

TX-T2791H TX-T2793H TX-T3091WH TX-T3092WH TX-T3093WH

# **COLOR TELEVISION**

# Owner's Instructions

Register your product at www.samsung.com/global/register Record your Model and Serial number here for future reference.

• Model \_\_\_\_\_ • Serial No. \_\_\_\_\_

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# Important Warranty Information Regarding Television Format Viewing

Standard screen format televisions(4:3, the aspect ratio of the screen width to height) are primarily designed to view standard format full-motion video. The images displayed on them should primarily be in the standard 4:3 ratio format and constantly moving. Displaying stationary graphics and images on screen, such as the dark top and bottom letterbox bars(wide screen pictures), should be limited to no more than 15% of the total television viewing per week.

Wide screen format televisions(16:9, the aspect ratio of the screen width to height) are primarily designed to view 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 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 15% of the total television viewing per week.

Additionally, viewing other stationary images and text such as stock market reports, video game displays, station logos, web sites or computer graphics and patterns, should be limited as described above for all televisions. *Displaying any stationary images that exceed the above guidelines can cause uneven aging of picture tubes(CRTs) that leave subtle, but permanent burned-in ghost images in the television picture. To avoid this, vary the programming and images, and primarily display full screen moving images, not stationary patterns or dark bars.* On television models that offer picture sizing features, use these controls to view the different formats as a full screen picture.

Be careful in the selection and duration of television formats used for viewing. Uneven CRT aging as a result of format selection and use, as well as other burned-in images, is not covered by your Samsung limited warranty.

# Accessories

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



Remote Control (AA59-00411A)/ AAA Batteries



Owner's Instructions/ Safety Guide Manual



Warranty Cards/ Registration Card

# **Viewing the Control Panel**

You can control your TV's basic features, including the on-screen menu. To use the more advanced features, you must use the remote control.

If you press MENU button for less than 2 seconds, the button operates as MENU button. Otherwise (pressed for 2 or longer time), it operates as ENTER button

#### SOURCE

Toggles between all the available input sources (TV, AV1, AV2, S-Video, Component1, Component2, HDMI, HDMI1 or HDMI2(depending on the model)).

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

#### MENU

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

#### + VOL -

Press to increase or decrease the volume. In the on-screen menu, use the + VOL – buttons as you would use the ◀ and ▶ buttons on the remote control.

#### O A CHV

Press to change channels.

In the on-screen menu, use the ∧ CH ∨ buttons as you would use the ▲ and ▼ buttons on the remote control.

#### Power Indicator

Lights up when you turn the power off.

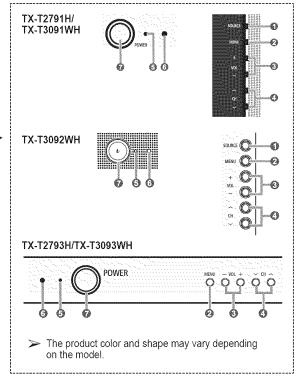
- Power Off: Red
- Power On: Off

#### **6** Remote Control Sensor

Aim the remote control towards this spot on the TV.

#### POWER

Press to turn the TV on and off.



# **Viewing the Connection Panel**

Use the rear panel jacks to connect A/V components that will be connected continuously, such as VCR or DVD players.

# Rear of the TV TX-T2791H/TX-T3091WH TX-T2793H/TX-T3092WH/TX-T3093WH TX-T2793H/TX-T3092WH/TX-T3093WH Tx-T2793H/TX-T3092WH/TX-T3093WH

#### ANT IN

Connect to an antenna(air) or cable TV system.

# O AVIN 1 / AVIN 2

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

#### AV OUT

Connect to the audio/video input jacks of a recording VCR.

# O COMPONENT IN 1, 2

Connect Component video/audio.

# DIGITAL AUDIO OUT (OPTICAL) Connect to a Digital Audio component.

HDMI IN 2 (TX-T2793H/TX-T3092WH/TX-T3093WH only) Connect to the HDMI jack of a device with HDMI output.

#### **O** UPGRADE PORT (USB)

Connect for service and software upgrade.

#### HDMI/DVI IN (TX-T2791H/TX-T3091WH) HDMI1/DVI IN (TX-T2793H/TX-T3092WH/TX-T3093WH)

 Connect to the HDMI jack of a device with HDMI output. These inputs can also be used as a DVI connection with separate analog audio inputs.

An optional HDMI/DVI cable will be necessary to make this connection. When using the optional HDMI/DVI adapter, the DVI analog audio inputs on your TV allow you to receive left and right audio from your DVI device.

(HDMĬ/DVI connection to a computer is not possible. This TV cannot be used as a Monitor with your PC.)

 When connecting this product via HDMI or DVI to a Set Top Box, DVD Player or Games Console etc, make sure that it has been set to a compatible video output mode as shown in the table below. Failure to observe this may result in picture distortion, image breakup or no picture.
 Do not attempt to connect the HDMI/DVI connector to a PC

 Do not attempt to connect the HDMI/DVI connector to a PC or Laptop Graphics Card. (This will result in a blank screen being displayed)

# being displayed) DVI IN/AUDIO L/R

DVI audio outputs for external devices.

#### Supported modes for HDMI/DVI and Component

(O = supported, X = not supported)

	480i	480p	720p	1080i
HDMI/DVI 60Hz	Х	0	0	0
Component	0	0	0	0

#### S-VIDEO IN

Connect an S-Video signal from a camcorder or video game.

## Remote Control

You can use the remote control up to a distance of about 23 feet from the TV. When using the remote control, always point it directly at the TV. You can also use your remote control to operate your VCR, Cable box, DVD player, or Set-Top Box.

- This is a special remote control for the visually impaired, and has Braille points on the POWER, Channel, Volume, STOP and PLAY/PAUSE buttons.
  - The performance of the remote control may be affected by bright light.
- O POWER

Turns the TV on and off.

#### **Numeric Buttons**

Press to directly select a channel.

0

Press to select additional channels being broadcast by the same station. For example, to select channel "54-3", press "54", then press "-" and "3".

CH LIST

Used to display Channel Lists on the screen.

#### ANTENNA

Press to select "Air" or "Cable"

#### O VCR/DVD Functions

- Rewind
- Stop
- Play/Pause
- Fast Forward
- MUTE

Press to temporarily cut off the sound.

VOL+, VOL-

Press to increase or decrease the volume

MENU

Displays the main on-screen menu.

 UP ▲/DOWN ▼/LEFT ⋖/RIGHT ►/ ENTER (-)

Use to select on-screen menu items and change menu values.

RETURN

Returns to the previous menu.

P.MODE

Press to select the picture mode.

S.MODE

Press to select the sound mode.

AUTO PROG.

Press to automatically store selected Air/Cable channels.

ADD/DEL

Use to store and delete channels to/from memory.

Sets the remote to control your TV, VCR, Cable, DVD, or Set-Top Box.

TV, DVD, STB, CABLE, VCR Press to operate your TV, DVD, STB, CABLE (box), or VCR.

SOURCE

Press to display all of the available video sources.

Press to activate the backlight of the VOL, CH, and the active source button (TV, DVD, CABLE, STB, VCR) on the remote control.

PRE-CH

Tunes to the previous channel.

FAV.CH

Press to switch to your favorite channels.

SLEEP

Press to select a preset time interval for automatic shut off.

CH A, CH V

Press to change channels.

**EXIT** Press to exit from the menu.

② INFO

Press to display information on the TV screen.

② CAPTION

Controls the caption decoder.

Color buttons

Press to add or delete channels and to store channels to the favorite channel list in the "Channel List" menu. (Refer to pages 15~16)

S.STRENGTH

Press to check the digital signal strength.

P.SIZE

Press to change the screen size.

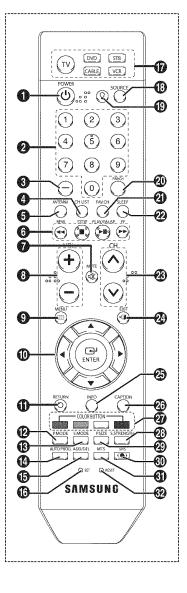
Selects SRS TruSurround XT mode.

MTS

Press to choose Stereo, Mono or Separate Audio Program (SAP broadcast).

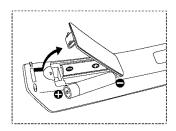
❽ RESET

When your remote control does not work, change the batteries and press the RESET button for 2-3 seconds before use.



#### Installing Batteries in the Remote Control

- Lift the cover at the back of the remote control upward as shown in the figure.
- Install two AAA size batteries
  - Make sure to match the + and ends of the batteries with the diagram inside the compartment.
    - Do not mix battery types, i.e. alkaline and manganese.
- Replace the cover.
  - Remove the batteries and store them in a cool and 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.)



# Connecting VHF and UHF Antennas

#### Antennas with 300 Ω Flat Twin Leads

If you are using an air antenna(such as a roof antenna or "rabbit ears") that has 300  $\Omega$  twin flat leads, follow the directions below.

- 1 Place the wires from the twin leads under the screws on a 300-75 Ω adapter(not supplied). Use a screwdriver to tighten the screws.
- 2 Plug the adaptor into the ANT IN terminal on the back of the TV.

