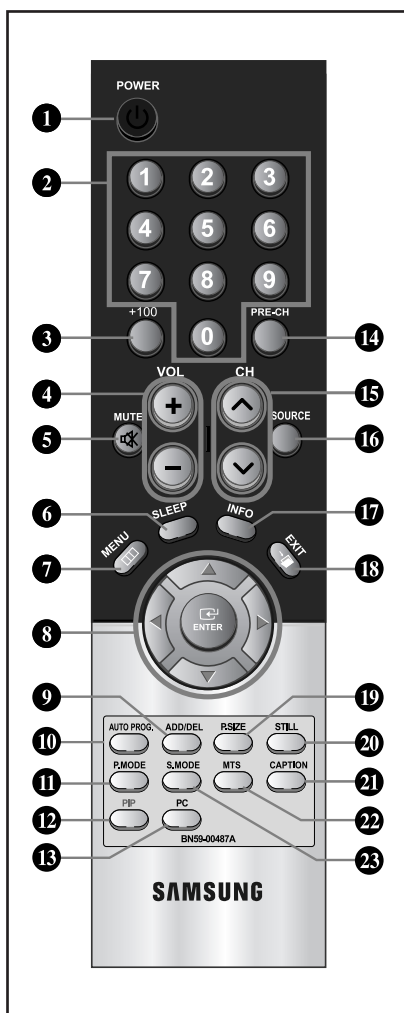
❻ COMPONENT IN 1/2

Connect component video/audio.

❼ KENSINGTON LOCK

The Kensington lock (optional) is a device used to physically fix the system when used in a public place.
If you want to use a locking device, contact the dealer where you purchased the TV.

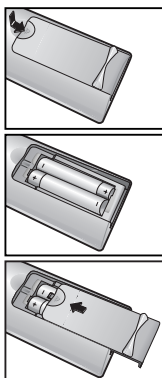
Viewing the Remote Control



- ❶ Turns the TV on and off.
- ❷ Press to select channels directly on the TV.
- ❸ Press to select channels over 100. For example, to select channel 121, press "+100", then press "2" and "1".
- ❹ Press to increase or decrease the volume.
- ❺ Press to temporarily cut off the sound.
- ❻ Press to select a time for the TV to turn off automatically.
- ❼ Displays the main on-screen menu.
- ❽ Use to select on-screen menu items and change menu values.
- ❾ Use to store and delete channels to/from memory.
- ❿ Press to automatically store selected TV/Cable channels.
- ⓫ Adjust the TV picture by selecting one of the preset factory settings. (or selects your personal, customized picture settings)
- ⓬ Picture-in-Picture ON/OFF.
- ⓭ Press to switch to the PC mode.
- ⓮ Returns to the previous channel.
- ⓯ Press **CH** / / buttons to change channels.
- ⓰ Input source selection
- ⓱ Use to see information on the current broadcast.
- ⓲ Press to exit the on-screen menu.
- ⓳ Press to change the screen size.
- ⓴ Press to stop the action during a particular scene. Press again to resume normal video.
- ⓵ Press to set caption on/off.
- ⓶ Press to change the MTS settings.
- ⓷ Adjust the TV sound by selecting one of the preset factory settings. (or selects your personal, customized sound settings)

➤ The performance of the remote control may be affected by bright light.

Installing Batteries in the Remote Control



1. Slide the cover out completely.
2. Install two AAA size batteries.
 - Make sure to match the "+" and "-" ends of the batteries with the diagram inside the compartment.
3. Replace the cover.
 - Remove the batteries and store them in a cool, dry place if you won't be using the remote control for a long time. The remote control can be used up to about 23 feet from the TV. (Assuming typical TV usage, the batteries last for about one year.)

➤ If the remote control doesn't work, check the following:

1. Is the TV power on?
2. Are the plus and minus ends of the batteries reversed?
3. Are the batteries drained?
4. Is there a power outage, or is the power cord unplugged?
5. Is there a special fluorescent light or neon sign nearby?

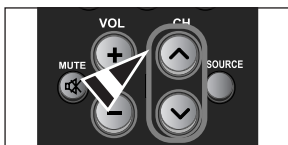
Operation

Turning the TV On and Off



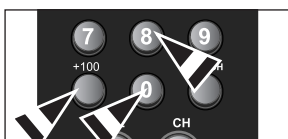
Press the **POWER** button on the remote control.
You can also use the **POWER** button on the front of the panel.

Changing Channels



Using the Channel Buttons:

1. Press the **CH** or **CH** button to change channels.
 - When you press the **CH** or **CH** button, the TV changes channels in sequence. You will see all the channels that the TV has memorized. (The TV must have memorized at least three channels). You will not see channels that were either erased or not memorized.



Using the Number Buttons:

1. Press the number buttons to go directly to a channel.
 - To select channel 108, press "1" "0" "8".
 - When you use the number buttons, you can directly select channels that were either erased or not memorized. To change the channel faster, press the channel buttons, then **ENTER**. (For channel "4" press "4", then **ENTER**.)



Using the PRE-CH Button to select the Previous Channel:

1. Press the **PRE-CH** button. The TV will switch to the last channel viewed.
 - To quickly switch between two channels that are far apart, tune to one channel, then use the number button to select the second channel. Then use the **PRE-CH** button to quickly alternate between them.

Adjusting the Volume



1. Press the **VOL +** or **VOL -** button to increase or decrease the volume.

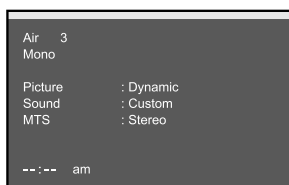


Using MUTE button:

At any time, you can temporarily cut off the sound using the MUTE button.

1. Press **MUTE** and the sound cuts off. The word "Mute" will appear in the lower-left corner of the screen.
2. To turn mute off, press the **MUTE** button again, or simply press the **VOL +** or **VOL -** button.

Viewing the Display



- Press the **INFO** button on the remote control to view current channel and the status of certain audio-video settings.

- The on-screen displays disappear after about ten seconds.
- Press the button once more or wait approximately 10 seconds and it disappears automatically.



Plug and Play Feature

Plug & Play

When the TV is initially powered on, several basic settings proceed automatically and subsequently. The following settings are available.

