SAMSUNG

**Contact SAMSUNG WORLD-WIDE**

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

Country	Customer Care Center ☎	Web Site	Address
CANADA	1-800-SAMSUNG (7267864)	www.samsung.com/ca	Samsung Electronics Canada Inc., Customer Service 55 Standish Court Mississauga, Ontario L5R 4B2 Canada
			Samsung Electronique Canada Inc., Service á la Clientéle 55 Standish Court Mississauga, Ontario L5R 4B2 Canada
U.S.A	1-800-SAMSUNG (7267864)	www.samsung.com	Samsung Electronics America, Inc. 105 Challenger Road Ridgefield Park, NJ 07660-0511

BP68-00620A-00

SAMSUNG

HL-S5686C

DLP TV
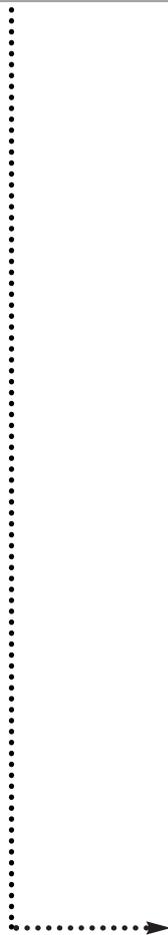
Owner's Instructions

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

A Guide to Digital TV

- **What is Digital Television?**
  Digital television (DTV) is a new way of transmitting high quality video and audio to your TV set. Using DTV, broadcasters can transmit high definition TV (HDTV) images, Dolby digital surround audio, and new services such as multicasting (transmitting more than one program on the same TV channel) and datacasting. Several of these services can be combined into a single digital broadcast.

Digital Television Services

- **Digital Picture Quality**
  DTV programs are transmitted in two different formats. The first is Standard Definition Television (SDTV) and the second is High Definition Television (HDTV).

- **SDTV** program formats include 480-line interlaced (480i) and 480-line progressive (480p) video. 480i programs are essentially a digital version of our current analog TV programs, while the 480p format offers improved image detail over 480i. Some 480p programs are broadcast in widescreen and are comparable to progressive-scan DVD movies in image quality.

- **HDTV** program formats include 1080-line interlaced (1080i) and 720-line progressive (720p). Both HDTV formats are always broadcast in widescreen, and offer much higher picture quality than SDTV.

- **Dolby Surround Sound**
  With DTV, you can listen to a variety of Dolby digital audio formats from Dolby Surround 2.0 to Dolby Digital 5.1 surround, using your home audio system. Many HDTV programs are now broadcast with DD 5.1 soundtracks.

U.S.A Only

Other countries

CableCARD and Digital Cable Ready TVs

CableCARD and Digital Cable Ready TVs are the products of a new digital cable standard.
This new standard is called OpenCable and it is a concerted effort to standardize the digital cable service network interface in North America. For more information, please refer to www.cablelabs.com.

Digital Cable Ready TVs are equipped with a proper digital cable tuner to receive digital cable signals from your local cable service provider. They are also designed to work with digital cable card modules (PCMCIA card modules called CableCARDs). These PCMCIA card modules or CableCARDs will be provided by your local cable service provider after a proper subscription process.

The provided CableCARD from your local cable service provider needs to be inserted into the CableCARD slot of a Digital Cable Ready TV. Please refer to page 78 for how to insert the CableCARD.
A digital set-top box which used to be provided by the cable service provider is no longer needed with Digital Cable Ready TVs and CableCARDs.

When CableCARD is inserted into the slot, the TV screen will show the message that CableCARD is inserted and tries to download necessary data such as channel information or subscription information from your digital cable service provider. When you insert CableCARD for the first time, this process may take a few minutes depending on the amount of data your cable provider needs to send.
During this process the digital cable service provider or CableCARD may display messages on the TV screen to help or give you further information.

Please contact your local cable provider for more information on service availability and how to acquire a CableCARD.

➢ This television receiver supports the copy protection system regulated by DTLA (Digital Transmission Licensing Administrator). It should be noted that copy protected content may not be viewable depending on your particular connections.

Q&A

1. **Is the antenna I use for existing TV reception good enough for DTV?**
    Over-the-air (OTA) digital TV broadcasting uses the same channels as analog TV and works well with many existing TV antennas. However, DTV broadcast channel assignments are different than analog channels. You should find out whether your local DTV broadcasts are on VHF (channels 2-13) or UHF (channels 14-69) to see if you need a different antenna.

    If your DTV channels are on UHF and you already get good UHF reception, your present antenna may work fine. The same holds true for VHF DTV reception. Note that in some markets, both VHF and UHF channels are used for DTV broadcasts.

    You can find out the latest DTV channel assignments for your area by browsing selected Internet web sites such as www.titantv.com, www.10000watts.com, and www.fcc.gov.

2. **How difficult is it to receive DTV signals indoors?**
    This depends on whether your local DTV stations are running full power or not and how close your location is to the transmission tower. DTV receivers do not require as much signal as analog TV receivers to produce high-quality images and sound.

    Once the DTV signal level exceeds a certain threshold at the receiver, the digital video and audio data is decoded at the same quality it was originally encoded for broadcast.
    This is a big advantage for DTV over analog TV - there is no noise, ghosting, static, or scratchy audio.

3. **How can I connect an antenna in my townhouse, cooperative apartment, condominium, or apartment?**
    The Federal Communications Commission's OTARD Rule (part of the Telecommunications Act of 1996) allows residents of condominiums, townhouse, or members of neighborhood associations to put up outside antennas for reception of broadcast TV signals as long as those antennas are not located in common areas and are no more than 12' in height.

    Residents of rental units (apartments, etc.) are not covered by the OTARD rules and will have to use indoor antennas to receive DTV broadcasts. It is possible that the landlord of an apartment complex can provide broadcast DTV signals via a master TV antenna system to each apartment.

4. **Can I connect my DTV set top receiver to my cable TV service?**
    Cable TV systems use a different method for transmitting digital TV programs that is currently incompatible with broadcast DTV set-top receivers. So you will still need to use an outdoor or indoor antenna to receive OTA broadcast DTV programs.

    The good news is that you won't have to pay a monthly or per-program charge to watch OTA DTV and HDTV programs. They're free, unlike subscription satellite TV or premium cable TV. All you need is an antenna and a DTV set-top receiver to enjoy clear, sharp widescreen images and high-quality audio.

Contents

▲

Symbol   Press   Note

Contents

▲

➤

Symbol   **Press**   **Note**

General Information

Viewing Position

To optimize your viewing comfort, please follow the guidelines below for viewing distance. If viewing for an extended period of time, sit as far back from the screen as possible.

<Top view>

70º

70º

56" screen:
At least 6.6 feet

<Side view>

30º

30º

56" screen:
At least 6.6 feet
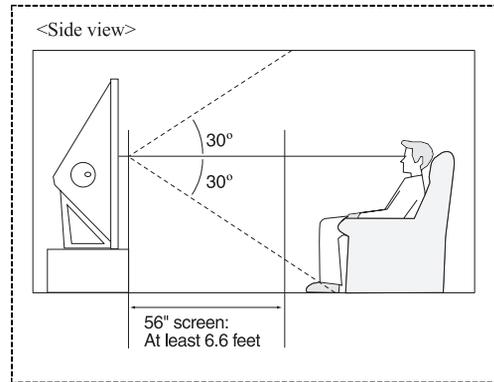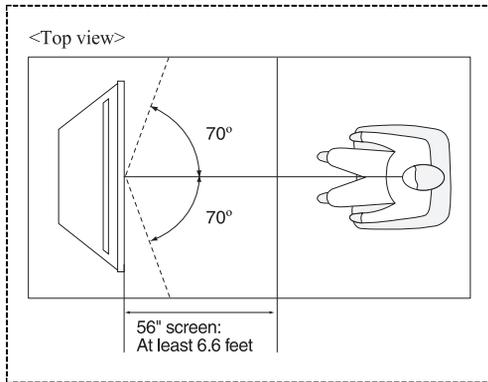
When installing the product, make sure to keep it away from the wall (more than 10 cm/4 inches) for ventilation purposes.