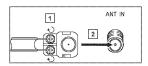
#### Antennas with 75 Ω Round Leads

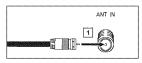
1 Plug the antenna lead into the ANT IN terminal on the back of the TV.

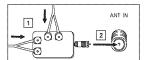
#### Separate VHF and UHF Antennas

If you have two separate antennas for your TV(one VHF and one UHF), you must combine the two antenna signals before connecting the antennas to the TV. This procedure requires an optional combiner-adaptor(available at most electronics shops).

- 1 Connect both antenna leads to the combiner.
- 2 Plug the combiner into the ANT IN terminal on the back of the TV.







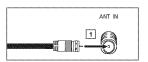
# **Connecting Cable TV**

#### Cable without a Cable Box

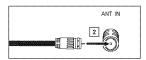
- 1 Plug the incoming cable into the ANT IN terminal on the back of the TV.
  - Because this TV is cable-ready, you do not need a cable box to view unscrambled cable channels.

# Connecting to a Cable Box that Descrambles All Channels

- 1 Find the cable that is connected to the ANT OUT terminal on your cable box.
  This terminal might be labeled "ANT OUT", "VHF OUT" or simply, "OUT".
- 2 Connect the other end of this cable to the ANT IN terminal on the back of the TV.

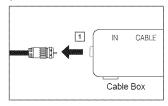


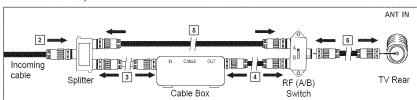




#### Connecting to a Cable Box that Descrambles Some Channels

If your cable box descrambles only some channels(such as premium channels), follow the instructions below. You will need a two-way splitter, an RF (A/B) switch, and four lengths of Antenna cable. (These items are available at most electronics stores.)





- Find and disconnect the cable that is connected to the ANT IN terminal on your cable box.
  - This terminal might be labeled "ANT IN", "VHF IN" or simply, "IN".
- 2 Connect this cable to a two-way splitter.
- 3 Connect an Antenna cable between an OUT terminal on the splitter and the IN terminal on the cable box.
- 4 Connect an Antenna cable between the ANT OUT terminal on the cable box and the B-IN terminal on the RF(A/B) switch.
- 5 Connect another cable between the other OUT terminal on the splitter and the A-IN terminal on the RF (A/B) switch.
- 6 Connect the last Antenna cable between the OUT terminal on the RF (A/B) switch and the ANT IN terminal on the back of the TV.

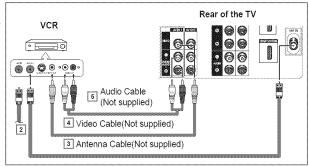
After you have made this connection, set the A/B switch to the "A" position for normal viewing. Set the A/B switch to the "B" position to view scrambled channels. (When you set the A/B switch to "B", you will need to tune your TV to the cable box's output channel, which is usually channel 3 or 4.)

# Connecting a VCR

#### **Video Connection**

These instructions assume that you have already connected your TV to an antenna or a cable TV system(according to the instructions on page 6). Skip step 1 if you have not yet connected to an antenna or a cable system.

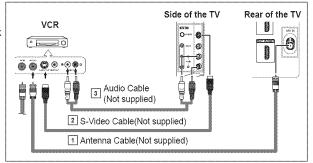
- Each VCR has a different back panel configuration.
  - When connecting a VCR, match the color of the connection terminal to the cable.
- 1 Unplug the cable or antenna from the back of the TV.
- Connect the cable or antenna to the ANT IN terminal on the back of the VCR.
- 3 Connect an Antenna cable between the ANT OUT terminal on the VCR and the ANT IN terminal on the TV.
- 4 Connect a Video Cable between the VIDEO OUT jack on the VCR and the AV IN 1 [VIDEO] jack on the TV.
- 5 Connect Audio Cables between the AUDIO OUT jacks on the VCR and the AV IN 1 [L-DVI IN/AUDIO-R] jacks on the TV
  - If you have a "mono" (non-stereo) VCR, use a Y-connector (not supplied) to hook up to the right and left audio input jacks of the TV. If your VCR is stereo, you must connect two cables.
- > Also, you can connect to AV IN 2 on the side panel of TV.



#### S-Video Connection

Your Samsung TV can be connected to the S-Video jack of a VCR. (This connection delivers a better picture when compared to the regular video connection above.)

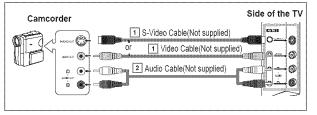
- > Each VCR has a different back panel configuration.
  - When connecting a VCR, match the color of the connection terminal to the cable.
- 1 To begin, follow steps 1–3 in the previous section to connect the antenna or cable to your VCR and your TV.
- 2 Connect an S-Video Cable between the S-VIDEO OUT jack on the VCR and the AV IN 2 [S-VIDEO] jack on the TV.
- 3 Connect Audio Cables between the AUDIO OUT jacks on the VCR and the AV IN 2 [L-AUDIO-R] jacks on the TV.
- Some games may be displayed with a cut off picture when the TV is connected to a game player.



# **Connecting a Camcorder**

The side panel jacks on your TV make it easy to connect a camcorder to your TV. They allow you to view the camcorder tapes without using a VCR.

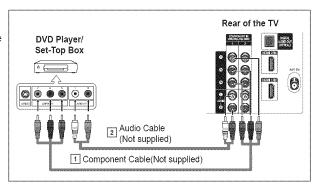
- Each Camcorder has a different back panel configuration.
  - When connecting a Camcorder, match the color of the connection terminal to the cable.
- 1 Connect a Video Cable (or S-Video Cable) between the AV IN 2 [VIDEO] (or S-VIDEO) jack on the TV and the VIDEO OUT jack on the camcorder.
- 2 Connect Audio Cables between the AV IN 2 [L-AUDIO-R] jacks on the TV and the AUDIO OUT jacks on the camcorder.



# Connecting a DVD Player/Set-Top Box

The rear panel jacks on your TV make it easy to connect a DVD player/Set-Top Box.

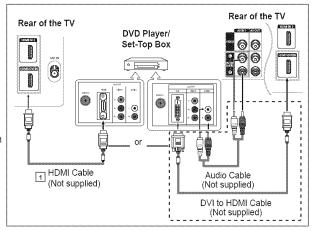
- Each DVD Player/Set-Top Box has a different back panel configuration.
  - When connecting a DVD Player/Set-Top Box, match the color of the connection terminal to the cable.
- 1 Connect Component Cables between the COMPONENT IN 1 [Y, PB, PR] or COMPONENT IN 2 [Y, PB, PR] jacks on the TV and the COMPONENT OUT [Y, PB, PR] jacks on the DVD Player/Set-Top Box.
- 2 Connect Audio Cables between the COMPONENT IN 1 [L-AUDIO-R] or COMPONENT IN 2 [L-AUDIO-R] jacks on the TV and the AUDIO OUT jacks on the DVD Player/ Set-Top Box.
- Component video separates the video into Y(Luminance (brightness)), PB(Blue), and PR(Red) for enhanced video quality. Be sure to match the component video and audio connections. For example, if connecting the video cable to COMPONENT IN, connect the audio cable to COMPONENT IN also.



# Connecting a DVD Player/Set-Top Box via HDMI

This connection can only be made if there is an HDMI/DVI Output jack on the external device.

- Second Each DVD Player/Set-Top Box has a different back panel configuration.
  - When connecting a DVD Player/Set-Top Box, match the color of the connection terminal to the cable.
- 1 Connect an HDMI Cable between the HDMI/DVI IN (or HDMI1/DVI IN, HDMI IN 2) on the TV and the HDMI OUT on the DVD player/Set-Top Box or connect a DVI to HDMI Cable or DVI-HDMI Adapter between the HDMI/DVI IN (or HDMI1/DVI IN, HDMI IN 2) jack on the TV and the DVI jack on the DVD player/Set-Top Box. If connecting via HDMI/DVI, you must also connect audio cables. Connect Audio Cables between the AV IN 1 [L-DVI IN/AUDIO-R] jacks on the TV and the AUDIO OUT jacks on the DVD player/Set-Top Box.
- When connecting via HDMI, you do not need to connect Audio Cables. You only need to connect Audio cables when connecting via HDMI/DVI.



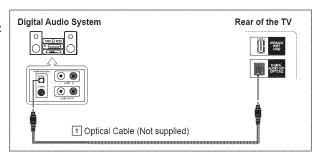
#### What is HDMI?

- HDMI, or high-definition multimedia interface, is a next-generation interface that enables the transmission of digital audio and video signals using a single cable.
- "Multimedia interface" is a more accurate name for it especially because it allows multiple channels of digital audio (5.1 channels). The difference between HDMI and DVI is that the HDMI device is smaller in size, has the HDCP(High Bandwidth Digital Copy Protection) coding feature installed, and supports multi-channel digital audio.

# **Connecting a Digital Audio System**

The rear panel jacks on your TV make it easy to connect a Digital Audio System to your TV.