1. Press the **POWER** button on the remote control.
The message "Plug & Play" is displayed.
2. Select the appropriate language by pressing the **▲** or **▼** button.
Press the **ENTER** button to confirm your choice.
3. The message "Check antenna input." is displayed with "OK" selected.
Press the **ENTER** button.
 - Please check that the antenna cable is connected correctly.
4. Press the **▲** or **▼** button to select "Air", "STD", "HRC", or "IRC", then press the **ENTER** button.
5. Press the **ENTER** button to select "Start".
 - The channel search will start and end automatically.
After all the available channels are stored, the "Clock Set" menu appears.
 - Press the **ENTER** button at any time to interrupt the memorization process.
6. Press the **ENTER** button.
Press the **◀** or **▶** button to move to the "Hour", "Minute" or "am/pm".
Set the "Hour", "Minute" or "am/pm" by pressing the **▲** or **▼** button.
7. Press the **ENTER** button to confirm your setting.
The message "Enjoy your watching." is displayed.

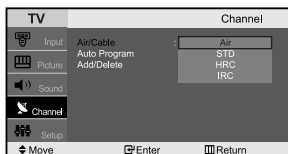
- ♦ **Language:** Select your language.
- ♦ **Air/Cable:** Select your local cable company TV system.
- ♦ **Auto Program:** Selects between terrestrial antenna connection or your local cable company TV system.
The TV automatically cycles through all of the available channels and stores them in memory.
This takes about one to two minutes.
- ♦ **Clock Set:** Sets the current time for the TV clock.
➤ You can also set the hour and minute by pressing the number buttons on the remote control.



If you want to reset this feature...

1. Press the **MENU** button to display the menu.
Press the **▲** or **▼** button to select "Setup", then press the **ENTER** button.
2. Press the **ENTER** button to select "Plug & Play".
3. This will change or reset the settings.

Selecting the Video Signal-source



Before your television can begin memorizing the available channels, you must specify the type of signal source that is connected to the TV (i.e. an antenna or a cable system).

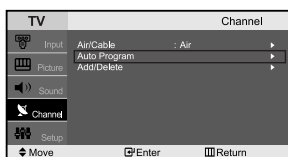
1. Press the **MENU** button to display the menu.
Press the **▲** or **▼** button to select "Channel", then press the **ENTER** button.
2. Press the **ENTER** button to select "Air/Cable".
3. Press the **▲** or **▼** button to select the video signal source, then press the **ENTER** button.
4. Press the **EXIT** button to exit.

➤ STD, HRC and IRC identify various types of cable TV systems.

Contact your local cable company to identify the type of cable system that exists in your particular area.

At this point, the signal source has been selected. Proceed to "Storing Channels Automatically".

Storing Channels Automatically

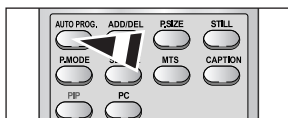


The TV automatically cycles through all of the available channels and stores them in memory.

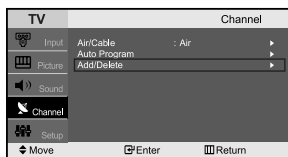
This takes about one to two minutes.

1. To select the signal source, follow the "Selecting the Video Signal-source" instructions number 1 to 3 on page 8.
2. Press the **▲** or **▼** button to select "Auto Program". Press the **ENTER** button.
3. Press the **ENTER** button. The channel search will start and end automatically.
➤ Press the **ENTER** button at any time to interrupt the memorization process and return to the "Channel" menu.
4. After all the available channels are stored, the "Channel" menu reappears.
5. Press the **EXIT** button to exit.

➤ Press the **AUTO PROG.** button on the remote control.



Storing Channels Manually

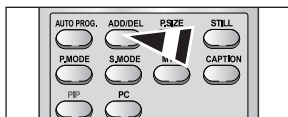


You can store up to 100 channels, including those received via cable networks.

1. Use the number buttons to directly select the channel that will be added or deleted.
2. Press the **MENU** button to display the menu.
Press the **▲** or **▼** button to select "Channel", then press the **ENTER** button.
3. Press the **▲** or **▼** button to select "Add/Delete".
Press the **ENTER** button.
4. Repeatedly pressing the **ENTER** button will alternate between add channel and delete channel.
5. Press the **CH** or **CH** button to switch to the appropriate channel, then repeat above.
6. Press the **EXIT** button to exit.

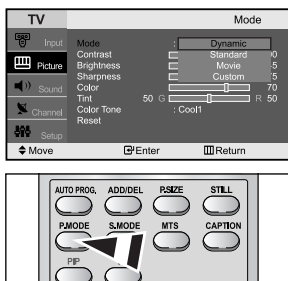
➤ You can view any channel (including an erased channel) by using the number buttons on the remote control.

➤ Use the number buttons to directly select the channel that will be added or erased.
Press the **ADD/DEL** button on the remote control.



Picture Control

Using Automatic Picture Settings



Your TV has four automatic picture settings ("Dynamic", "Standard", "Movie", "Custom") that are preset at the factory. Each Picture mode can be set to your preference by adjusting particular items such as Contrast, Brightness, Sharpness, Color, Tint and Color Tone.

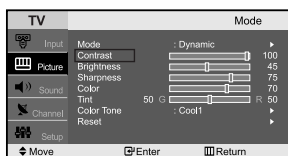
1. Press the **MENU** button to display the menu.
Press the **▲** or **▼** button to select "Picture", then press the **ENTER** button.
2. Press the **ENTER** button again, to select "Mode".
3. Press the **ENTER** button again, to select "Mode".
4. Press the **▲** or **▼** button to select the desired picture effect.
Press the **ENTER** button.
5. Press the **EXIT** button to exit.

- **Dynamic:** Selects the picture for high-definition in a bright room.
- **Standard:** Selects the picture for optimum display in a normal environment.
- **Movie:** Selects the picture for comfortable display in a dark room.
- **Custom:** Select to view your favorite display settings (see "Customizing the Picture", page 9).

- The Picture mode must be adjusted separately for each input source.
- You can return to the factory defaults picture settings by selecting the "Reset".
(see "Resetting the Picture Settings to the Factory Defaults", page 10).

You can also press the **P.MODE** button on the remote control to select one of the picture settings.

Customizing the Picture



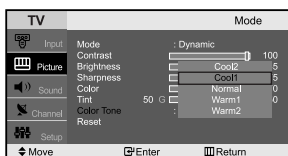
Your set has several settings which allow you to control picture quality.

1. To select the desired picture effect, follow the "Using Automatic Picture Settings " instructions number 1 to 4 on page 9.
3. Press the **▲** or **▼** button to select a particular item.
Press the **ENTER** button.
4. Press the **◀** or **▶** button to decrease or increase the value of a particular item.
Press the **ENTER** button.
5. Press the **EXIT** button to exit.