• Poor ventilation may cause an increase in the internal temperature of the product, resulting in a shortened component life and degraded performance.
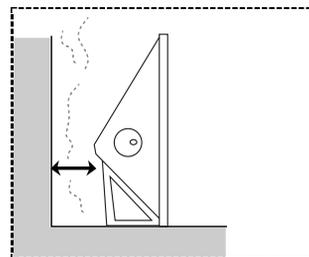
List of Features

- Easy-to-operate remote control
- Dynamic, easy to navigate menus
- Easy-to-use on-screen menu system you can access from the front/right side panel, or remote control
- Automatic timer to turn the TV on and off at any time you choose
- Adjustable picture and sound settings and the ability to memorize your favorite settings
- Automatic channel tuning for up to 181 channels
- A special filter to reduce or eliminate reception problems
- Fine tuning control for the sharpest picture possible
- A built-in multi-channel sound decoder for stereo and bilingual listening
- Built-in, dual channel speakers
- A special sleep timer
- Widescreen TV with adjustable image size
- Life-like clear images provided by DNIe technology
- My Color Control mode to correspond with your color preference
- Color Weakness Enhancement Feature
- Digital Input jack
- Digital Audio Output (OPTICAL) jack
- CableCARD slot
- D-Net (IEEE1394)
- Game mode
- Easy-to-use channel manager menu.

Accessories

Please make sure the following items are included with your TV.
If any items are missing, contact your dealer.
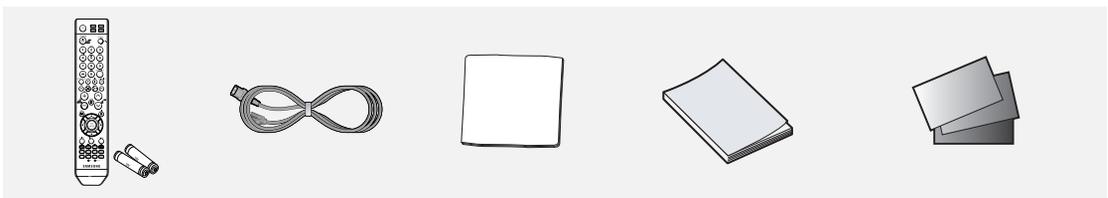
| Remote Control & Batteries (AAA x 2) (BP59-00121A) | Power Cord (3903-000144) | Cleaning Cloth | Owner's Instructions | Warranty Card / Registration Card / Safety Guide Manual / Quick Guide Manual |

Viewing the Control Panel

Buttons on the Lower-Right Part of the 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.
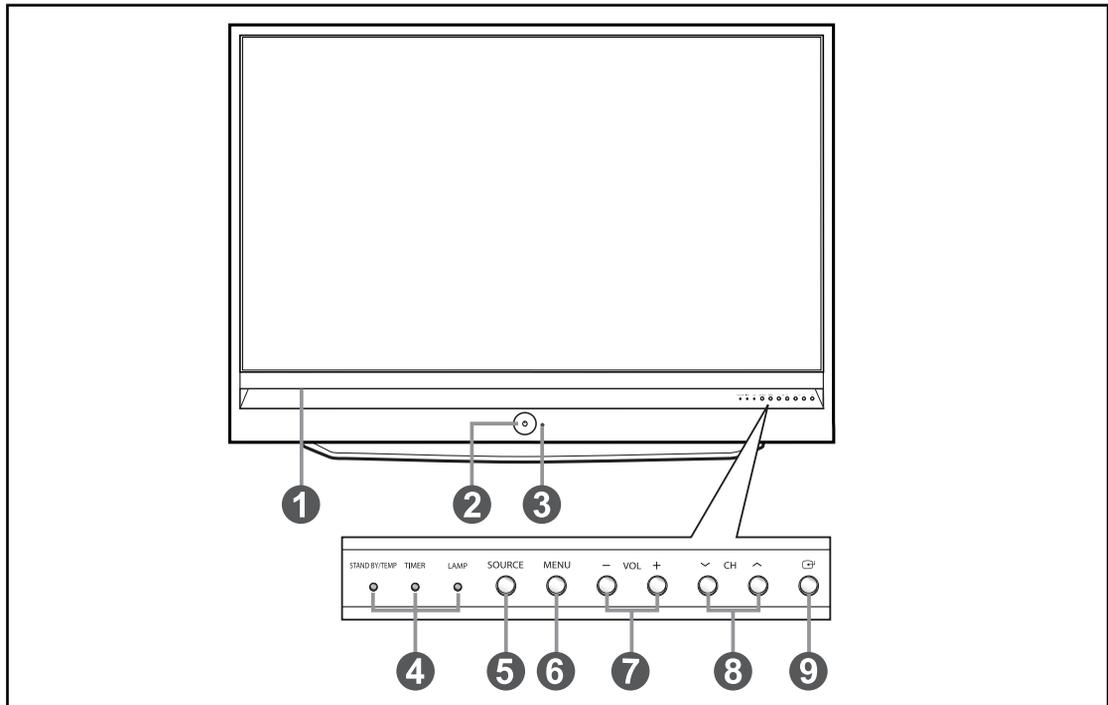
❶ SPEAKERS

❷ ⏻ (POWER)
Press to turn the TV on and off.

❸ REMOTE CONTROL SENSOR
Aim the remote control towards this spot on the TV.

❹ INDICATOR LIGHTS

❺ SOURCE
Toggles between all the available input sources
(TV, AV1, AV2, AV3, S-Video1, S-Video2, S-Video3,
Component1, Component2, HDMI1, HDMI2).

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

❼ – 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.

❽ ⌄ CH ⌃
Press to change channels.
In the on-screen menu, use the ⌄ **CH** ⌃ buttons as
you would use the ▼ and ▲ buttons on the remote
control.

❾ ⏎ (ENTER)
Press to confirm a selection.

● : Light is On / ◐ : Light is Blinking / ○ : Light is Off

STAND BY/TEMP	TIMER	LAMP	Indication
●	○	○	Standby state.
○	○	◐	The picture will automatically appear in about 15 seconds.
○	●	◐	Auto Timer ON/OFF has been set and the set will automatically be turned on in about 15 seconds.
◐	◐	○	A cooling fan inside the set is not operating normally.
◐	○	◐	Lamp cover on the rear of the set is not properly shut.
◐	○	○	Check if the ventilation hole on the rear of the set is blocked, because if the inner temperature is too high, the power will shut off.
◐	◐	◐	Lamp may be defective. Please contact a certified technician.

- It takes about 30 seconds for the TV to warm up, so normal brightness may not appear immediately.
- The TV has a fan to keep the inside lamp from overheating. You'll occasionally hear it working.