- Each Digital Audio System has a different back panel configuration.
- 1 Connect an Optical Cable between the DIGITAL AUDIO OUT (OPTICAL) jack on the TV and the Digital Audio Input jack on the Digital Audio System. When a Digital Audio System is connected to the DIGITAL AUDIO OUT (OPTICAL) terminal: Decrease the gain (volume) of the TV, and adjust the volume level with the system's volume control.
- 5.1CH audio is possible when the TV is connected to an external device supporting 5.1CH.



#### What is OPTICAL?

 Converts the electric signal into an optical light signal, and transmits it through glass fibers. S/PDIF is a transmission system of digital audio in the form of a light wave that uses a glass conductor.

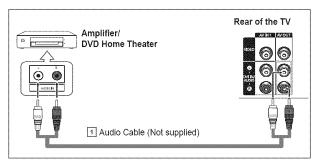
DIGITAL AUDIO OUT (OPTICAL)	RF (Digital/Analog), AV, S-Video	Sound is output
DIGITAL AUDIO OUT (OF TICAL)	Component, HDMI	Sound is not output

When the COMPONENT IN or HDMI IN jacks are connected, the Optical jack on the TV does not output audio. If you want to hear audio, connect the DIGITAL AUDIO OUT (OPTICAL) jack on the DVD player or Set-Top Box directly to an Amplifier or DVD Home Theater, not the TV.

# Connecting an Amplifier/DVD Home Theater - Analog

- Secondary States Secondary Second
  - ◆ When connecting an Amplifier/DVD Home Theater, match the color of the connection terminal to the cable.
- Connect Audio Cables between the AV OUT [L-AUDIO-R] on the TV and AUDIO IN on the Amplifier/ DVD Home Theater.

When an audio amplifier is connected to the AUDIO OUT [L-AUDIO-R] terminals: Decrease the volume of the TV, and adjust the volume level with the Amplifier's volume control.



AV OUT L-AUDIO-R	RF (Digital/Analog), AV, S-Video	Sound is output
AV GOT L-AGDIO-R	Component, HDMI	Sound is not output

>> When the COMPONENT IN or HDMI IN jacks are connected, the AV Out jacks on the TV does not output audio. If you want to hear audio, connect the AUDIO OUT jacks on the DVD player or Set-Top Box directly to an Amplifier or DVD Home Theater, not the TV.

# Plug & Play Feature

When the TV is initially powered on, basic settings proceed automatically and subsequently:

- 1 Press the POWER button on the remote control. The message Menu language, Shop Mode, Channels and Time will be set is displayed. Press the ENTER button, then the message Select the language of the OSD. is displayed.
- 2 Press the ENTER button to enter the language. Press the ▲ or ▼ button to select language, then press the ENTER button. The message Select Home Mode when installing this TV at home. is displayed.
- 3 Press the ◀ or ▶ button to select Shop or Home, then press the ENTER button. The message Selects the antenna to execute the Auto Program function. is displayed.
  - The default selection is Home.
    - We recommend setting the TV to Home mode for the best picture in your home environment.
    - Shop mode is only intended for use in retail environments.
    - If the unit is accidentally set to Shop mode and you want to return to Dynamic (Home) mode, press the Volume button and then hold down the MENU button for five seconds on the TV panel.
- 4 Press the ▲ or ▼ button to memorize the channels of the selected connection. Press the ENTER button to select Start.
  - In Cable mode, you can select the correct signal source among STD, HRC, and IRC by pressing the ◀ button, then press the ▲ or ▼ button.
    Press the ▶ button to select Start, then press the ENTER button.
    Contact your local cable company to identify the type of cable system that exists in your particular area.
- The TV will begin memorizing all of the available channels. After all the available channels are stored, the Auto program menu reappears. Press the ENTER button when channel memorization is complete. The Clock Mode menu is displayed.
  - > To stop the search before it has finished, press the ENTER button with Stop selected.
- 6 Press the ENTER button.

Press the ▲ or ▼ button to select Manual for setting the current time manually, then press the ENTER button. The message Enter the current date and time. is displayed.

- If you select Auto, Set to daylight saving time. is displayed, then go to step 9. (If you want to set the time automatically, skip to step 9 below.)
- 7 Press the 

  olimits of one of the point of the press of the pres
  - You can set the Month, Day, Year, Hour, and Minute directly by pressing the number buttons on the remote control.
- 8 The message Enjoy your watching, is displayed. When you have finished, press the ENTER button.
  - Even if the ENTER button is not pressed, the message will automatically disappear after several seconds.

















#### Setting the Clock Automatically

- Press the ENTER button.
  - Press the ▲ or ▼ button to select On or Off, then the ENTER button. The message **Select the time zone where you are located**. is displayed.
- 10 Press the ▲ or ▼ button to highlight the time zone for your local area. Press the ENTER button.
  - If clock is not automatically set, see pages 18~19 to set the clock.
- 11 The message Enjoy your watching. is displayed.
  - When you have finished, press the ENTER button.
  - Even if the ENTER button is not pressed, the message will automatically disappear after several seconds.

#### If you want to reset this feature...

- Press the **MENU** button to display the menu. Press the ▲ or ▼ button to select **Setup**, then press the **ENTER** button.
- Press the ENTER button to select Plug & Play. For further details on setting up options, refer to the page 10.
  - The Plug & Play feature is only available in the TV mode.







# Memorizing the Channels

Your TV can memorize and store all of the available channels for both air and cable to scan through the channels. This eliminates the need to change channels by entering the channel digits. There are three steps for memorizing channels: selecting a broadcast source, memorizing the channels(automatic) and adding or deleting channels(manual).

#### Selecting the Video Signal-source

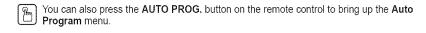
Before your television can begin memorizing the available channels, you must specify the type of signal source that is connected to the TV(i.e. an air or a cable system).

- Press the MENU button to display the menu.
  - Press the ▲ or ▼ button to select **Channel**, then press the **ENTER** button.
- Press the ENTER button select Antenna. Press the ▲ or ▼ button to select Air or Cable, then press the ENTER button.

#### Storing Channels in Memory (Automatic Method)

- Press the ▲ or ▼ button to select Auto Program, then press the ENTER button.
- Press the ▲ or ▼ button to select the antenna connection, then press the ENTER button.
  - Air: "Air" antenna signal. Cable: "Cable" antenna signal.
  - Air+Cable: "Air" and "Cable" antenna signals.

    If you selected "Air", then go to step 7.
- Press the ▲ or ▼ button to select Cable, then press the ENTER button. The cable system menu is displayed.
- Press the ◀ button, then the ▲ or ▼ button to select the cable system for analog and digital channels respectively. Press the ▶ button to select Start, then press the ENTER button.
  - If you have Digital cable, select the signal source for both Analog and Digital.
  - 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.
- After all the available channels are stored, the **Auto Program** menu reappears.

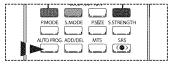












# To Select the Source

Use to select TV or other external input sources such as DVD players, VCRs, etc. connected to the TV.

- Press the MENU button to display the menu.
  - Press the ▲ or ▼ button to select Input, then press the ENTER button.
- 2 Press the ENTER button to select Source List.
  - Press the ▲ or ▼ button to select signal source, then press the ENTER button.
  - You can choose between the following sets of jacks: TV, AV1, Component1, Component2, HDMI or HDMI1, 2 (depending on the model) on the TV's rear panel and AV2 or S-Video on the TV's side panel.
- (Pm)

Press the **SOURCE** button on the remote control to view an external signal source.

HDMI will appear in the Source list for models TX-T2791H and TX-T3091WH. HDMI1/HDMI2 will appear in the Source list for models TX-T2793H, TX-T3092WH, and TX-T3093WH.





# To Edit the Input Source Name

Name the external device connected to the input jacks to make your input source selection easier.

- 1 Press the **MENU** button to display the menu.
  - Press the ▲ or ▼ button to select Input, then press the ENTER button.
  - Press the ▲ or ▼ button to select Edit Name, then press the ENTER button.
- 2 Press the ▲ or ▼ button to select AV1, AV2, S-Video, Component1, Component2, HDMI (TX-T2791H and TX-T3091WH), or HDMI1, 2 (TX-T2793H, TX-T3092WH, and TX-T3093WH) input jack, then press the ENTER button.
- Press the ▲ or ▼ button to select VCR, DVD, D-VHS, Cable STB, HD STB, Satellite STB, PVR STB, AV Receiver, DVD Receiver, Game, Camcorder, DVD Combo, DVD HDD Recorder, Internet TV Recv., Interactive TV Recv., VOD STB, or TV input source, then press the ENTER button. Press the EXIT button to exit.

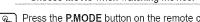
# **Using Automatic Picture Settings**

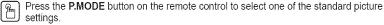
Your TV has three automatic picture settings ("Dynamic", "Standard", "Movie") that are preset at the factory.

You can activate a Picture Setting by making a selection from the menu.

- 1 Press the MENU button to display the menu.
- Press the **ENTER** button to select **Picture**.