- **Contrast:** Adjusts the lightness and darkness between objects and the background.
- **Brightness:** Adjusts the brightness of the whole screen.
- **Sharpness:** Adjusts the outline of objects to either sharpen them or make them more dull.
- **Color:** Adjusts the colors, making them lighter or darker.
- **Tint:** Adjusts the color of objects, making them more red or green for a more natural look.

- The adjusted values are stored according to the selected Picture mode.

Adjusting the Color Tone



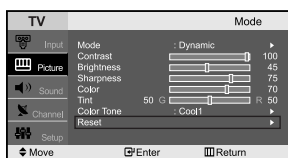
You can Change the color of the entire screen according to your preference.

1. To select the desired picture effect, follow the "Using Automatic Picture Settings " instructions number 1 to 4 on page 9.
2. Press the **▲** or **▼** button to select "Color Tone", then press the **ENTER** button.
3. Press the **▲** or **▼** button to select the desired color tone setting.
Press the **ENTER** button.
4. Press the **EXIT** button to exit.

- **Cool2:** Makes the color temperature bluer than "Cool1" menu.
- **Cool1:** Makes whites bluish.
- **Normal:** Keeps whites white.
- **Warm1:** Makes whites reddish.
- **Warm2:** Makes the color temperature redder than "Warm1" menu.

- The adjusted values are stored according to the selected Picture mode.

Resetting the Picture Settings to the Factory Defaults

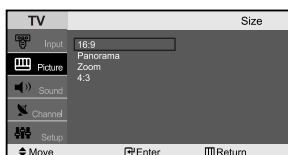


You can return to the factory defaults picture settings.

1. To select the desired picture effect, follow the "Using Automatic Picture Settings " instructions number 1 to 4 on page 9.
2. Press the $\blacktriangle$ or $\blacktriangledown$ button to select "Reset", then press the **ENTER** $\rightarrow$ button.
3. Press the **EXIT** button to exit.

➤ The "Reset" will be set for each picture mode.

Changing the Picture Size



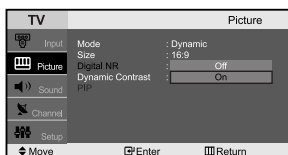
You can select the picture size which best corresponds to your viewing requirements.

1. Press the **MENU** button to display the menu.
Press the $\blacktriangle$ or $\blacktriangledown$ button to select "Picture", then press the **ENTER** $\rightarrow$ button.
2. Press the $\blacktriangle$ or $\blacktriangledown$ button to select "Size", then press the **ENTER** $\rightarrow$ button.
3. Select the required option by pressing the $\blacktriangle$ or $\blacktriangledown$ button.
Press the **ENTER** $\rightarrow$ button.
4. Press the **EXIT** button to exit.

- **16:9**: Adjusts the picture size to 16:9 appropriate for DVDs or wide broadcasting.
- **Panorama**: Adjusts 16:9 to 4:3 in a natural way as for normal broadcasting.
- **Zoom**: Magnifies the 16:9 wide picture (in the vertical direction) to fit the screen size.
- **4:3**: This is the default setting for a video movie or normal broadcasting.

- In PC Mode, only "16:9" and "4:3" mode can be adjusted.
- Select $\boxplus$ by pressing the $\blacktriangleleft$ or $\blacktriangleright$ buttons.
Use the $\blacktriangle$ or $\blacktriangledown$ button to move the picture up and down.
After selecting $\boxplus$, use the $\blacktriangle$ or $\blacktriangledown$ button to magnify or reduce the picture size in the vertical direction.

Setting the Digital Noise Reduction (Digital NR)

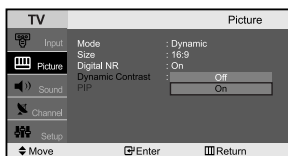


If the broadcast signal received by your TV is weak, you can activate the Digital Noise Reduction feature to help reduce any static and ghosting that may appear on the screen.

1. Press the **MENU** button to display the menu.
Press the $\blacktriangle$ or $\blacktriangledown$ button to select "Picture", then press the **ENTER** $\rightarrow$ button.
2. Press the $\blacktriangle$ or $\blacktriangledown$ button to select "Digital NR", then press the **ENTER** $\rightarrow$ button.
3. Press the $\blacktriangle$ or $\blacktriangledown$ button to select "On" or "Off".
Press the **ENTER** $\rightarrow$ button.
4. Press the **EXIT** button to exit.

➤ This function don't work in PC mode.

Dynamic Contrast

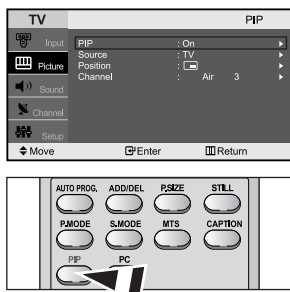


Dynamic Contrast is to automatically detect distribution of inputted visual signal and adjust to create optimum contrast.

1. Press the **MENU** button to display the menu.
Press the $\blacktriangle$ or $\blacktriangledown$ button to select "Picture", then press the **ENTER** $\rightarrow$ button.
2. Press the $\blacktriangle$ or $\blacktriangledown$ button to select "Dynamic Contrast", then press the **ENTER** $\rightarrow$ button.
3. Press the $\blacktriangle$ or $\blacktriangledown$ button to select "On" or "Off".
Press the **ENTER** $\rightarrow$ button.
4. Press the **EXIT** button to exit.

➤ This function don't work in PC mode.

Viewing Picture-in-Picture



This product has one built-in tuner, which does not allow PIP to function in the same mode. For example, you cannot watch one TV channel in the main screen, and a different one in the PIP screen. You can use the PIP feature to simultaneously watch two video sources.

1. Press the **MENU** button to display the menu.
Press the **▲** or **▼** button to select "Picture", then press the **ENTER** button.
2. Press the **▲** or **▼** button to select "PIP", then press the **ENTER** button.
3. Press the **ENTER** button.
4. Press the **▲** or **▼** button to select "On"
Press the **ENTER** button.
 - PIP is available only in PC mode and will be unavailable for other modes.
 - If you turn the TV off while watching in PIP mode and turn it on again, the PIP window will disappear.
5. Press the **▲** or **▼** button to select "Source", then press the **ENTER** button.
6. Select the source of the sub picture (PIP) by pressing the **▲** or **▼** buttons and press the **ENTER** button.
7. Press the **▲** or **▼** button to select "Position", then press the **ENTER** button.
8. Press the **▲** or **▼** buttons to select the desired PIP window position.
Press the **ENTER** button.
9. Press the **▲** or **▼** button to select "Channel", then press the **ENTER** button.
10. Press the **▲** or **▼** buttons to select the desired channel in the PIP window.
Press the **ENTER** button.
11. Press the **EXIT** button to exit.