Viewing the Connection Panel

Rear Panel Jacks

Use the rear panel jacks to connect A/V components that will be connected continuously, such as VCR or DVD players.
For more information on connecting equipment, see pages 12-17. The product color and shape may vary depending on the model.
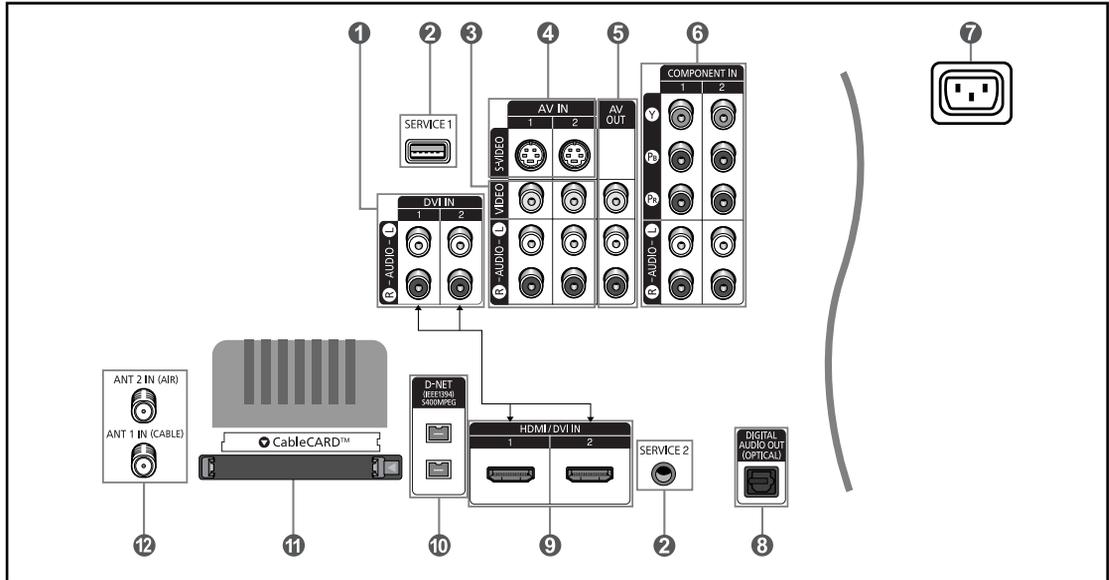
➊ **DVI IN 1, 2 (AUDIO-R/L)**
Connect to the DVI audio output jack of an
external device.

➋ **SERVICE 1, SERVICE 2**
Connectors for service only.

➌ **AUDIO-R/L / VIDEO (AV IN 1, 2)**
Video and audio inputs for external devices, such as a
camcorder or VCR.

➍ **S-VIDEO (AV IN 1, 2)**
Video input for external devices with an
S-Video output, such as a camcorder or VCR.

➎ **AV OUT**
Connect to the audio input jacks on your Amplifier/
Home theater.

➏ **COMPONENT IN 1,2**
Connect Component video/audio.

➐ **POWER INPUT**
Connect the supplied power cord.

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

➒ **HDMI/DVI IN 1, 2**
Connect to the HDMI jack of a device with HDMI output.
This input 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 an optional HDMI/DVI adapter, the DVI
analog audio inputs on your TV allow you to receive left
and right audio from your DVI device.

➓ **D-NET (IEEE1394) S400MPEG**
Connect to external IEEE1394 digital products such
as digital VCRs and camcorders. Two jacks are provided
for this purpose, which allow for a high degree of
flexibility for connecting your D-Net controlled system.
(Refer to pages 82~100)

⓫ **CableCARD™**
Insert a CableCARD into the slot. (Refer to page 78)

⓬ **ANT 2 IN (AIR)/ANT 1 IN (CABLE)**
Connect to an antenna or cable TV system.

Side Panel Jacks

Use the right side panel jacks to connect a component that is used only occasionally, such as a camcorder or
video game. (See page 15) The product color and shape may vary depending on the model.
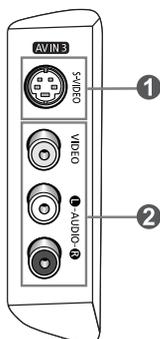
➊ **S-VIDEO (AV IN 3)**
S-Video input for external devices with an S-Video output.

➋ **AUDIO-R/L / VIDEO (AV IN 3)**
Video and audio inputs for external devices.

Remote Control

You can use the remote control up to a distance of about 23 feet from the TV. When using the remote, 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.

➊ **POWER**
Turns the TV on and off.

➋ **NUMERIC BUTTONS**
Press to directly select a channel.

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

➍ **ANT/ENG/NUM**
Press to select "AIR" or "CABLE".
While executing a Data Application downloaded, press to change the character mode. In other cases, it operates to change the current antenna.

➎ **CH MGR**
Used to display Channel Lists on the screen.

➏ **VCR/DVD Controls**
- Rewind
- Stop
- Play
- Fast/Forward

➐ **+ VOL –**
Press to increase or decrease the volume.

➑ **MUTE**
Press to temporarily cut off the sound.

➒ **MENU**
Displays the main on-screen menu.

➓ **UP▲ / DOWN▼ / LEFT◀ / RIGHT▶ / ENTER**
Use to select on-screen menu items and change menu values.

⓫ **INFO**
Press to display information on the TV screen.

⓬ **GUIDE**
Press to display the TV Guide menu when the guide is provided from the downloaded application. When no TV Guide is available in the downloaded application, the EPG is not displayed with the sign "No Available Banner".

⓭ **Color buttons**
Press to perform wanted operations by selecting the color or shape as displayed on the downloaded application.

⓮ **ON-DEMAND**
Press to display the MOD menu when the downloaded application provides the Movie on Demand (MOD) function.

⓯ **P.SIZE**
Picture size selection.

⓰ **FAV.CH**
Press to switch to your favorite channels.

⓱ **CAPTION**
Controls the caption decoder.

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

⓳ **SOURCE**
Press to display all of the available video sources.
While executing a Data Application downloaded, press to use the special character set on your remote control in the event that an IME opens after entering the character input mode. In other cases, it operates to switch the source.

⓴ **DEL/PRE-CH**
Tunes to the previous channel.
While executing a Data Application downloaded, press to delete characters in the data input menu in the event that an IME opens after entering the character input mode. In other cases, it switches to the previous channel.

㉑ **DATA-SERVICE**
Press to display the executable Data Application list. You can execute an application by selecting from the list.

㉒ **STILL**
Press to stop the action during a particular scene. Press again to resume normal video.
Press to pause the screen when watching the movie on demand (MOD) or pay per view (PPV) programs using the downloaded application.

㉓ **⋀ CH ⋁**
Press to change channels.

㉔ **EXIT**
Press to exit the menu.

㉕ **D-Net**
Runs the D-Net view function.
(Refer to pages 82~100)

㉖ **SLEEP**
Press to select a preset time interval for automatic shut off.

㉗ **⋀ PAGE ⋁**
Use to scroll the screen or text in the Data Application downloaded.

㉘ **MTS**
Press to choose stereo, mono or Separate Audio Program (SAP broadcast).

㉙ **RESET**
When your remote does not work, change the batteries and press the RESET button for 2-3 seconds before use.

㉚ **SET**
Sets the remote to control your TV, VCR, Cable, DVD, or Set-Top Box.

➢ The Color buttons are used for the channel list function. (Refer to pages 37~40)

➢ This is a special remote control for the visually impaired, and has Braille points on the POWER, VOL +/-, CH ⋀/⋁ , STOP, and PLAY/PAUSE buttons.

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

Installing Batteries in the Remote Control
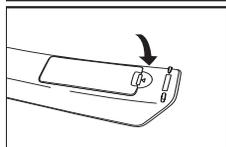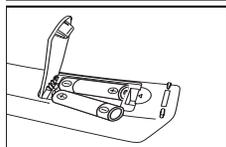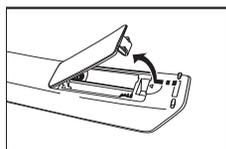
1. Lift the cover at the back of the remote control upward as shown in the figure.

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 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.)

➣ **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?

Connections

Connecting VHF and UHF Antennas
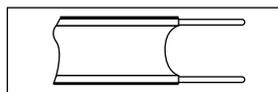
If your antenna has a set of leads that look like this, see "Antennas with 300 Ω Flat Twin Leads" below.
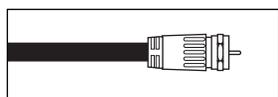
If your antenna has one lead that looks like this, see "Antennas with 75 Ω Round Leads".
If you have two antennas, see "Separate VHF and UHF Antennas".

Antennas with 300 Ω Flat Twin Leads

If you are using an off-air antenna (such as a roof antenna or "rabbit ears") that has 300 Ω twin flat leads, follow the directions below.
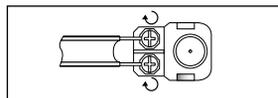
1. Place the wires from the twin leads under the screws on a 300-75 Ω adapter (not supplied).
Use a screwdriver to tighten the screws.
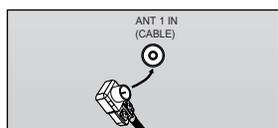
2. Plug the adaptor into the ANT 2 IN(AIR) or ANT 1 IN(CABLE) terminal on the back of the TV.