  Press the **ENTER** button to select **Mode**.
  - Press the ▲ or ♥ button to select the **Dynamic**, **Standard**, or **Movie** picture setting, then press the **ENTER** button.
  - Choose Dynamic for viewing the TV during the day or when there is bright light in the room
  - · Choose Standard for general TV watching mode.
  - · Choose Movie when watching movies.





- 3 Press the ▲ or ▼ button to select Contrast, Brightness, Sharpness, Color, or Tint, then press the ENTER button.
- 4 Press the ◀ or ▶ button to decrease or increase the value of a particular item.
  ➤ You cannot adjust the Tint in DTV, Component or HDMI mode.
- 5 Press the ENTER button to return to Mode.
- 6 Press the ▲ or ▼ button to select Color Tone, then press the ENTER button.
- 7 Press the ▲ or ▼ button to select Cool2, Cool1, Normal, Warm1, or Warm2, then press the ENTER button.
  - When the picture mode is set to Dynamic or Standard, Warm1 and Warm2 cannot be selected.

#### Resetting the Picture Settings to the Factory Defaults

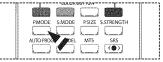
8 Press the ▲ or ▼ button to select **Reset**, then press the **ENTER** button.

> Each picture mode can be reset.

Press the EXIT button to exit.











# **Changing the Screen 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 ENTER button to select Picture.
- 2 Press the ▲ or ▼ button to select Size, then press the ENTER button.
- 3 Press the ▲ or ▼ button to select the screen format you want, then press the ENTER button

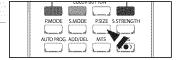
When **Zoom1** or **Zoom2** is selected, you can adjust the vertical position of the enlarged picture using the ▲ or ▼ button and initialize the display selecting the **Reset**.

Press the **EXIT** button to exit.

- 16:9: Sets the picture to 16:9 wide mode.
- Zoom1: Magnifies the size of the picture on the screen.
- Zoom2: Expands the Zoom1 format picture.
- Wide Fit: Enlarges the aspect ratio of the picture to fit the entire screen.
- 4:3: Sets the picture to 4:3 normal mode.

(Pm)

Press the P.SIZE button on the remote control repeatedly to change the picture size.



Positon

- The Screen Size Changing feature availability depends on the signal's format of the current broadcast your TV is receiving.
- Only 16:9 and 4:3 are available in DTV Component (720p, 1080i) and HDMI (720p, 1080i) modes.
  - Wide Fit sets the optimum picture format by expanding it both horizontally and vertically.
     Wide Fit does not support all external devices (DVD, VCR etc.).



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



Zoom1
Magnifies the size of the picture on screen. It is vertically enlarged.



Zoom2
Magnifies the size of the picture more than Zoom1. It is vertically enlarged.



Wide Fit
Enlarges the aspect
ratio of the picture to fit
the entire screen.



4:3
Sets the picture to 4:3
normal mode.

#### Tilt

Due to the Earth's magnetic field there may be some minor image tilt depending on the TV's location. When this occurs, follow the steps below.

- Press the MENU button to display the menu.
   Press the ENTER button to select Picture.
- 2 Press the ▲ or ▼ button to select Tilt, then press the ENTER button.
- 3 Press the ◀ or ▶ button to adjust screen tilt. Press the EXIT button to exit.



# **Using Automatic Sound Settings**

Your TV has automatic sound settings ("Standard", "Music", "Movie", "Speech", and "Custom") that are preset at the factory. Or, you can select "Custom", which automatically recalls your personalized sound 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 ENTER button to select Mode. Press the ▲ or ▼ button to select Standard, Music, Movie, Speech, or Custom sound setting, then press the ENTER button.

  Press the EXIT button to exit.
  - . Choose Standard for the standard factory settings.
  - Choose Music when watching music videos or concerts.
  - . Choose Movie when watching movies.
  - Choose Speech when watching a show that is mostly dialog (i.e., news).
  - Choose Custom to recall your personalized settings (see "Customizing the Sound").



Press the **S.MODE** button on the remote control repeatedly to select one of the standard sound settings.



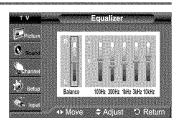
# **Customizing the Sound**

The sound settings can be adjusted to suit your personal preference. (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 

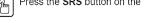
  button to select a particular frequency to adjust.
  - Press the ▲ or ▼ button to increase or decrease the level of the particular frequency. Press the EXIT button to exit.
- > R/L Sound Balance Adjustment:
  - To adjust the sound balance of the R/L speakers.
  - Bandwidth Adjustment(100Hz, 300Hz, 1KHz, 3KHz, 10KHz):
     To adjust the level of different bandwidth frequencies.
- > If you make any changes to the equalizer settings, the sound mode is automatically switched to the Custom.



# Setting the SRS TruSurround XT

TruSurround XT is a patented SRS technology that solves the problem of playing 5.1 multichannel content over two speakers. TruSurround delivers a compelling, virtual surround sound experience through any two-speaker playback system, including internal television speakers. It is fully compatible with all multichannel formats.

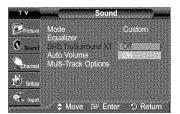
- 1 Press the MENU button to display the menu.
  - Press the ▲ or ▼ button to select **Sound**, then press the **ENTER** button.
- 2 Press the ▲ or ▼ button to select SRS TruSurround XT, then press the ENTER button.
- 3 Press the ▲ or ▼ button to select Off or On, then press the ENTER button. Press the EXIT button to exit.



Press the SRS button on the remote control to select On or Off.

#### TRADEMARK & LABEL LICENSE NOTICE

SRS ( ) TruSurround XT, SRS and ( ) Symbol are trademarks of SRS Labs, Inc.
TruSurround XT technology is incorporated under license from SRS Labs, Inc.





# **Automatic Volume Control**

Reduces the differences in volume level among broadcasters.

- 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, then press the ENTER button. Press the EXIT button to exit.



# Choosing a Multi-Channel Sound (MTS) Track - Digital

The digital-TV transmission system is capable of simultaneous transmission of many audio tracks (for example, simultaneous translations of the program into foreign languages).

The availability of these additional "multitracks" depends upon the program.

- 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 Multi-Track Options, then press the ENTER button.
- 3 Press the ENTER button to select Preferred Language. Press the ▲ or ▼ button to choose the language (English, Spanish, or French) you want, then press the ENTER button.

  Press the EXIT button to exit.
  - Press the MTS button on the remote control to listen in a language other than the preferred language.





# Choosing a Multi-Channel Sound (MTS) Track - Analog

- 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 Multi-Track Options.
- 3 Press the ENTER button to select Multi-Track Sound.
- 4 Press the ▲ or ▼ button to select a setting you want, then press the ENTER button. Press the EXIT button to exit.
  - Choose Mono for channels that are broadcasting in mono, or if you are having difficulty receiving a stereo signal.
  - Choose Stereo for channels that are broadcasting in stereo.
  - Choose SAP to listen to the Separate Audio Program, which is usually a foreign language translation.



Press the MTS button on the remote control repeatedly to select Mono, Stereo, or SAP.





# **Clearing Scrambled Channels - Digital**

The Clear Scrambled Channel function is used to filter out scrambled channels after Auto Program is completed. It removes the scrambled channels from the list by tuning the digital cable channels. This process may take up to 20-30 minutes.

- 1 Press the MENU button to display the menu.
  - Press the ▲ or ▼ button to select Channel, then press the ENTER button.
- 2 Press the ▲ or ▼ button to select Clear Scrambled Channel, then press the ENTER button. It searches scrambled channels, which are to be removed from the list.

To stop searching scrambled channels;

Press the ENTER button to select Stop.

Press the ◀ button to select Yes, then press the ENTER button.

3 When the scrambled channel searching is completed, press the ENTER button. Press the EXIT button to exit.





# **Adding and Erasing Channels**

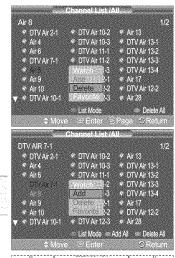
You can add or delete a channel to display the channels you want. To use the Channel List function, first run Auto Program (see page 11).

- 1 Press the MENU button to display the menu.

  Press the ▲ or ▼ button to select Channel, then press the ENTER button.
  - Press the ▲ or ▼ button to select Channel List, then press the ENTER button.
- 3 Press the ENTER button to select All.

2

- 4 Press the ▲/▼/◄/▶ button to select a channel to delete, then press the ENTER button. Press the ▲ or ▼ button to select Delete, then press the ENTER button to delete the channel. The " symbol disappears. Press the RETURN button to go back.
- 5 Press the ▲/▼/◄/► button to select a channel to add, then press the ENTER button. Press the ▲ or ▼ button to select Add, then press the ENTER button to add the channel. Press the EXIT button to exit.
  - All added channels will be shown on Added menu.
  - Red button: Press repeatedly to select All, Added, or Favorite
  - Green button: Press to add all channels deleted.
  - \* Yellow button: Press to delete all channels memorized
- Press the **ADD/DEL** button on the remote control. Press the **CH**  $\wedge$  and **CH**  $\vee$  button to select the channel to be added or deleted, then press the **ENTER** button.