♦ **Source:** Selecting a signal source (external A/V) for PIP.

➢ The sub picture can serve different source selections based on what the main picture is set to.

♦ **Position:** Changing the position of the PIP window.

♦ **Channel:** Changing the PIP channel.

➢ The channel can be active when the sub picture is set to TV.

➢ **PIP Settings (O: PIP operates, X: PIP doesn't operate)**

Main \ Sub	TV	AV1	AV2	S-Video	Component1	Component2	PC	DVI
PC	O	O	O	O	X	X	X	X

➢ When the main picture is PC, the sub picture only supports TV, AV and S-VIDEO.

The sub picture does not support other input sources in this case.

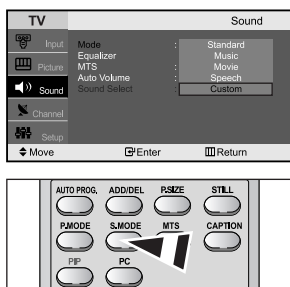
➢ You may notice that the picture in the PIP window becomes slightly unnatural when you use the main screen to view a game or karaoke.

➢ While V-Chip is in operation, the PIP function cannot be used.

📺 Press the **PIP** button on the remote control repeatedly to activate or deactivate the "PIP".

Sound Control

Using Automatic Sound Settings



You can select the type of the special sound effect to be used when watching a given broadcast.

1. Press the **MENU** button to display the menu.
Press the **▲** or **▼** button to select "Sound", then press the **ENTER** button.
2. Press the **ENTER** button to select "Mode".
3. Press the **▲** or **▼** button to select the desired sound effect.
Press the **ENTER** button.
4. Press the **EXIT** button to exit.

♦ **Standard:** Selects the normal sound mode.

♦ **Music:** Emphasizes music over voices.

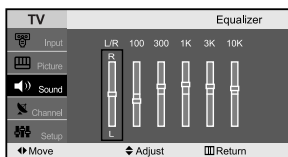
♦ **Movie:** Provides live and full sound for movies.

♦ **Speech:** Emphasizes voices over other sounds.

♦ **Custom:** Selects your custom sound settings (See "Customizing the Sound", page 12).

📺 You can also press the **S.MODE** button on the remote control to select one of the sound settings.

Customizing the Sound

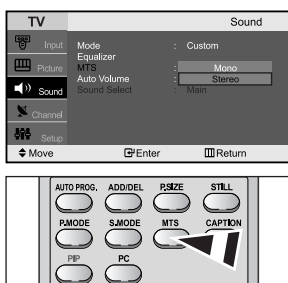


The sound settings can be adjusted to suit your personal preferences. (Alternatively, you can use one of the “automatic” settings.)

1. Press the **MENU** button to display the menu.
Press the **▲** or **▼** button to select “Sound”, then press the **ENTER** button.
2. Press the **▲** or **▼** button to select “Equalizer”, then press the **ENTER** button.
3. Press the **◀** or **▶** buttons to select a particular frequency to adjust.
Press the **▲** or **▼** buttons to increase or decrease the level of the particular frequency.
Press the **ENTER** button.
4. Press the **EXIT** button to exit.

➤ If you make any changes to the “Equalizer” settings, the sound mode is automatically switched to the “Custom” mode.

Choosing a Multi-Channel Sound (MTS) Soundtrack



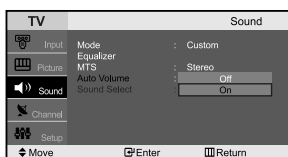
Depending on the particular program being broadcast, you can listen to stereo, mono or a Separate Audio Program. (SAP audio is usually a foreign-language translation. Sometimes SAP has unrelated information like news or weather).

1. Press the **MENU** button to display the menu.
Press the **▲** or **▼** button to select “Sound”, then press the **ENTER** button.
2. Press the **▲** or **▼** button to select “MTS”, then press the **ENTER** button.
3. Press the **▲** or **▼** button to select the required option, then press the **ENTER** button.
4. Press the **EXIT** button to exit.

- ♦ **Mono**: Select for channels that are broadcast in mono, or if you are having difficulty receiving a stereo signal.
- ♦ **Stereo**: Select for channels that are broadcast in stereo.

📺 You can also press the **MTS** button on the remote control to change the MTS settings.

Using the Auto Volume

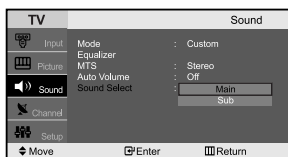


Each broadcasting station has its own signal conditions, and it is inconvenient to adjust the volume every time the channel is changed.

“Auto Volume” automatically adjusts the volume of the desired channel by lowering the sound output when the modulation signal is high or by raising the sound output when the modulation signal is low.

1. Press the **MENU** button to display the menu.
Press the **▲** or **▼** button to select “Sound”, then press the **ENTER** button.
2. Press the **▲** or **▼** button to select “Auto Volume”, then press the **ENTER** button.
3. Press the **▲** or **▼** button to select “On” or “Off”. Press the **ENTER** button.
4. Press the **EXIT** button to exit.

Listening to the Sound of the Sub Picture



During the PIP feature is activating, you can listen to the sound of the sub picture.

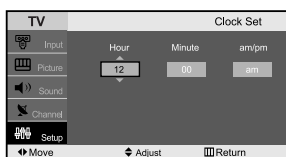
1. Press the **MENU** button to display the menu.
Press the **▲** or **▼** button to select “Sound”, then press the **ENTER** button.
2. Press the **▲** or **▼** button to select “Sound Select”, then press the **ENTER** button.
3. Press the **▲** or **▼** button to select “Sub”. Press the **ENTER** button.
4. Press the **EXIT** button to exit.

- ♦ **Main**: Used to listen to the sound of the main picture.
- ♦ **Sub**: Used to listen to the sound of the sub picture.

➤ You can select this option when the “PIP” is set to “On”.

Time Setting

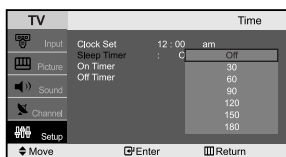
Setting the Clock



You can set the TV's clock so that the current time is displayed when you press the INFO button. You must also set the time if you wish to use the automatic On/Off timers.

1. Press the **MENU** button to display the on-screen menu.
Press the **▲** or **▼** button to select "Setup", then press the **ENTER** button.
2. Press the **▲** or **▼** button to select "Time", then press the **ENTER** button.
3. Press the **ENTER** button to select "Clock Set".
4. Press the **▲** or **▼** button to adjust "Hour", then press the **▶** button to move to the next step.
Set other items using the same method as above.
When finished, press the **ENTER** button to return.
5. Press the **EXIT** button to exit.
 - If you disconnect the power cord, you have to set the clock again.
 - You can also set the hour and minute by pressing the number buttons on the remote control.