Antennas with 75 Ω Round Leads
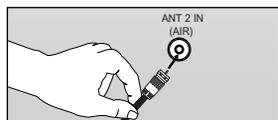
1. Plug the antenna lead into the ANT 2 IN(AIR) or ANT 1 IN(CABLE) terminal on the back of the TV.

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).
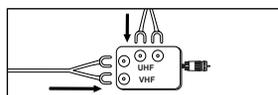
1. Connect both antenna leads to the combiner.
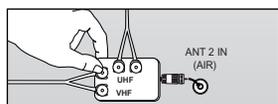
2. Plug the combiner into the ANT 2 IN(AIR) or ANT 1 IN(CABLE) terminal on the bottom of the back panel.

English-12

Connecting Cable TV

To connect to a cable TV system, follow the instructions below.

Cable without a Cable Box
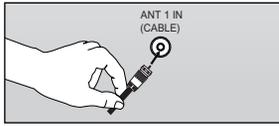
ANT 1 IN
(CABLE)

1. Plug the incoming cable into the ANT 1 IN (CABLE) 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

ANT IN   ANT OUT
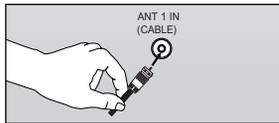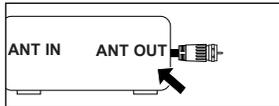
1. Find the cable that is connected to the ANT OUT terminal on your cable box.
  ➢ This terminal might be labeled "ANT OUT", "VHF OUT" or simply, "OUT".

ANT 1 IN
(CABLE)

2. Connect the other end of this cable to the ANT 1 IN (CABLE) 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 RF cable. (These items are available at most electronics stores.)
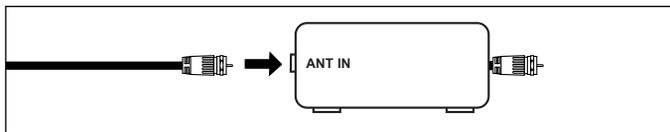
ANT IN

1. 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".

Incoming cable
Splitter
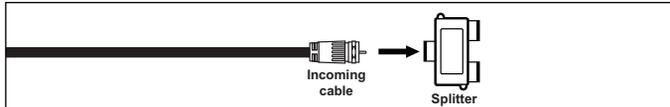
2. Connect this cable to a two-way splitter.

Incoming cable
Splitter
IN   CABLE   OUT
Cable Box
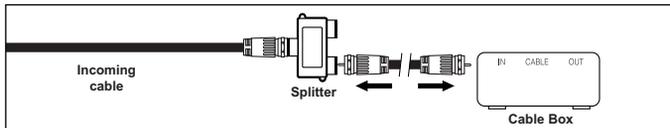
3. Connect an Antenna cable between an OUTPUT terminal on the splitter and the IN terminal on the cable box.

Incoming cable
Splitter
IN   CABLE   OUT
Cable Box
RF (A/B) Switch
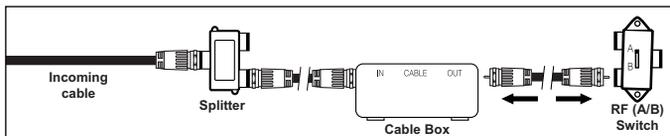
4. Connect an RF cable between the ANT OUT terminal on the cable box and the B–IN terminal on the RF(A/B) Switch.

Incoming cable
Splitter
IN   CABLE   OUT
Cable Box
RF (A/B) Switch
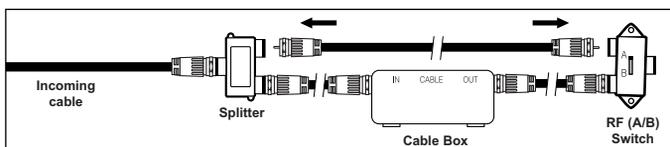
5. Connect another cable between the other OUT terminal on the splitter and the A–IN terminal on the RF (A/B) Switch.

Incoming cable
Splitter
IN   CABLE   OUT
Cable Box
RF (A/B) Switch
ANT 1 IN (CABLE)
TV Rear
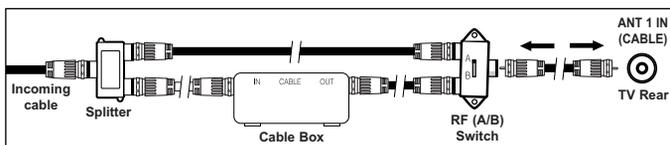
6. Connect the last RF cable between the OUT terminal on the RF (A/B) switch and the ANT 1 IN (CABLE) terminal on the rear of the TV.

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.)

English-13

Connecting a VCR

These instructions assume that you have already connected your TV to an antenna or a cable TV system (according to the instructions on pages 12-13). Skip step 1 if you have not yet connected to an antenna or a cable system.

ANT 2 IN (AIR)
ANT 1 IN (CABLE)

TV Rear Panel

2
3 **RF cable (Not supplied)**

VCR Rear Panel

5 **Audio cable (Not supplied)**
4 **Video cable (Not supplied)**
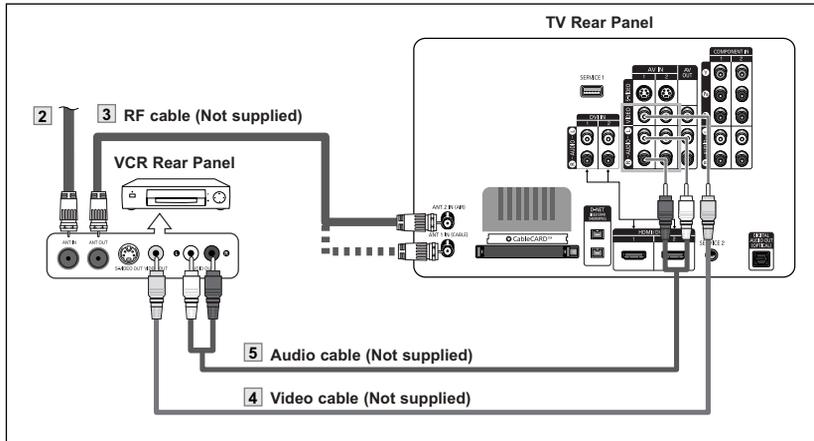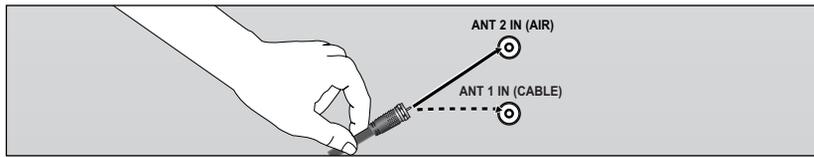
➢ Each VCR has a different back panel configuration.
➢ When connecting a VCR, match the color of the connection terminal to the cable.
➢ Also, you can connect to "AV IN 3" on the side panel of TV.

1. Unplug the cable or antenna from the back of the TV.

2. Connect the cable or antenna to the ANT IN terminal on the back of the VCR.

3. Connect an RF cable between the ANT OUT terminal on the VCR and the ANT 2 IN (AIR) or ANT 1 IN (CABLE) terminal on the TV.

4. Connect a Video cable between the VIDEO OUT jack on the VCR and the AV IN 1 (or AV IN 2) [VIDEO] jack on the TV.

5. Connect Audio cables between the AUDIO OUT jacks on the VCR and the AV IN 1 (or AV IN 2) [R-AUDIO-L] 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.

Connecting an S-VHS VCR

Your Samsung TV can be connected to an S-Video signal from an S-VHS VCR.
(This connection delivers a better picture as compared to a standard VHS VCR.)