# **Setting Your Favorite Channels**

You can set channels you watch frequently as favorites.

- 1 Press the MENU button to display the menu.
  - Press the ▲ or ▼ button to select Channel, then press the ENTER button.
- 2 Press the ▲ or ▼ button to select Channel List, then press the ENTER button.
- 3 Press the ▲ or ▼ button to select All or Added, then press the ENTER button.
- 4 Press the ▲/▼/◄/▶ button to select a channel as a favorite channel, then press the ENTER button.

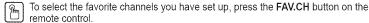
Press the CH \( \shcap \) and CH \( \subseteq \) button to display the next channel list page.

5 Press the ▲ or ▼ button to select Favorite, then press the ENTER button. The "♥" symbol will appear and the channel will be set as a Favorite.

To cancel your Favorite channel selection, press the **ENTER** button until the "•" symbol disappears.

Press the EXIT button to exit.

- Only memorized channels can be set as favorite channels.
- All favorite channels will be shown on the **Favorite** menu.







# Viewing the Channel Lists

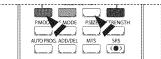
You can display a list of all channels, added channels or your favorite channels.

- 1 Press the **MENU** button to display the menu.
  - Press the ▲ or ▼ button to select Channel, then press the ENTER button.
- 2 Press the ▲ or ▼ button to select Channel List, then press the ENTER button.
- 3 Press the ▲ or ▼ button to select All, Added, or Favorite, then press the ENTER button. To toggle between your all channels, add channels, or favorite channels, use the red button on the remote control.

Press the EXIT button to exit.

- Red button: Press repeatedly to select All, Added, or Favorite.
- Yellow button: Press to delete all channels memorized.





# Setting the Default Channel List Mode

You can set All, Added, or Favorite to be the Default List that appears when you press the CH LIST button.

- 1 Press the MENU button to display the menu.
  - Press the ▲ or ▼ button to select Channel, then press the ENTER button.
- 2 Press the ▲ or ▼ button to select Channel List, then press the ENTER button.
- 3 Press the ▲ or ▼ button to select Default List Mode, then press the ENTER button.
- 4 Press the ▲ or ▼ button to select All, Added, or Favorite, then press the ENTER button. Press the EXIT button to exit.
  - All: Shows All the channels when you press the CH LIST button on the remote control.
  - Added: Shows Added channels when you press the CH LIST button on the remote control.
  - Favorite: Shows Favorite channels when you press the CH LIST button on the remote control.







Press the CH LIST button on the remote control to bring up the Channel Lists.

# Labeling Channels - Analog

Channels can be labeled so that their call letters appear whenever the channel is selected.

- Press the **MENU** button to display the menu.
- Press the ▲ or ▼ button to select **Channel**, then press the **ENTER** button.
- Press the ▲ or ▼ button to select Name, then press the ENTER button.
- Press the ▲ or ▼ button to select the channel to be assigned a new name, then press the ENTER button.
- Press the ▲ or ▼ button to select a letter, a number or a blank(Results in this sequence: A~Z, 0~9, +, -, \*, /, blank).

Press the button to switch to the next field, which will be selected.

Select a second letter or digit by pressing the ▲ or ▼ button, as above.

Repeat the process to select the last three digits. When you have finished, press the ENTER button to assign the new name.

To erase the assigned new name, select Clear by pressing the ◀ or ▶ button, then press the ENTER button.

Press the EXIT button to exit.

- The names of digital broadcasting channels are automatically assigned and thus cannot be assigned by users.
  - If you add or delete the TV channel, the corresponding label information will also be added or deleted.

# Fine Tuning Analog Channels

Use fine tuning to manually adjust a particular channel for optimal reception.

- Press the **MENU** button to display the menu.
  - Press the ▲ or ▼ button to select **Channel**, then press the **ENTER** button.
- Press the ▲ or ▼ button to select Fine Tune, then press the ENTER button.
- Press the 
  or button to adjust the fine tuning.
- To store the fine tuning setting in the TV's memory, press the **ENTER** button. To reset the fine tuning setting, press the ▼ button to select Reset, then press the ENTER button. Press the **EXIT** button to exit.
- Only analog TV channels can be fine tuned.
  - " \* " will appear next to the number of fine-tuned channels.



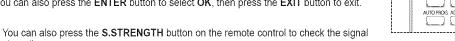
# Checking the Digital-Signal Strength

Unlike analog channels, which can vary in reception quality from "snowy" to clear, digital(HDTV) channels have either perfect reception quality or you will not receive them at all. So, unlike analog channels, you cannot fine tune a digital channel. You can, however, adjust your antenna to improve the reception of available digital channels.

- Press the MENU button to display the menu.
  - Press the ▲ or ▼ button to select Channel, then press the ENTER button.
- Press the ▲ or ▼ button to select Signal Strength, then press the ENTER button. If the signal strength meter indicates that the signal is weak, physically adjust your antenna to increase the signal strength.

Continue to adjust the antenna until you find the best position with the strongest signal. Press the **EXIT** button to exit.

You can also press the ENTER button to select OK, then press the EXIT button to exit.



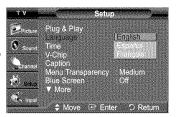


# Selecting a Menu Language

- Press the **MENU** button to display the menu.
  - Press the ▲ or ▼ button to select **Setup**, then press the **ENTER** button.
- Press the ▲ or ▼ button to select Language, then press the ENTER button.
- Press the ▲ or ▼ button to select the appropriate language: English, Español or Français, then press the ENTER button.

Press the EXIT button to exit.

strenath.





# **Setting the Time**

Setting the clock is necessary in order to use the various timer features of the TV. Also, you can check the time while watching the TV. (Just press the INFO button.)

#### Setting the Clock Manually

- 1 Press the MENU button to display the menu.
  - Press the ▲ or ▼ button to select **Setup**, then press the **ENTER** button. Press the ▲ or ▼ button to select **Time**, then press the **ENTER** button.
- 2 Press the ENTER button to select Clock
- 3 Press the ENTER button to select Clock Mode.
  - Press the ▲ or ▼ button to select Manual, then press the ENTER button.
- 4 Press the ▲ or ▼ button to select Clock Set, then press the ENTER button.
- 5 Press the 

  olimits of a point of the street of the
  - Press the **EXIT** button to exit.
- The current time will appear every time you press the INFO button.
- You can set the month, day, year, hour, and minute directly by pressing the number buttons on the remote control.

#### Setting the Clock Automatically

- 1 Press the MENU button to display the menu.
  - Press the ▲ or ▼ button to select **Setup**, then press the **ENTER** button. Press the ▲ or ▼ button to select **Time**, then press the **ENTER** button.
- 2 Press the ENTER button to select Clock.
- 3 Press the ENTER button to select Clock Mode.
  - Press the ▲ or ▼ button to select Auto, then press the ENTER button.
- 4 Press the ▲ or ▼ button to select Time Zone, then press the ENTER button.
- 5 Press the ▲ or ▼ button to highlight the time zone for your local area, then press the ENTER button.
- 6 Press the ▲ or ▼ button to select DST (Daylight Saving Time), then press the ENTER button. Press the ▲ or ▼ button to select On or Off, then press the ENTER button. Press the EXIT button to exit.
- Depending on the broadcast station and signal, the auto time may not be set correctly. If this occurs, set the time manually.
- > Air or cable must be connected in order to set the time automatically.

#### Setting the On/Off Timer

Use this feature to set the TV to turn on or off at a desired time. You must set the clock first.

- 1 Press the **MENU** button to display the menu.
  - Press the ▲ or ▼ button to select **Setup**, then press the **ENTER** button.
  - Press the ▲ or ▼ button to select **Time**, then press the **ENTER** button.
- 2 Press the ▲ or ▼ button to select Timer1, Timer2, or Timer3, then press the ENTER button. The timer menu is displayed.
- 3 Press the ◀ or ▶ button to select the required item below.
  - Press the ▲ or ▼ button to adjust to the setting satisfied.

Press the EXIT button to exit.

- On Timer: Select hour, minute, am/pm, and Inactivated/Activated.
  (To activate timer with the setting satisfied, set to Activated.)
- Off Timer: Select hour, minute, am/pm, and Inactivated/Activated.
   (To activate timer with the setting satisfied, set to Activated.)
- Repeat : Select Once, Everyday, MON~FRI, MON~SAT, or SAT~SUN.
- \* Volume : Select the required volume level.
- Antenna : Select Air or Cable.
- Channel: Select the required channel.
- > You can set the hour, minute, and channel directly by pressing the number buttons on the remote control.

#### > Auto Power Off

When you set the timer "On", the TV will eventually turn off if no controls are operated for 3 hours after the TV was turned on by timer. This function is only available in timer "On" mode and prevents overheating, which may occur if a TV is on for too long time.

Clock

Preture
Clock Mode
Clock Set

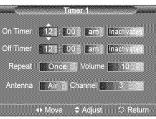
Manual











#### Setting the Sleep Timer

The Sleep Timer automatically shuts off the TV after a preset time (from 30 to 180 minutes).