Setting the Sleep Timer



Set the timer for the TV to turn off at the preset time automatically.

1. Press the **MENU** button to display the on-screen menu.
Press the **▲** or **▼** button to select "Setup", then press the **ENTER** button.
2. Press the **▲** or **▼** button to select "Time", then press the **ENTER** button.
3. Press the **▲** or **▼** button to select "Sleep Timer", then press the **ENTER** button.
4. Press the **▲** or **▼** button repeatedly until the desired time appears. (Off, 30, 60, 90, 120, 150, 180)
Press the **ENTER** button.
5. Press the **EXIT** button to exit.
 - The TV automatically turn off when the timer reaches 0.
 - You can also press the **SLEEP** button on the remote control to set the sleep time.

Setting the On/Off Timer



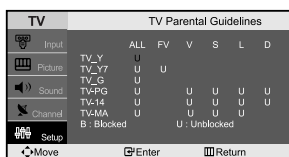
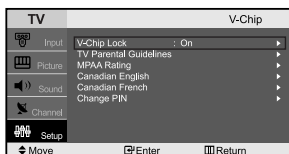
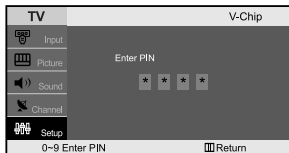
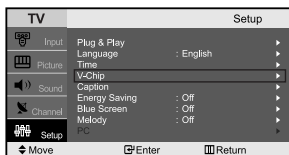
You can set the On/Off timers so that the set will:

- ◆ Switch on automatically and tune to the channel of your choice at the time you select.
- ◆ Switch off automatically at the time you select.

1. Press the **MENU** button to display the on-screen menu.
Press the **▲** or **▼** button to select "Setup", then press the **ENTER** button.
2. Press the **▲** or **▼** button to select "Time", then press the **ENTER** button.
3. Press the **▲** or **▼** button to select "On Timer", then press the **ENTER** button.
4. Press the **▲** or **▼** button to adjust "Hour", then press the **▶** button to move to the next step.
Set other items using the same method as above.
When finished, press the **ENTER** button to return.
5. Press the **▲** or **▼** button to select "Off Timer", then press the **ENTER** button.
6. Press the **▲** or **▼** button to adjust "Hour", then press the **▶** button to move to the next step.
Set other items using the same method as above.
When finished, press the **ENTER** button to return.
7. Press the **EXIT** button to exit.
 - The clock must be set (see above) before you can set the On/Off timer.
 - You can also set the hour and minute by pressing the number buttons on the remote control.
 - The timers have to have the "Setup" settings set to "On" for them to work.
 - **Auto Power Off:** When you set the timer on, your television will be turned off if you do not operate any controls for 3 hours after the TV has been turned on with the "Timer On" function.

Function Description

Using the V-Chip



Setting Up Your Personal ID Number (PIN):

The V-Chip feature automatically locks out programming that is deemed inappropriate for children.

The user must first enter a Pin (personal ID number) before any of the V-Chip restrictions can be set up or changed.

1. Press the **MENU** button to display the menu.
Press the **▲** or **▼** button to select "Setup", then press the **ENTER**  button.
2. Press the **▲** or **▼** button to select "V-Chip", then press the **ENTER**  button.
3. The "Enter PIN" screen will appear. Enter your 4-digit PIN.
➤ The default PIN number for a new TV set is "0-0-0-0".
4. After entering a valid PIN number, the "V-Chip" screen will appear.
Press the **▲** or **▼** button to select "Change PIN".
Press the **ENTER**  button.
5. The Change PIN screen will appear.
Choose any 4-digits for your PIN and enter them.
As soon as the 4 digits are entered, the "Confirm new PIN" screen appears.
Re-enter the same 4 digits.
When the confirm screen disappears, your PIN has been memorized.
6. Press the **EXIT** button to exit.

How to Enable/Disable the V-Chip:

1. Press the **MENU** button to display the menu.
Press the **▲** or **▼** button to select "Setup", then press the **ENTER**  button.
2. Press the **▲** or **▼** button to select "V-Chip", then press the **ENTER**  button.
3. The "Enter PIN" screen will appear. Enter your 4-digit PIN.
4. The "V-Chip" screen will appear, and "V-Chip Lock" will be selected. Press the **ENTER**  button.
5. Press the **▲** or **▼** button to select "On" or "Off". Press the **ENTER**  button.
7. Press the **EXIT** button to exit.

How to Set up Restrictions Using the "TV guidelines":

First, set up a personal identification number (PIN), and enable the V-Chip. (See previous section.)

Parental restrictions can be set up using either of two methods: The TV guidelines or the MPAA rating.

1. Press the **MENU** button to display the menu.
Press the **▲** or **▼** button to select "Setup", then press the **ENTER**  button.
2. Press the **▲** or **▼** button to select "V-Chip", then press the **ENTER**  button.
3. The "Enter PIN" screen will appear. Enter your 4-digit PIN.
4. Press the **▲** or **▼** button to select "TV Parental Guidelines", then press the **ENTER**  button.
5. The "TV Parental Guidelines" screen will appear.
Press the **▲** or **▼** button to select one of the six age-based categories:

- TV-Y: Young children
- TV-Y7: Children 7 and over

- TV-G: General audience
- TV-PG: Parental guidance
- TV-14: Viewers 14 and over
- TV-MA: Mature audience

6. At this point, one of the TV-Ratings is selected. Press the **ENTER**  button: Depending on your existing setup, the color of the letter "U" or "B" will be highlighted. (U= Unblocked, B= Blocked)
When the color of the "U" or "B" is highlighted, press the **ENTER**  button to block or unblock the category. A TV-Rating will be highlighted. To exit this screen, press **MENU** again.
To select a different TV-Rating, press the **▲** or **▼** button and then repeat the process.

➤ The TV-Y7, TV-PG, TV-14, and TV-MA have additional options.

See the next step to change any of the following sub-ratings:

FV: Fantasy Violence / D: Sexual suggestive Dialog

L: Adult Language / S: Sexual situation / V: Violence

➤ The V-Chip will automatically block certain categories that are "more restrictive." For example, if you block "TV-Y" category, then TV-Y7 will automatically be blocked. Similarly, if you block the TV-G category, then all the categories in the "young adult" group will be blocked (TV-G, TV-PG, TV-14, and TV-MA). The sub-ratings (D, L, S, V) work together similarly.