TV Rear Panel

1 **RF cable (Not supplied)**

VCR Rear Panel

3 **Audio cable (Not supplied)**
2 **S-Video cable (Not supplied)**

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 1 (or 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 1 (or AV IN 2) [R-AUDIO-L] jacks on the TV.

An S-video cable is usually included with an S-VHS VCR. (If not, check your local electronics store.)
➢ Each S-VHS VCR has a different back panel configuration.
➢ When connecting an S-VHS VCR, match the color of the connection terminal to the cable.

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.
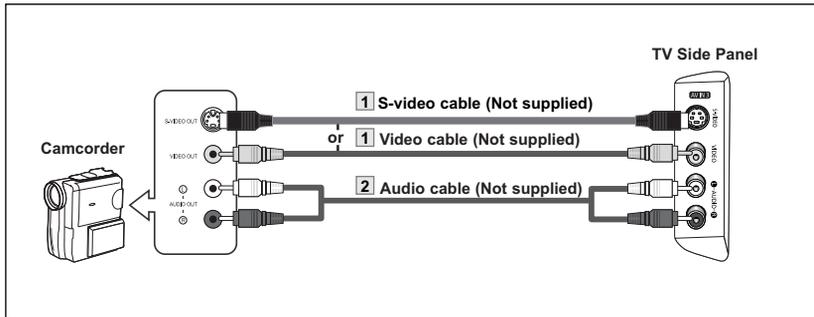
1. Connect a Video Cable (or S-video cable) between the AV IN 3 [VIDEO] (or S-VIDEO) jack on the TV and the VIDEO OUT jack on the camcorder.

2. Connect Audio cables between the AV IN 3 [R-AUDIO-L] jacks on the TV and the AUDIO OUT jacks on the camcorder.

➣ Each Camcorder has a different back panel configuration.
➣ When connecting a Camcorder, match the color of the connection terminal to the cable.

Connecting a DVD Player/Set-Top Box

The rear panel jacks on your TV make it easy to connect a DVD player to your TV.
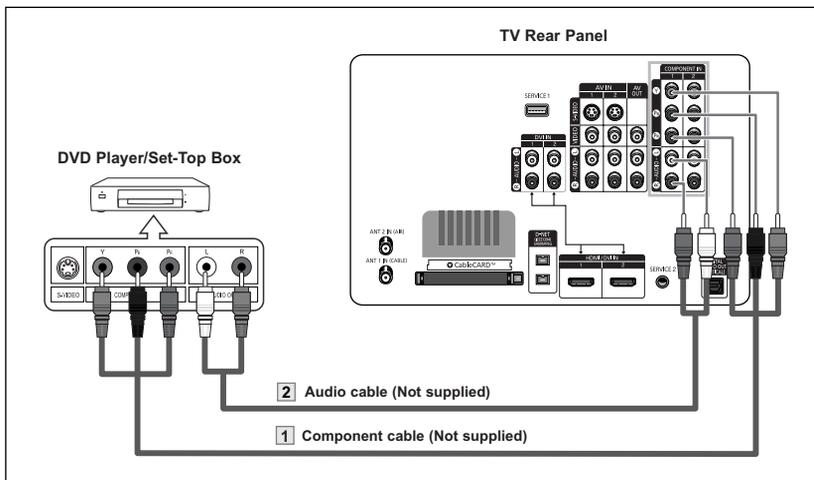
1. Connect a Component cables between the COMPONENT IN 1 or 2 [Y, P$_B$, P$_R$] jacks on the TV and the COMPONENT [Y, P$_B$, P$_R$] jacks on the DVD player.

2. Connect Audio cables between the COMPONENT IN 1 or 2 [R-AUDIO-L] jacks on the TV and the AUDIO OUT jacks on the DVD player.

➣ 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 1, connect the audio cable to COMPONENT IN 1 also.
➣ Each DVD player/STB has a different back panel configuration.
➣ When connecting a DVD player/STB, match the color of the connection terminal to the cable.

English-15

Connecting a DVD Player/Set-Top Box via DVI

This connection can only be made if there is a DVI Output connector on the external device.

TV Rear Panel

DVD Player/Set-Top Box

2 **Audio cable (Not supplied)**

1 **DVI to HDMI cable (Not supplied)**
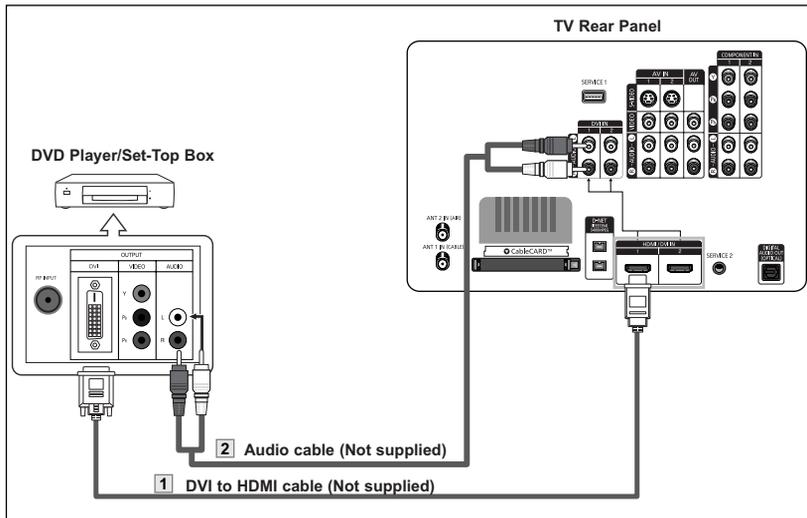
1. Connect a DVI to HDMI cable or DVI-HDMI Adapter between the HDMI/DVI IN 1 or HDMI/DVI IN 2 connector on the TV and the DVI connector on the DVD player/Set-Top Box.

2. Connect Audio cables between the DVI IN 1 (or DVI IN 2) [R-AUDIO-L] jack on the TV and the AUDIO OUT jacks on the DVD player/Set-Top Box.

➢ Each DVD player/STB has a different back panel configuration.
➢ When connecting a DVD player/STB, match the color of the connection terminal to the cable.

Connecting a DVD Player/Set-Top Box via HDMI

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

TV Rear Panel

DVD Player/Set-Top Box

HDMI cable (Not supplied)
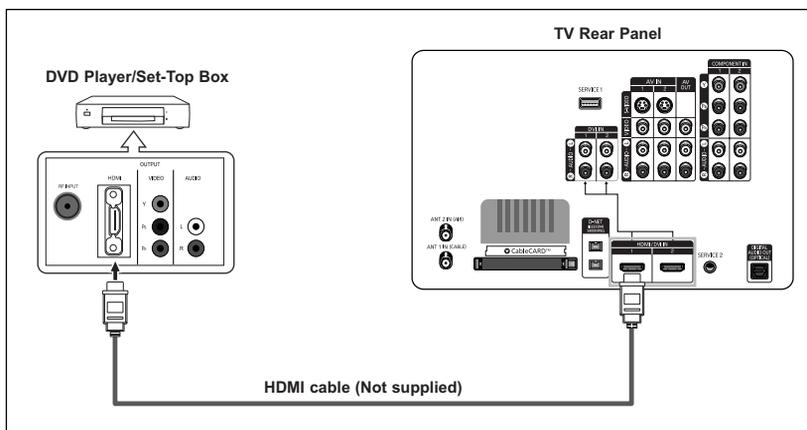
1. Connect an HDMI cable between the HDMI/DVI IN 1 or HDMI/DVI IN 2 connector on the TV and the HDMI connector on the DVD player/Set-Top Box.

What is HDMI?
• HDMI, or high-definition multimedia interface, is a next-generation interface that enables the transmission of the digital audio and video signals using a single cable without compression.
• "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.
➢ 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.