1 Press the MENU button to display the menu.

Press the ▲ or ▼ button to select **Setup**, then press the **ENTER** button.

Press the ▲ or ▼ button to select **Time**, then press the **ENTER** button.

- Press the ▲ or ▼ button to select Sleep Timer, then press the ENTER button.
- 3 Press the ▲ or ♥ button to select the minute.

Setting the Timer sets the Activation to **On** automatically.

To cancel the set sleep timer:

Press the ▶ button to select Activation.

Press the ▲ or ▼ button to select **Off**, then press the **ENTER** button.

Press the EXIT button to exit.

Press the SLEEP button on the remote control until the appropriate time interval appears (any of the preset values from 30 min. to 180 min.).





# **Using the V-Chip**

U.S.A Only

This product is covered by the following U.S. patents: US4,930,158 US4,930,160

The V-Chip feature automatically locks out programs that are deemed inappropriate for children. The user must enter a PIN (Personal ID number) before any of the V-Chip restrictions are set up or changed.

#### 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. The message Enter PIN will appear. Enter your 4 digit PIN.
  ➤ The default PIN of a new TV set is "0-0-0-0".
- The V-Chip screen will appear.
  To enable the V-Chip feature, press the ENTER button so that the V-Chip Lock field is On.
  (Pressing the ▲ or ▼ button will alternate between On and Off.) Press the ENTER button.

# V-Chip Pichie Sound Note that the state of the state o

#### Setting Up Your Personal ID Number(PIN)

- 4 Press the ▲ or ▼ button to select Change PIN, then 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.
- If you forget the PIN, press the remote control buttons in the following sequence, which resets the pin to 0-0-0-0 : Power Off  $\rightarrow$  MUTE  $\rightarrow$  8  $\rightarrow$  2  $\rightarrow$  4  $\rightarrow$  Power On.

# Change PIN Enter new PIN Confirm new PIN Confirm new PIN Confirm new PIN Channel Channel O D Enter PIN Return

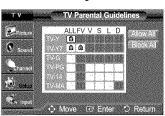
#### How to Set up Restrictions Using the 'TV Parental Guidelines'

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 Parental guidelines or the MPAA rating.

- 6 Press the ▲ or ▼ button to select TV Parental Guidelines, then press the ENTER button.
- 7 The TV Parental Guidelines screen will appear.

Press the ▲ or ▼ button to select one of the six aged based categories:

- TV-Y: All children. The themes and elements in this program are specifically designed for a very young audience, including children from ages two to six.
- TV-Y7: Directed to older children. The themes and elements in this program may include mild physical or comedic violence, or may frighten children under the age of seven.
- TV-G: General audience. It contains little or no violence, no strong language, and little
  or no sexual dialog or situations.
- TV-PG: Parental guidance suggested. This program may contain infrequent coarse language, limited violence, some suggestive sexual dialog and situations.
- TV-14: Parents strongly cautioned. This program may contain sophisticated themes, sexual content, strong language and more intense violence.
- TV-MA: Mature audiences only. This program may contain mature themes, profane language, graphic violence and explicit sexual content.



- 8 At this point, one of the TV-Ratings is selected. Press the **ENTER** button. Depending on your existing setup, the " ⓐ " symbol will be selected. (Blank = Unblocked, ⓐ = Blocked) While " 逾 " is selected, press the **ENTER** button to block or unblock the category. To select a different TV-Rating, press the ▲ or ▼ button and then repeat the process.
  - FV: Fantasy violence.
    D: Sexually suggestive dialog.
    L: Adult language.
    S: Sexual situation.
    V: Violence.
  - Allow all: Press to unlock all TV ratings. Block all: Press to lock all TV ratings.
  - The TV-Y, TV-Y7, TV-G, TV-PG, TV-14 and TV-MA have additional options. See the next step to change any of the following sub-ratings.
  - 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. (See next section.)
- How to set the FV, V, S, L and D sub-ratings.

  First, select one of these TV-Ratings: TV-Y, TV-Y7, TV-G, TV-PG, TV-14, or TV-MA (See Step 7), and press the ENTER button. The "♠" symbol will be displayed for each sub-rating. While "♠" is selected, press the ▶ button to go to a sub rating. Press the ENTER button to block the sub rating. 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 L sub-rating in TV-PG, then the L sub-ratings in TV-14 and TV-MA will automatically be blocked.
- These categories consist of two separate groups: TV-Y and TV-Y7 (young children through age 7), and TV-G through TV-MA (everybody else). The restrictions for these two groups work independently: If a household includes very young children as well as young adults, the TV guidelines must be set up separately for each age group.

#### 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).

- 10 Press the ▲ or ▼ button to select MPAA Rating, then press the ENTER button.
- 11 Press the ▲ or ▼ button to select an appropriate restriction. Press the ENTER button to activate the restriction selected. The " a" symbol is indicated. While " a" is selected, press the ENTER button to block or unblock the category.
  - G: General audience(no restriction).
  - 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.
  - Allow all: Press to unlock all TV ratings. Block all: Press to lock all TV ratings.
  - 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 Set up Restrictions Using the 'Canadian English' (for canada models)

- 12 Press the ▲ or ▼ button to select Canadian English, then press the ENTER button.
- 13 Press the ▲ or ▼ button to select an appropriate restriction. Press the ENTER button to activate the restriction selected. The "♠" symbol is indicated.
  - 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.
  - Allow all: Press to unlock all TV ratings. Block all: Press to lock all TV ratings.
  - The V-Chip will automatically block any category that is "more restrictive". For example, if you block G category, then PG, 14+, and 18+ will automatically be blocked also.

Peture

Sound

Sound

Move Er Enter

Canadian English

Allow All

Allow All

Block All

Block All

Block All

Block All

Block All

Block All

Canadian English

Allow All

Canadian English

Allow All

Block All

Block All

Canadian English

Allow All

Canadian English

Allow All

Canadian English

Allow All

Canadian English

Allow All

Canadian English

MPAA Rating

Ô

#### How to Set up Restrictions Using the 'Canadian French' (for canada models)

- 14 Press the ▲ or ▼ button to select Canadian French, then press the ENTER button.
- 15 Press the ▲ or ▼ button to select an appropriate restriction.

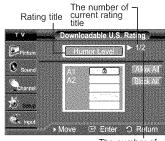
Press the ENTER button to activate the restriction selected. The " are symbol is indicated.

- . G. Conoral
- 8 ans+: 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.
- Allow all: Press to unlock all TV ratings. Block all: Press to lock all TV ratings.
- The V-Chip will automatically block any category that is "more restrictive". For example, if you block 8 ans+ category, then 13 ans+, 16 ans+, and 18 ans+ will automatically be blocked also.

#### Using the V-Chip for Digital channels

Parental restriction information can be used while watching DTV channels.

- 16 Press the ▲ or ▼ button to select Downloadable U.S. Rating, then press the ENTER button.
  - If information is not downloaded from the broadcasting station, the Downloadable U.S. Rating menu is deactivated.
    - Parental restriction information is automatically downloaded while watching DTV channels. It may take several seconds.
    - The Downloadable U.S. Rating menu is available for use after information is downloaded from the broadcasting station. However, depending on the information from the broadcasting station, it may not be available for use.
- 17 Press the ▲ or ▼ button to select an appropriate restriction. Press the ENTER button to activate the restriction selected. The " a" symbol is indicated. Press the EXIT button to exit.



Canadian English

The number of all rating title

- Allow All: Press to unlock all TV ratings. Block All: Press to lock all TV ratings.
  - Parental restriction levels differ depending on the broadcasting station.
  - The default menu name and Downloadable US rating changes depending on the downloaded information.
  - Even if you set the On-screen display to your desired language, the Downloadable U.S. Rating menu will appear in English only.
  - The rating will automatically block certain categories that are more restrictive.
  - The rating titles (for example: Humor Level..etc) and TV ratings (for example: NV, MV, V...etc) may differ depending on the broadcasting station.

# Viewing Closed Captions(On-Screen Text Messages) - Analog

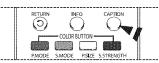
The Analog Caption function operates in either analog TV channel mode or external signal mode. (Depending on the broadcasting signal, the Analog Caption function may operate on digital channels.)

- 1 Press the MENU button to display the menu.
  - Press the ▲ or ▼ button to select Setup, then press the ENTER button.
- Press the ▲ or ▼ button to select Caption, then press the ENTER button.
- 3 Press the ENTER button to select Caption.
  - Press the ▲ or ▼ button to select **On**, then press the **ENTER** button.
- 4 Press the ▲ or ▼ button to select Caption Mode, then press the ENTER button. Press the ▲ or ▼ button to select the submenu (Default, CC1~CC4 or Text1 ~ Text4) you want, then press the ENTER button.

Press the EXIT button to exit.

- CC1: The Primary Synchronous Caption Service. These are captions in the primary language that must be in sync with the sound, preferably matched to a specific frame.
- CC2: The Special Non-Synchronous Use Captions. This channel carries data that is intended to augment information carried in the program.
- CC3: Secondary Synchronous Caption Service. Alternate program-related caption data, typically second language captions.
- CC4: Special Non-Synchronous Use Captions. Similar to CC2.
- Text1: First Text Service. This may be various non-program related data.
- Text2: Second Text Service. Additional data, usually not program related.
- Text3/Text4: Third Text Service. These data channels should be used only if Text1 and Text2 are not sufficient.
- ➤ ♦ The default is Default.
  - The availability of captions depends on the program being broadcast.