7. How to set the FV, D, L, S, and V sub-ratings.

First, highlight one of these TV-Ratings: TV-Y7, TV-PG, TV-14, or TV-MA (See Step 4, on previous page). Next, while the TV-Rating is selected, repeatedly press the **ENTER**  button. This will cycle through the available sub-ratings (FV,L, S, D, or V).

A highlighted letter ("U" or "B") will be displayed for each sub-rating. While the "U" or "B" is highlighted, press the **ENTER**  button to change the sub-rating.

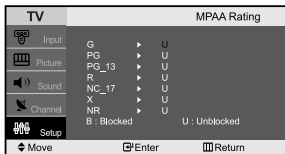
Press **MENU** once to save the TV guidelines. A TV-Rating will be selected, and no letters "U" or "B" will be changed to yellow. To exit this screen, press the **MENU** button again.

To select a different TV-Rating, press the  or  button and then repeat the process.

- The V-chip will automatically block certain categories that are "More restrictive".
For example, if you block the "L" sub-rating in TV-PG, then the "L" sub-ratings in TV-14 and TV-MA will automatically be blocked.

8. Press the EXIT button to clear all the screens.

(Or proceed to the next section, and set up additional restrictions based on the MPAA codes).



How to Set up Restrictions Using the MPAA Ratings: G, PG, PG-13, R, NC-17, X, NR

The MPAA rating system uses the Motion Picture Association of America (MPAA) system, and its main application is for movies. When the V-Chip lock is on, the TV will automatically block any programs that are coded with objectionable ratings (either MPAA or TV-Ratings).

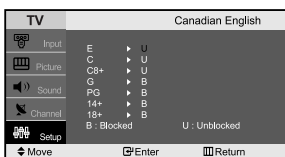
1. Press the **MENU** button to display the menu.
Press the  or  button to select "Setup", then press the **ENTER**  button.
2. Press the  or  button to select "V-Chip", then press the **ENTER**  button.
3. The "Enter PIN" screen will appear. Enter your 4-digit PIN.
4. Press the  or  button to select "MPAA Rating", then press the **ENTER**  button.
5. Repeatedly press the  or  button to select a particular MPAA category.
(When a category is selected, its color changes to yellow.)
Pressing the  or  button will cycle through the MPAA categories:

- **G:** General audience (no restrictions).
- **PG:** Parental guidance suggested.
- **PG-13:** Parents strongly cautioned.
- **R:** Restricted. Children under 17 should be accompanied by an adult.
- **NC-17:** No children under age 17.
- **X:** Adults only.
- **NR:** Not rated.

6. Press the  or  button to select a category.
Press the **ENTER**  button to select "U" or "B".
Press the **EXIT** button to save the settings and to clear all screens.
➤ The V-Chip will automatically block any category that is "more restrictive". For example, if you block the "PG-13" category, then "R", "NC-17", and "X" will automatically be blocked also.

How to Reset the TV after the V-Chip Blocks a Channel ('Emergency Escape')

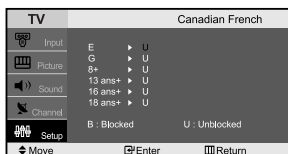
If the TV is tuned to a restricted channel, the V-Chip will block it. The screen will go blank and the following message will appear: "Excessive rating". To resume normal viewing, tune to a different channel using the number buttons. Under certain conditions (depending on the rating of the local TV programs) the V-Chip might lock out all the channels. In this case, use the Menu button for an "emergency escape": Select the V-Chip on the Menu. Enter your PIN number, and press the **ENTER**  button to temporarily disable the V-Chip Lock.



How to Set up Restrictions Using the Canadian English

1. Press the **MENU** button to display the menu.
Press the  or  button to select "Setup", then press the **ENTER**  button.
2. Press the  or  button to select "V-Chip", then press the **ENTER**  button.
3. The "Enter PIN" screen will appear. Enter your 4-digit PIN.
4. Press the  or  button to select "Canadian English", then press the **ENTER**  button.
5. Press the  or  button to select a appropriate restriction.
Press the **ENTER**  button to activate the restriction selected. The "B" is indicated.
6. Press the **EXIT** button to exit.

- **E:** Exempt programming includes...news, sports, documentaries and other information programming, talk shows, music videos, and variety programming.
- **C:** Programming intended for children under age 8.
- **C8+:** Programming generally considered acceptable for children 8 years and over to watch on their own.
- **G:** General programming, suitable for all audiences.
- **PG:** Parental Guidance.
- **14+:** Programming contains themes or content which may not be suitable for viewers under the age of 14.
- **18+:** Adult programming.

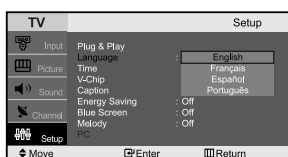


How to Set up Restrictions Using the Canadian French

1. Press the **MENU** button to display the menu.
Press the **▲** or **▼** button to select "Setup", then press the **ENTER** button.
2. Press the **▲** or **▼** button to select "V-Chip", then press the **ENTER** button.
3. The "Enter PIN" screen will appear. Enter your 4-digit PIN.
4. Press the **▲** or **▼** button to select "Canadian French", then press the **ENTER** button.
5. Press the **▲** or **▼** button to select a appropriate restriction.
Press the **ENTER** button to activate the restriction selected. The "B" is indicated.
6. Press the **EXIT** button to exit.

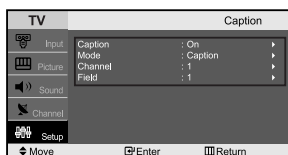
- **E:** Exempt programming includes...news, sports, documentaries and other information programming, talk shows, music videos, and variety programming.
- **G:** General.
- **8 ans+:** 8+ General-Not recommended for young children.
- **13 ans+:** Programming may not be suitable for children under the age of 13.
- **16 ans+:** Programming is not suitable for children under the age of 16.
- **18 ans+:** Programming restricted to adults.

Selecting a Menu Language



1. Press the **MENU** button to display the menu.
Press the **▲** or **▼** button to select "Setup", then press the **ENTER** button.
2. Press the **▲** or **▼** button to select "Language".
Press the **ENTER** button.
3. Press the **▲** or **▼** button to select the appropriate language.
Press the **ENTER** button.
4. Press the **EXIT** button to exit.

Viewing Closed Captions



Your TV decodes and displays the closed captions that are broadcast with certain TV shows. These captions are usually subtitles for the hearing impaired or foreign-language translations. All VCRs record the closed caption signal from television programs, so home-recorded video tapes also provide closed captions. Most pre-recorded commercial video tapes provide closed captions as well. Check for the closed caption symbol in your television schedule and on the tape's packaging: .