Connecting a Digital Audio System

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

TV Rear Panel

Digital Audio System

Optical cable (Not supplied)
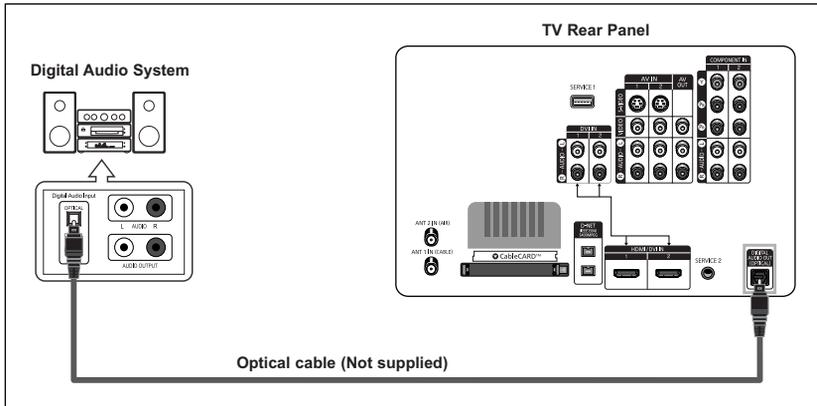
1. Connect an Optical cable between the DIGITAL AUDIO OUT (OPTICAL) jacks on the TV and the Digital Audio Input jacks on the Digital Audio System.

   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.

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.
➢ 5.1CH audio is possible when the TV is connected to an external device supporting 5.1CH.

Connecting an Amplifier/DVD Home Theater

TV Rear Panel

Amplifier/DVD Home Theater

Audio cable (Not supplied)
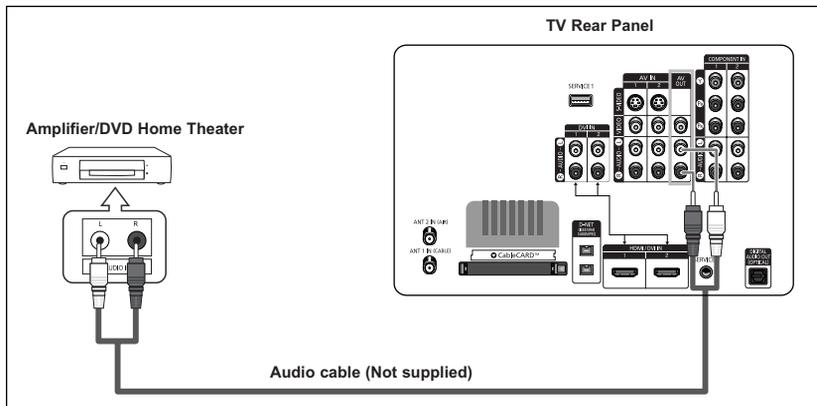
1. Connect Audio cables between the AV OUT [R-AUDIO-L] on the TV and AUDIO IN [R-AUDIO-L] on the Amplifier/DVD Home Theater.

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

➢ Each external input source device has a different back panel configuration.
➢ When connecting an external device, match the color of the connection terminal to the cable.

	Internal Speakers			Audio Out (Optical L/R)			Video Out		
	RF	AV, S-Video	Component, HDMI	RF	AV, S-Video	Component, HDMI	RF	AV, S-Video	Component, HDMI
Internal Mute Off	Speaker Out	Speaker Out	Speaker Out	Sound Output	Sound Output	Sound Output	Video Out	Video Out	Video Out
Internal Mute On	Mute	Mute	Mute	Sound Output	Sound Output	Sound Output	Video Out	Video Out	Video Out

➢ When "Internal mute" is set to "On", Sound menus except "Multi-Track Options" cannot be adjusted.

Operation

Turning the TV On and Off
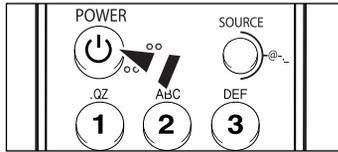
Press the **POWER** button on the remote control.
You can also use the ⏻ **(Power)** button on the front of the panel.

Plug & Play Feature

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

Plug & Play

Shop Mode, Menu language, Channels and Time will be set.

Start

↵ Enter ◁∎ Exit
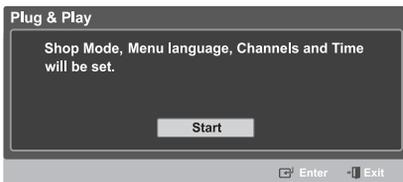
1. Press the **POWER** button on the remote control.
The message "Menu language, Channels and Time will be set." is displayed.
Press the **ENTER** button, then "Select the language of the OSD" menu is automatically displayed.

Plug & Play

Sets the current time manually or automatically.

Shop   Home

↵ Enter ▥ Skip
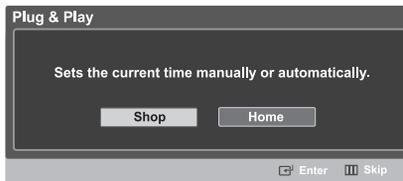
2. Press the ◀ or ▶ buttons to select "Shop" or "Home", then the **ENTER** button.

➢ 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, press and hold the **MENU** button on the side panel of the TV for five seconds to return to Dynamic (Home) mode.

Plug & Play

Select the language of the OSD.

English   Español   Français

↵ Enter ▥ Skip

3. Press the **ENTER** button to enter the language.
Press the ◀ or ▶ button to select language, then the **ENTER** button.
"Select the antennas to memorize" menu is automatically displayed.

Plug & Play

Select the antennas to memorize

Air   Cable   Air+Cable

↵ Enter ▥ Skip

4. Press the ◀ or ▶ button to memorize the channels of the selected connection.
Press the **ENTER** button to select "Start".

➢ If the antenna is connected to ANT 2 IN (AIR), select "Air" and if it is connected to ANT 1 IN (CABLE), select "Cable".
➢ If both ANT 2 IN (AIR) and ANT 1 IN (CABLE) are connected, select "Air + Cable".
➢ In Cable mode, you can select the correct signal source among STD, HRC, and IRC by pressing the ◀ or ▶ button, then press the **ENTER** button.
Contact your local cable company to identify the type of cable system that exists in your particular area.

Plug & Play

Auto Program in progress.   Air 7

7%

Stop

Enter   Skip

Plug & Play

Auto Program is incomplete.
25 channels are memorized.
Air : 25   Cable : 0

OK

Enter   Skip

Plug & Play

Sets the current time manually or automatically.

Auto   Manual

Enter   Skip

Plug & Play

Set to daylight saving time.

On   Off

Enter   Skip

Plug & Play

Select the time zone where you are located.

Newfoundland
Atlantic
Eastern
Central
Mountain
Pacific
Alaska
Hawaii

Alaska
Pacific   Central   Atlantic
          Newfound-
          land
Mountain Eastern
Hawaii

Enter   Skip

Plug & Play

Enjoy your watching.

OK

---

5   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 completed.

➣   To stop the search before it has finished, press the **ENTER** button with stop selected.
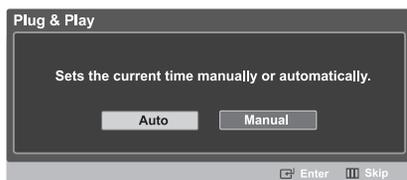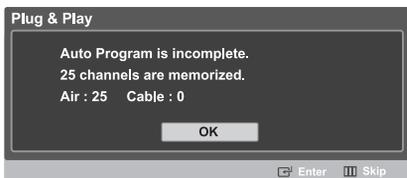
6   Press the **ENTER** button.
Press the ◀ or ▶ buttons to select "Auto" or "Manual", then the **ENTER** button.
Switches the Daylight Saving Time function on or off.
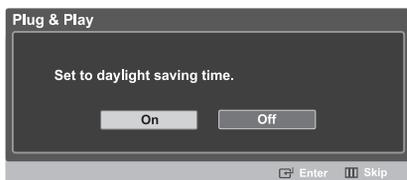
7   Press the **ENTER** button.
Press the ◀ or ▶ buttons to select "On" or "Off", then the **ENTER** button. "Select the time zone where you are located." menu is automatically displayed.
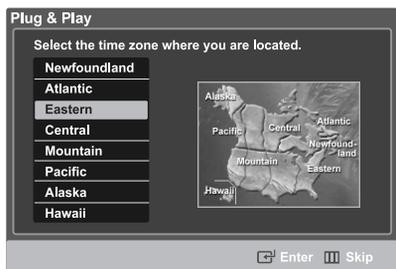
8   Press the ▲ or ▼ buttons to highlight the time zone for your local area (and to move the highlight to the appropriate time zone on the map of the United States). Press the **ENTER** button. If you have received a digital signal, the time will be set automatically. If not, see page 32 to set the clock.
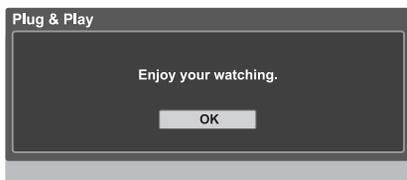
9   The message "Enjoy your watching." is displayed.
When you have finished, press the **ENTER** button.