# Viewing Closed Captions(On-Screen Text Messages) - Digital

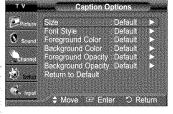
The Digital Captions function operates on digital channels.

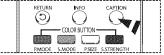
- 1 Press the MENU button to display the menu.
  - Press the ▲ or ▼ button to select **Setup**, then press the **ENTER** button.
- 2 Press the ▲ or ▼ button to select Caption, then press the ENTER button.
- 3 Press the ENTER button to select Caption.
  - Press the ▲ or ▼ button to select On, then press the ENTER button.
- 4 Press the ▲ or ▼ button to select Caption Mode, then press the ENTER button. Press the ▲ or ▼ button to select the submenu (Default, Service1~ Service6, CC1~CC4, or Text1 ~ Text4) you want, then press the ENTER button.
- 5 Press the ▲ or ▼ button to select Caption Options, then press the ENTER button.
- 6 Press the ▲ or ▼ button to select the desired caption option, then press the ENTER button. Press the ▲ or ▼ button to select the desired sub-menu options (see options below), then press the ENTER button.

Press the **EXIT** button to exit.

- Size: This option consists of Default, Small, Standard, and Large.
- Font Style: This option consists of Default, Style0 ~ Style7. You can change the font you want.
- Foreground Color: This option consists of Default, White, Black, Red, Green, Blue, Yellow, Magenta, and Cyan. You can change the color of the letter.
- Background Color: This option consists of Default, White, Black, Red, Green, Blue, Yellow, Magenta, and Cyan. You can change the background color of the caption.
- Foreground Opacity: This option consists of Default, Transparent, Translucent,
   Solid, and Flashing. You can change the opacity of the letter.
- Background Opacity: This option consists of Default, Transparent, Translucent,
   Solid, and Flashing. You can change the background opacity of the caption.
- Return to Default: This option sets each of Size, Font Style, Foreground Color, Background Color, Foreground Opacity, and Background Opacity to its factory default.
- The availability of captions depends on the program being broadcast.
  - Default means to follow the standard set by the broadcaster.
  - Foreground Color and Background Color cannot be set to have the same color.
  - Foreground Opacity and Background Opacity cannot be both set to Transparent.









# Menu Transparency Level

Adjusts the transparency of the menu screen.

- 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 Menu Transparency, then press the ENTER button. Press the ▲ or ▼ button to select the level you want, then press the ENTER button. 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 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.
  - Press the ▲ or ▼ button to select **On** or **Off**, then press the **ENTER** button.
  - Press the EXIT button to exit.



# **Adjusting the Melody Sound**

The TV power on/off melody sound can be adjusted.

- 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 Melody, then press the ENTER button.
- 3 Press the ▲ or ▼ button to select Off, Low, Medium, or High, then press the ENTER button

Press the EXIT button to exit.



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# **Setting the HDMI Black Level**

Use this function when the screen is too dim in the HDMI mode. (by HDMI input for the RGB limited range of 16 to 235)

- 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 HDMi Black Level, then press the ENTER button.
- 3 Press the ▲ or ▼ button to select Normal or Low, then press the ENTER button. Press the EXIT button to exit.
  - This function is active only when the externel input connects to HDMI(RGB signals).



# **Setting the Film Mode**

Film mode automatically senses and processes film signals from all sources and adjust the picture for optimum quality.

- > Film mode is supported in 480i only.
- 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 Film Mode, then press the ENTER button.
- 3 Press the ▲ or ▼ button to select Off or On, then press the ENTER button. Press the EXIT button to exit.



# **Setting the Function Help**

Displays help on the menu functions.

- 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 Function Help, then press the ENTER button.
  - Press the ▲ or ▼ button to select **On** or **Off**, then press the **ENTER** button.

Press the **EXIT** button to exit.

> The default setting of the function help is On.



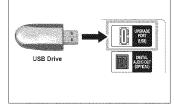
# Upgrading the Software

Samsung may offer upgrades for your TV's firmware in the future. Please contact the Samsung call center at 1-800-SAMSUNG to receive information about downloading upgrades and using a USB drive. Upgrades will be possible by connecting a USB drive to the USB port located on the back of your TV.

- 1 Insert a USB drive containing the firmware upgrade into the USB Upgrade Port on the back of the TV.
- 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 SW Upgrade, then press the ENTER button.
- 4 Press the ENTER button to select USB.
  - The message **Scanning for USB.. It may take up to 30 seconds.** is displayed. Please be careful to not disconnect the power or remove the USB drive while upgrades are being applied.

The TV will shut off and turn on automatically after completing the firmware upgrade. Please check the firmware version after the upgrades are complete.

The firmware and upgrade process may be different by country and region.







# **Setting Up Your Remote Control**

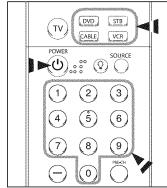
After your remote control has been properly set up, your remote control can operate in five different modes: TV, VCR, Cable, DVD, or Set-Top Box.

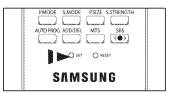
Pressing the corresponding button on the remote control allows you to switch between these modes, and control whichever piece of equipment you choose.

The remote control might not be compatible with all DVD Players, VCRs, Cable boxes, and Set-Top Boxes.

#### Setting Up Your Remote Control to Operate Your VCR, Cable box, DVD or Set Top Box

- Turn off your VCR, CABLE, DVD or STB
- 2 Press the VCR, CABLE, DVD or STB button on your TV's remote control.
- 3 Press the SET button on your TV's remote control.
- 4 Using the number buttons on your remote control, enter three digits of the VCR, Cable box, DVD or Set Top Box code listed on pages 25~27 of this manual for your brand of VCR, Cable box, DVD or Set Top Box. Make sure you enter three digits of the code, even if the first digit is a "0". (If more than one code is listed, try the first one.)
- 4 Press the **POWER** button on the remote control. Your VCR, Cable box, DVD or Set Top Box should turn on if your remote control is set up correctly.
  - If your VCR, Cable box, DVD or Set Top Box does not turn on, repeat steps 2, 3, and 4, but try one of the other codes listed for the brand of your particular VCR, Cable box, DVD or Set Top Box
- Note on Using Remote Control Modes: VCR, CABLE, DVD, STB.
  When your remote control is in VCR, Cable box, DVD or Set Top Box mode, the volume buttons still control your TV's volume.





# Remote Control Codes

# VCR

name	
Brand SAMSUNG	Code
	000 001 002 003 004 005 077 078 079
ADMIRAL	020
AIWA	025
AKAI	004 027 032
AUDIO DYNAMICS	007 026
BELL&HOWELL	018
BROKSONIC	022
CANDLE	002 003 006 008 015 055
CANON	021 056
CITIZEN	002 003 006 008 015 055
COLORTYME	007
CRAIG	002 024
CURTIS MATHES	002 007 008 017 021 025 056 064 066
DAEWOO	003 010 011 012 013 014 015 016
DB	007 026
DIMENSIA	017
DYNATECH	025
ELECTROHOME	034
EMERSON	001 003 006 021 022 025 030 032 034
EMERIOON	040 047 050 052 060 063 065 066 067
	069 073
FISHER	018 024 028 029 048 051 061
FUNAL	025
GENERAL ELECTRIC	002 005 017 021 056
GO VIDEO	002 003 017 021 036
LG(Goldstar)	006 007 008 009 010
HARMAN KARDON	007
HITACHI	019 025 041 042 074
INSTANT REPLAY	021
JC PENNEY	002 007 018 019 021 026 037 041
101	054 056
JCL	007 008 018 021 026 037
KENWOOD	007 008 018 026 037
KLH	070
LIOYD	025
LOGIK	038
LXI	025
JVC	081 082 083
MAGNAVOX	021 056 059
MARANTZ	007 008 018 021 026 037 062
MARTA	006
KONIA	036
ORION	073 074 075 076
MEI	021
MEMOREX	006 021 024 025
MGA	034
MIDLAND	005
MINOLTA	019 041 075
MINANTIA	טוט ודט טוט