1. Press the **MENU** button to display the on-screen menu.
Press the **▲** or **▼** button to select "Setup", then press the **ENTER** button.
2. Press the **▲** or **▼** button to select "Caption", then press the **ENTER** button.
3. Press the **ENTER** button to select "Caption".
4. Press the **▲** or **▼** button to set caption "Off" or "On", then press the **ENTER** button.
5. Depending on the particular broadcast, it might be necessary to make changes to "Channel" and "Field".
6. Press the **EXIT** button to exit.

- ♦ **Caption:** Off / On
- ♦ **Mode:** Caption / Text
- ♦ **Channel:** 1 / 2
- ♦ **Field:** 1 / 2

- The Caption feature does not work with DVD or Set-top box signals.
- Different channels and fields display different information:
Field 2 carries additional information that supplements the information in Field 1.
(For example, Channel 1 may have subtitles in English, while Channel 2 has subtitles in Spanish).

Press the **CAPTION** button on the remote control.

Using the Energy Saving Feature



This feature adjusts the screen brightness automatically depending on the surrounding lighting conditions.

1. Press the **MENU** button to display the on-screen menu.
Press the **▲** or **▼** button to select "Setup", then press the **ENTER** button.
2. Press the **▲** or **▼** button to select "Energy Saving", then press the **ENTER** button.
3. Select the required option (Off, Low, Medium, High) by pressing the **▲** or **▼** button.
Press the **ENTER** button.
4. Press the **EXIT** button to exit.

Setting the Blue Screen Mode



If no signal is being received or the signal is very weak, a blue screen automatically replaces the noisy picture background. If you wish to continue viewing the poor picture, you must set the "Blue Screen" mode to "Off".

1. Press the **MENU** button to display the on-screen menu.
Press the **▲** or **▼** button to select "Setup", then press the **ENTER** button.
2. Press the **▲** or **▼** button to select "Blue Screen", then press the **ENTER** button.
3. Press the **▲** or **▼** button to select "On" or "Off". Press the **ENTER** button.
4. Press the **EXIT** button to exit.

Selecting the Melody



You can hear melody sound when the television is powered on or off.

1. Press the **MENU** button to display the on-screen menu.
Press the **▲** or **▼** button to select "Setup", then press the **ENTER** button.
2. Press the **▲** or **▼** button to select "Melody", then press the **ENTER** button.
3. Press the **▲** or **▼** button to select "On" or "Off". Press the **ENTER** button.
4. Press the **EXIT** button to exit.

Selecting the Source



You can select among external sources connected to your TV's input jacks.

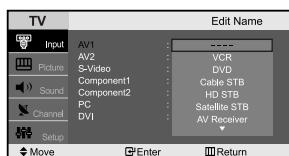
1. Press the **MENU** button to display the on-screen menu.
Press the **ENTER** button to select "Input".
2. Press the **ENTER** button to select the "Source List".
3. Press the **▲** or **▼** button to select the Input source, then press **ENTER** button.

➤ You can only select a source if it is connected to your TV.

☞ You can also press the **SOURCE** button on the remote to choose the Input source.



Editing the Input Source Name



You can name the input device connected to the input jacks to make your input source selection easier.

1. Press the **MENU** button to display the menu.
Press the **ENTER** button to select "Input".
2. Press the **▲** or **▼** button to select "Edit Name" then press the **ENTER** button.
3. Press the **▲** or **▼** button to select the desired input device, then press the **ENTER** button.
4. Press the **▲** or **▼** button repeatedly until the appropriate source name appears.
After the source is selected, press the **ENTER** button.
 - The following options are available:
---- - VCR - DVD - Cable STB - HD STB - Satellite STB - AV Receiver - DVD Receiver - Game - Camcorder - DVD Combo - DHR - PC
 - DHR: DVD HDD Recorder
5. Press the **EXIT** button to exit.

Setting Up Your PC Software (Based on Windows XP)



The Windows display-settings for a typical computer are shown below.

The actual screens on your PC will probably be different, depending upon your particular version of Windows and your particular video card.

If your actual screen looks different, the same, basic set-up information will apply in almost all cases.

(If not, contact your computer manufacturer or Samsung Dealer.)

1. First, click on "Control Panel" on the Windows start menu.
2. When the control panel window appears, click on "Appearance and Themes" and a display dialog-box will appear.
3. When the control panel window appears, click on "Display" and a display dialog-box will appear.
4. Navigate to the "Settings" tab on the display dialog-box.
The correct size setting (resolution): Optimum- 1360 X 768

If a vertical-frequency option exists on your display settings dialog box, the correct value is "60" or "60 Hz".

Otherwise, just click "OK" and exit the dialog box.

Setting the PC



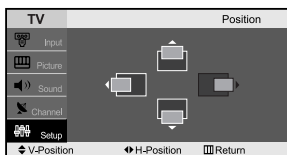
Image Lock:

The purpose of picture quality adjustment is to remove or reduce picture noise.

If the noise is not removed by Fine-tuning alone, then adjust the frequency as best as possible (coarse) and Fine-tune again.

After the noise has been reduced, re-adjust the picture so that it is aligned on the center of screen.

1. Preset: Press the **SOURCE** button to select PC mode.
2. Press the **MENU** button to display the menu.
Press the **▲** or **▼** button to select "Setup", then press the **ENTER** button.
3. Press the **▲** or **▼** button to select "PC", then press the **ENTER** button.
4. Press the **ENTER** button to select "Image Lock".
5. Press the **▲** or **▼** button to select "Coarse" or "Fine", then press the **ENTER** button.
6. Press the **◀** or **▶** button to adjust the screen quality, vertical stripes may appear or the picture may be blurry.
Press the **ENTER** button.
7. Press the **EXIT** button to exit.



Position:

Adjust the PC's screen positioning if it does not fit the TV screen.

1. Preset: Press the **SOURCE** button to select PC mode.
2. Press the **MENU** button to display the menu.
Press the **▲** or **▼** button to select "Setup", then press the **ENTER** button.
3. Press the **▲** or **▼** button to select "PC", then press the **ENTER** button.
4. Press the **▲** or **▼** button to select "Position", then press the **ENTER** button.
5. Press the **▲** or **▼** button to adjust the V-Position (Vertical-Position).
Press the **◀** or **▶** button to adjust the H-Position (Horizontal-Position).
Press the **ENTER** button.
6. Press the **EXIT** button to exit.