➣   The basic Plug & Play setting is available only once when the TV is initially powered on.
If the Plug and Play is stopped while it is in progress, you must set the functions manually by using the OSD menu.
➣   For the Language setting, see page 22.
➣   For the Auto Program setting, see page 23~24.
➣   For the Time setting, see page 31.

Dynamic Menus and On-Screen Displays

The on-screen menu system allows you to control the settings of your TV. Access the on-screen menu system by pressing the MENU button on the remote control. Once the on-screen menu appears, use the ▲/▼/◄/► / ENTER buttons on your remote control to select menu items and make adjustments. You can also view the on-screen menu system and make some adjustments using the TV's front panel buttons.

Selects the input options.

Input

Enter

Viewing the Menus

1 Press the **MENU** button.
The main menu will appear at the bottom of the screen.
There are Seven menu groups: "Input", "Picture", "Sound", "Channel", "Setup", "Application" and "Menu Map".

Picture

Return	
Mode	
Size	16:9
Digital NR	On
DNIe	On
My Color Control	
Film Mode	Off

Picture
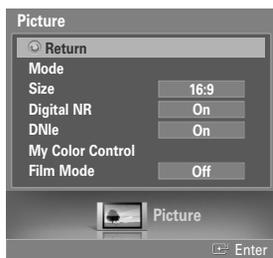
Enter

2 Press the ◄ or ► button, then press the **ENTER** button to select an item you want in the menu.
Press the ▲/▼/◄/► / **ENTER** buttons to display, change, or use the selected items. Select "Return" by pressing the ▲ or ▼ button, then press the **ENTER** button to return to the previous menu.
Press the **EXIT** button to exit.

No Time Information

Cable
3
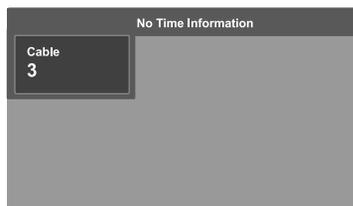
Viewing the Display

Press the **INFO** button on the remote control.
The TV displays the current channel, the status of certain picture, sound settings and the current time.
The information displayed varies according to the selected source.
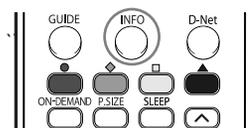
Navigating Menus by Using the Menu Map

Using the Menu Map of the main menu enables you to select a function quickly.

1   Press the **MENU** button. The main menu will appear at the bottom of the screen.

2   Press the ◀ or ▶ button to select "Menu Map", then press the **ENTER** button.
The menu map will appear.

3   Press the ▲/▼/◀/▶ buttons to select a menu, then press the **ENTER** button.
The selected menu will appear.

4   Press the ▲/▼/◀/▶/ **ENTER** buttons to display, change, or use the selected items.

➣   Red button: Displays menus in alphabetical order.
Yellow button: Moves to the next page.
Green button: Moves to the previous page.
ENTER button: Moves to the selected menu.

Press the **EXIT** button to exit.

Menu Map		1/2
🖙 Input	▶ Source List | Edit Name	
🖼 Picture	Mode | Size | Digital NR | DNIe | My Color Control | Film Mode	
🔊 Sound	Mode | DNSe | Multi-Track Options | Auto Volume | Internal Mute Melody	
🖌 Channel	Antenna | Auto Program | Channel Manager | Fine Tune Signal Strength | LNA	
🕸 Setup	Language | Clock | Timer | Game Mode | V-Chip | Caption Menu Transparency | Blue Screen | Color Weakness | Function Help	
	Alphabetical Order Next Page 🖰 Enter ⊪ Return	

Selecting a Menu Language

When you start using your television for the first time, you must select the language which will be used for displaying menus and indications.

Setup
⊚ **Return**	
Language	**English**
Clock	
Timer	
Game Mode	Off
V-Chip	
Caption	
Menu Transparency	**Medium**
Blue Screen	**Off**
▼ **Color Weakness**	

Setup

⏎ Enter

1 Press the **MENU** button. Press the ◀ or ▶ button to select "Setup", then press the **ENTER** button.

2 Press the ▲ or ▼ to select "Language", then press the **ENTER** button.

Setup
⊚ Return	
Language	**English**
Clock	**Español**
Timer	**Français**
Game Mode	Off
V-Chip	
Caption	
Menu Transparency	Medium
Blue Screen	Off
▼ Color Weakness	

Setup

⏎ Enter

3 Press the ▲ or ▼ button to select "English", "Español" or "Français", then press the **ENTER** button.

Select "Return" by pressing the ▲ or ▼ button, then press the **ENTER** button to return to the previous menu. Press the **EXIT** button to exit.

Memorizing Channels

Your TV can memorize and store all of the available channels for both "off-air" (antenna) and cable channels.
After the available channels are memorized, use the CH ⋀ and CH ⋁ buttons 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 and deleting channels (channel manager).

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 cable system).

Channel
- ⓔ Return
- Antenna
  - Air
  - Cable
- Auto Program
- Channel Manager
- Fine Tune
- Signal Strength
- LNA   On

Channel

⊡ Enter

1 Press the **MENU** button. Press the ◀ or ▶ button to select "Channel",
then press the **ENTER** button.

2 Press the ▲ or ▼ button to select "Antenna", then press the **ENTER** button.
Press the ▲ or ▼ button to select "Air" or "Cable", then press the **ENTER**
button.

Channel
- ⓔ Return
- Antenna   Air
- Auto Program   ▶
- Channel Manager
- Fine Tune
- Signal Strength
- LNA   On

Channel

⊡ Enter

3 Press the ▲ or ▼ button to select "Auto Program", then press the **ENTER**
button.

English-23

Auto Program

Select the antennas to memorize

| Air | Cable | Air+Cable |

Enter   Return

Auto Program

Selects the cable system.

| Analog | STD | HRC | IRC |
| Digital | STD | HRC | IRC |

Enter   Return

Auto Program

Auto Program in progress.   **Cable 84**
                                              87%

Stop

Enter   Return

Auto Program

Auto Program is completed.
86 channels are memorized.
Air : 10   Cable : 76

OK

Enter   Return

4 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
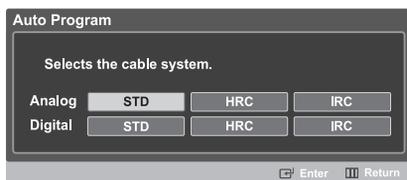
When selecting Cable TV system:
Press the **ENTER** button to start the auto program.
By default, the cable TV system is set to "STD".
If you want to select another type of cable system,
press the ◀ or ▶ button to select "STD", "HRC" or "IRC".

- 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.
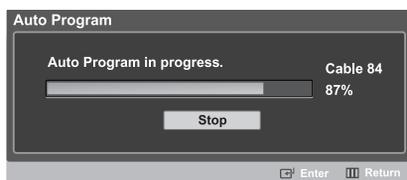
5 Press the **ENTER** button to start the auto program.
The TV begins memorizing all available stations.
Press the **ENTER** button at any time to interrupt the memorization process.