Brand	Code
MITSUBISHI	019 034 041 046
MONTGOMERY WARD	020
MTC	002 025
MULTITECH	002 005 025 038
NEC	007 008 018 026 037 062 064
OPTIMUS	020
PANASONIC	021 056 071 072
PENTAX	019 041 075
PENTEX RESEARCH+	008
PHILCO	021 056 059
PHILIPS	021 080
PIONEER	019 026 039 053
PORTLAND	015 049 055
PROSCAN	017
QUARTZ	018
QUASAR	021 056
RADIO SHACK/	006 018 020 021 024 025 029 034
REALISTIC	048 056
RCA	002 017 019 021 035 041 043 057
	068 076
SANSUI	026
SANYO	018 024
SCOTT	003 047 052 067
SEARS	006 018 019 024 028 029 041 048 051
SHARP	020 034 045 015
SHIMTOM	027 033 038 058
SIGNATURE	025
SONY	027 033 044
SYLVANIA	021 025 056 059
SYMPHONIC	025
TANDY	018 025
TASHIKA	006
TATUNG	037
TEAC	025 037 068
TECHNICS	021
TEKNIKA	006 021 025 031
TMK	066
TOSHIBA	003 019 029 051 052
TOTEVISION	002 006
UNITECH	002
VECTOR RESEARCH	007 026
VICTOR	026
VIDEO CONCEPTS	007 026
VIDEOSONIC	002
WARDS	002 003 006 019 020 021 024 025 034
-	038 041
YAMAHA	007 008 018 026 037
ZENITH	023 027 033

# CABLE BOX

Brand	Code
SAMSUNG	000 001 002 003 004 005 006 007
GI	041
HAMLIN	003 024 031
HITACHI	025 030
JERROLD	038 039
MACOM	025 030
MAGNAVOX	019 023 028
OAK	026
PANASONIC	003 022 027 037 044
PHILIPS	019 021 023 028
PIONEER	004 018 020 044
RCA	014 022 040
REGAL	003

Brand	Code	
REGENCY	015 023	
SA	042 043	
SCIENTIFIC ATLAN	042 043	
SPRUCER	022	
STARGATE 2000	036	
SYLVANIA	016	
TEXSCAN	016	
TOCOM	032	
UNIVERSAL	033 034	
VIEWSTAR	019 021 023 028	
WARNER AMEX	046	
ZENITH	017 029 035 037 045	

# DVD

טעט	
Brand	Code
ANAM	030
AUDIOVOX	075
AUDIOLOGIC	085
ANABA	072
APEX DIGITAL	070 071 074 086 083 084 088
	111 112
AIWA	114
BROKSONIC	062
BLAUPUNKT	074
B&K	122 123
CURTIS MATHES	027
CYBER HOME	065 077 078 079 082
CLARION	080 125
CIRRUS	081
CINEVISION	095
DAEWOO	066
DENON	146
FARENHEIT	067 068
FISHER	090
GPX	060
GO VIDEO	061 089 133 135
GE	069 074
GREENHILL	074
HITACHI	064 113
HITEKER	071
HOYO	073
HARMAN / KARDON	091 110
IRT	089
INTEGRA	092
JBL	091
JVC	022 033 115 116
JATON	073
KENWOOD	051 108 109
KISS	073
KONKA	059 100 106 107
KLH	074 075
LG(Goldstar)	025 031
LOÈWE	057
LASONIC	058
MOBILE AUTHORITY	054
MEMOREX	055
MALATA	056
MAGNAVOX	076 093
MINTEK	074 094
MONYKA	073

Brand	Code
NORCENT	048 049 050
NEXT BASE	052
NEC	053
NANTAUS	144
NESA	074
OPTOMEDIA ELECTRONICS	105
OPTIVIEW	072
ONKYO	076 092 119
PHILCO	044 045
PRINCETON	046 047
PROSCAN	023
PANASONIC	024 034 124 134 136 137 138
PHILIPS	036 076
ROTEL	117 118
RIO	120
RCA	023 035 074 075 131 132
RAITE	073
ROWA	038
SAMPO	104
SONY	026 029 126 127 128 129
	130 141
SHERWOOD	039 041
SVA	042
SYLVANIA	043 093
SHARP	140
SANSUI	062
SANYO	062
SHINSONIC	094
SANYO	090
THOMSON	145
TOSHIBA	028 062 076
TECHNICS	139
TVIEW	072
TOKAI	073
TEAC	096
TECHWOOD	097
TREDEX	098 099 101
URBAN CONCEPTS	076
VENTURER	075
VOCOPRO	102
YAMAHA	032 063
YAMAKAWA	040 073
XWAVE	103
ZENITH	076 121

# **SET-TOP BOX**

Brand	Code
ALPHASTAR	023
ANAM	043
CHANNEL MASTER	018 034
CROSSDIGITAL	019
CHAPARRAL	035
DIRECT TV	015 016 017 019 022 045 060
	061 062 065 066 067 068
DAEWOO	074
DISH NETWORK SYSTEM	069 070
DISHPRO	069
DRAKE	018 024 032
DX ANTENNA	027
ECHOSTAR	025 069 070 071
EXPRESSVU	069
GOI	069
GE	065
GENERAL INSTRUMENT	046 047 048 063 064
HTS	069
HOME CABLE	056
<u>HITACHI</u>	022
HUGHES NETWORK	015 017
IQ	020
IQ PRISM	020
JANEIL	059
JERROID	063
JVC	069 070

Brand	Code
LG(Goldstar)	044 073
MAGNAVOX	016 021 036 038 039 040 041 042
MEMOREX	016
MOTOROLA	064
MACOM	018
MITSUBISHI	015
NEXT LEVEL	047 048 064
PHILIPS	015 016 017 021 033 036 038 039
	040 041 042 067
PRIMESTAR	046 049 050 063
PANASONIC	058 059 061 062
PAYSAT	016
PROSCAN	065 066
RCA	051 052 053 065 066
RADIOSHACK	064
REALISTIC	057
STS	020 027
STAR TRAK	026
SKY	031
SKY LIFE	005 006 007
SHACK	064
STAR CHOICE	064
SONY	054 060
TOSHIBA	015 017 028 029 030 072
ULTIMATE TV	060 066
UNIDEN	016 021 037 055 056 057
ZENITH	024 031 068

#### SAMSUNG DVD

Product	Code
DVD	000 001 002
DVDR	003 004
BD Record	005 006
VCR COMBO	007 008 009 010 011
VCR Record	012
DHR COMBO	013

Product	Code
Home Theater VCR COMBO	014 015 016
HDD Record COMBO	017
TWIN TRAY COMBO	018
STB DVD COMBO	019
DVD Receiver	020
AV Receiver	021

# **SAMSUNG SET-TOP BOX**

Product	Code
Ground wave STB	001 002
Satellite STB	003
CABLE STB	004
STB DVD COMBO	008
Satellite STB HDD COMBO Standard	009

Product	Code
Satellite STB HDD COMBO Premium	010
CABLE STB HDD COMBO Standard	011
CABLE STB HDD COMBO Premium	012
Ground wave STB HDD COMBO Standard	013
Ground wave STB HDD COMBO Premium	014

# **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 quality.	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.  - Make sure the MUTE button is off.		
No sound or sound is too low at maximum volume.	First, check the volume of units connected to your TV (digital broadcasting receiver, DVD, cable broadcasting receiver, VCR, etc.). Then, adjust the TV volume accordingly.		
Picture rolls vertically.	Check all connections.		
The TV operates erratically.	Unplug the TV for 30 seconds, then try operating it again.		
The TV won't turn on.	Make sure the wall outlet is working.		
Remote control malfunctions	<ul> <li>Replace the remote control batteries.</li> <li>Clean the upper edge of the remote control(transmission window).</li> <li>Check the battery terminals.</li> <li>Press the TV button to put your remote control in the TV mode.</li> <li>Make sure the remote has batteries.</li> <li>Check that the "+" and "-" ends of the batteries are inserted correctly.</li> </ul>		
Digital broadcasting screen problem.	Please check the digital signal strength and input antenna.		
The image is too light or too dark.	or too dark Adjust the Brightness and Contrast Adjust the Fine tuning.		
The visual qualities of digital channels vary.	The visual qualities of digital channels may vary depending on the original production method(analog or digital).  - If the original production method is digital: High visual quality program.  - If the original production method is analog: The digital program displayed on the screen is originally an analog program which has been converted to digital. The visual quality is of an SD(Standard Definition) grade.		
Although the TV caption shows HD, the visual quality is not satisfactory.	The HD(High Definition) caption that appears when switching channels or when pressing the Information button on the remote control means the selected channel is a digital channel. If the broadcasting station converts an analog signal into digital and transmits the signal, the visual quality may not be perfect.		

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That's all there is to it!



# **Specifications**

Mo	del Name	TX-T3091WH	TX-T3092WH	TX-T3093WH	TX-T2793H	TX-T2791H
Screen Size (Dia	creen Size (Diagonal) 30 inc		30 inch		27 inch	
Sound Output	d Output		10W + 10W			······································
Dimensions (WxHxD) Body		36.7 x 22.3 x 15.9 inches / 934 x 568 x 406 mm	31.3 x 23.0 x 16.3 inches / 796 x 586 x 415 mm	35.8 x 22.4 x 16.3 inches / 910 x 570 x 415 mm	30.3 x 23.3 x 16.5 inches / 771 x 593 x 420 mm	31.3 x 23.0 x 16.3 inches / 796 x 586 x 415 mm
Weight		120.1 lbs / 54.5 Kg	119.0 lbs / 54.0 Kg	117.2 lbs / 53.2 Kg	90.3 lbs / 41.0 Kg	94.7 lbs / 43.0 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				

- > Design and specifications are subject to change without prior notice.
  - For the power supply, refer to the label attached to the product.

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