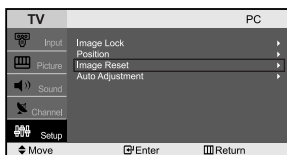
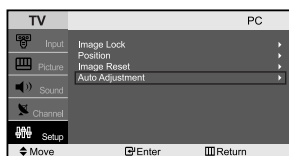


Image Reset:

You can replace all image settings with the factory default values.

1. Preset: Press the **SOURCE** button to select PC mode.
2. Press the **MENU** button to display the menu.
Press the **▲** or **▼** button to select "Setup", then press the **ENTER** button.
3. Press the **▲** or **▼** button to select "PC", then press the **ENTER** button.
4. Press the **▲** or **▼** button to select "Image Reset", then press the **ENTER** button.
5. Press the **EXIT** button to exit.



Auto Adjustment:

Auto adjustment allows you to set the TV to self-adjust to the incoming PC video signal. The fine, coarse and position values are adjusted automatically.

1. Preset: Press the **SOURCE** button to select PC mode.
2. Press the **MENU** button to display the menu.
Press the **▲** or **▼** button to select "Setup", then press the **ENTER** button.
3. Press the **▲** or **▼** button to select "PC", then press the **ENTER** button.
4. Press the **▲** or **▼** button to select "Auto Adjustment", then press the **ENTER** button.
5. Press the **EXIT** button to exit.

Troubleshooting

Identifying Problems

If the TV seems to have a problem, first try this list of possible problems and solutions.

If none of these troubleshooting tips apply, call your nearest Samsung service center.

Problem	Possible Solution
Poor picture	♦ Try another channel. ♦ Adjust the antenna. ♦ Check all wire connections.
Poor sound quality.	♦ Try another channel. ♦ Adjust the antenna.
No picture or sound.	♦ Try another channel. ♦ Press the SOURCE button. ♦ Make sure the TV is plugged in. ♦ Check the antenna connections.
No sound or sound is too low at maximum volume.	♦ First, check the volume of units connected to your TV (Digital broadcasting receiver, DTV, DVD, cable broadcasting receiver, VCR, etc.). Then, adjust the TV volume accordingly.
Picture rolls vertically.	♦ Check all wire connections.
The TV operates erratically.	♦ Unplug the TV for 30 seconds, then try operating it again.
Remote control malfunctions	♦ Replace the remote control batteries. ♦ Clean the upper edge of the remote control (transmission window). ♦ Check the battery terminals.
"Check signal cable. PC" message.	♦ Ensure that the signal cable is firmly connected to the PC sources.
"Not Optimum Mode Recommended Mode 1024x768 60Hz" message.	♦ Check the maximum resolution and the frequency of the Video Adapter. ♦ Compare these values with the data in the Display Modes.
The image is too light or too dark.	♦ Adjust the Brightness and Contrast.
Horizontal bars appear to flicker, jitter or shimmer on the image.	♦ Adjust the Coarse tuning and then adjust the Fine tuning.

Appendix

Specifications

Model Name	LN-R2355W	LN-R2755W	LN-R3255W
Panel Size Display Size	23" Diagonal (16:9) 20.01(H) x 11.25(V) inches (508.13(H) x 285.70(V) mm)	27" Diagonal (16:9) 23.75(H) x 13.46(V) inches (603.22(H) x 341.98(V) mm)	32" Diagonal (16:9) 24.47(H) x 15.44(V) inches (697.68(H) x 392.26(V) mm)
Frequency Horizontal Vertical	30~61kHz 60~75Hz	30~61kHz 60~75Hz	30~61kHz 60~75Hz
PC Resolution Optimum	1360x768 @ 60 Hz	1360x768 @ 60 Hz	1360x768 @ 60 Hz
Power Supply	AC 110~120V, 60 Hz	AC 110~120V, 60 Hz	AC 110~120V, 60 Hz
Power Consumption Normal Power Saving	120 W < 2.0 W	130 W < 2.0 W	160 W < 2.0 W
Dimension (WxDxH) Body With stand	26.61 x 3.35 x 15.49 inches (675.9 x 85.0 x 393.4 mm) 26.61 x 8.02 x 17.30 inches (675.9 x 203.8 x 439.5 mm)	30.18 x 3.78 x 18.07 inches (766.5 x 96.0 x 459.0 mm) 30.18 x 6.02 x 19.90 inches (766.5 x 203.8 x 505.5 mm)	36.00 x 4.09 x 20.82 inches (914.5 x 104.0 x 528.8 mm) 36.00 x 9.74 x 23.29 inches (914.5 x 247.5 x 591.5 mm)
Weight With stand	17.64 lbs (8.0 kg)	26.46 lbs (12.0 kg)	33.07 lbs (15.0 kg)
Environmental Considerations Operating Temperature Operating Humidity Storage Temperature Storage Humidity	50 °F to 104 °F (10 °C to 40 °C) 10% to 80%, non-condensing -4 °F to 113 °F (-20 °C to 45 °C) 5% to 95%, non-condensing	50 °F to 104 °F (10 °C to 40 °C) 10% to 80%, non-condensing -4 °F to 113 °F (-20 °C to 45 °C) 5% to 95%, non-condensing	50 °F to 104 °F (10 °C to 40 °C) 10% to 80%, non-condensing -4 °F to 113 °F (-20 °C to 45 °C) 5% to 95%, non-condensing
Sound Output Stereo	3W X 2 Stereo	5W X 2 Stereo	7.5W X 2 Stereo

Display Modes

Both screen position and size will vary depending on the type of PC monitor and its resolution.

The resolutions in the table are recommended. (All resolutions between the supported limits are supported)

Mode	Resolution	Horizontal Frequency (kHz)	Vertical Frequency (Hz)	Pixel Clock Frequency (MHz)	Sync Polarity (H/V)
IBM	640 x 480	31.469	59.940	25.175	- / -
	720 x 400	31.469	70.087	28.322	- / +
VEAS	640 x 480	37.861	72.809	31.500	- / -
	640 x 480	37.500	75.000	31.500	- / -
	800 x 600	37.879	60.317	40.000	+ / +
	800 x 600	48.077	72.188	50.000	+ / +
	800 x 600	46.875	75.000	49.500	+ / +
	1024 x 768	48.364	60.000	65.000	- / -
	1024 x 768	56.476	70.069	75.000	- / -
	1024 x 768	60.023	75.029	78.750	+ / +
	1360 x 768	47.712	60.015	85.800	+ / +

- The interlace mode is not supported.
- The set might operate abnormally if a non-standard video format is selected.
- DVI does not support PC function.
- Separate and Composite modes are supported. SOG is not supported.