Select "Return" by pressing the ▲ or ▼ button, then press the **ENTER** button to return to the previous menu.
Press the **EXIT** button to exit.

- The TV must be connected to air/cable in order to receive digital TV signals. Even if a particular channel is deleted from the memory, you can always tune to that channel directly by using the number buttons on the remote control.
- When connecting Digital Cable to a Set-Top Box, Channel Memorization is done on the STB.
  To view the STB on your TV, select the Input jack the STB is connected to with the **SOURCE** button on the remote control. (see page 35)

➤ All available DTV and analog channels are automatically stored in memory.

Changing Channels

Using the Channel Buttons

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

Use the number buttons to quickly switch to any channel.

Press the number buttons to go directly to a channel. For example, to select channel 27, press "2," then "7." The TV will change channels when you press the second number.

Using the "-" Button

The "-" button is used to select stations that broadcast a digital signal.

For example, for channel 7-1, press "7", then "─", then "1".

DTV Air
7 - 1

➤ *HD indicates the TV is receiving a Digital High Definition signal.*
SD indicates the TV is receiving a Analog standard definition signal.

Using the Previous Channel

Press the **DEL/PRE-CH** button.
The TV changes to the last channel you were watching.
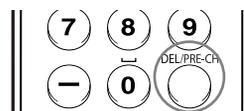
Setting Up Your Remote Control

After it has been set up properly, 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.
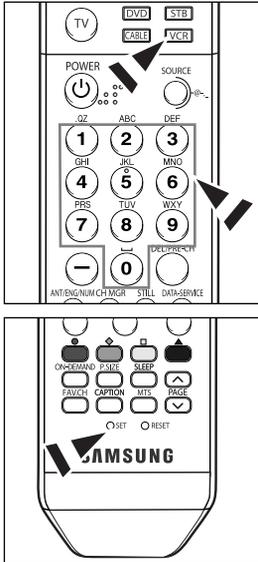
Setting Up the Remote to Operate Your VCR

1. Turn off your VCR.

2. Press the **VCR** 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 code listed on page 28 of this manual for your brand of VCR. 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.)

5. Press the **POWER** button on the remote control. Your VCR should turn on if your remote is set up correctly.

If your VCR does not turn on after set-up, repeat steps 2, 3 and 4, but try one of the other codes listed for your brand of VCR. If no other codes are listed, try each VCR code, 000 through 080.

Note on Using Remote Control Modes: VCR
When your remote control is in "VCR" mode, the volume buttons still control your TV's volume.
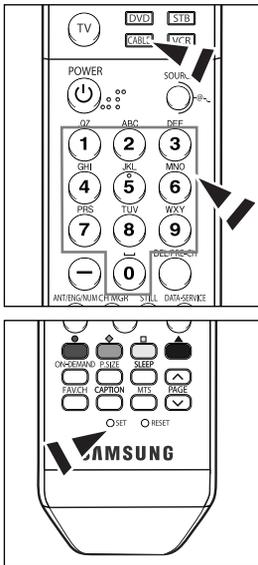
Setting Up the Remote to Operate Your Cable Box

1. Turn off your cable box.

2. Press the **CABLE** 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 cable box code listed on page 29 of this manual for your brand of cable 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.)

5. Press the **POWER** button on the remote control. Your cable box should turn on if your remote is set up correctly.

If your cable box does not turn on after set-up, repeat steps 2, 3 and 4, but try one of the other codes listed for your brand of cable box. If no other codes are listed, try each code, 000 through 046.

Note on Using Remote Control Modes: Cable Box
When your remote control is in "CABLE" mode, the volume buttons still control your TV's volume.
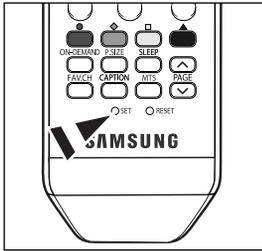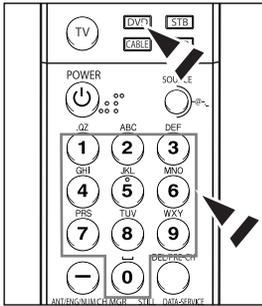
Setting Up the Remote to Operate Your DVD

1. Turn off your DVD.

2. Press the **DVD** 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 DVD code listed on pages 29~30 of this manual for your brand of DVD. 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.)

5. Press the **POWER** button on the remote control.
   Your DVD should turn on if your remote is set up correctly.

   If your DVD does not turn on after set-up, repeat steps 2, 3 and 4, but try one of the other codes listed for your brand of DVD. If no other codes are listed, try each code, 000 through 141.

Note on Using Remote Control Modes: DVD
When your remote control is in "DVD" mode, the volume buttons still control your TV's volume.
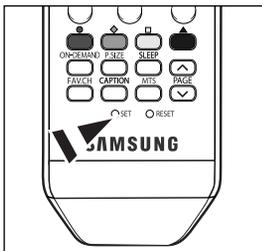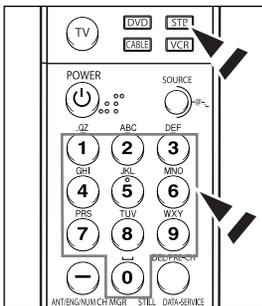
Setting Up the Remote to Operate Your Set Top Box

1. Turn off your STB.

2. Press the **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 STB code listed on page 30 of this manual for your brand of STB. 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.)

5. Press the **POWER** button on the remote control.
   Your STB should turn on if your remote is set up correctly.

   If your STB does not turn on after set-up, repeat steps 2, 3 and 4, but try one of the other codes listed for your brand of STB. If no other codes are listed, try each code, 000 through 074.

Note on Using Remote Control Modes: STB
When your remote control is in "STB" mode, the volume buttons still control your TV's volume.

Remote Control Codes

VCR

Brand	Code		Brand	Code
SAMSUNG	000 001 002 003 004 005 077 078 079		MONTGOMERY WARD	020
ADMIRAL	020		MTC	002 025
AIWA	025		MULTITECH	002 005 025 038
AKAI	004 027 032		NEC	007 008 018 026 037 062 064
AUDIO DYNAMICS	007 026		OPTIMUS	020
BELL&HOWELL	018		ORION	073 074 075 076
BROKSONIC	022		PANASONIC	021 056 071 072
CANDLE	002 003 006 008 015 055		PENTAX	019 041 075
CANON	021 056		PENTEX RESEARCH+	008
CITIZEN	002 003 006 008 015 055		PHILCO	021 056 059
COLORTYME	007		PHILIPS	021 080
CRAIG	002 024		PIONEER	019 026 039 053
CURTIS MATHES	002 007 008 017 021 025 056 064 066		PORTLAND	015 049 055
DAEWOO	003 010 011 012 013 014 015 016		PROSCAN	017
DB	007 026		QUARTZ	018
DIMENSIA	017		QUASAR	021 056
DYNATECH	025		RADIO SHACK/REALISTIC	006 018 020 021 024 025 029 034 048 056
ELECTROHOME	034		RCA	002 017 019 021 035 041 043 057 068 076
EMERSON	001 003 006 021 022 025 030 032 034 040 047 050 052 060 063 065 066 067 069 073		SANSUI	026
			SANYO	018 024
FISHER	018 024 028 029 048 051 061		SCOTT	003 047 052 067
FUNAI	025		SEARS	006 018 019 024 028 029 041 048 051
GENERAL ELECTRIC	002 005 017 021 056		SHARP	020 034 045 015
GO VIDEO	002		SHIMTOM	027 033 038 058
HARMAN KARDON	007		SIGNATURE	025
HITACHI	019 025 041 042 074		SONY	027 033 044
INSTANT REPLAY	021		SYLVANIA	021 025 056 059
JC PENNEY	002 007 018 019 021 026 037 041 054 056		SYMPHONIC	025
JCL	007 008 018 021 026 037		TANDY	018 025
JVC	081 082 083		TASHIKA	006
KENWOOD	007 008 018 021 026 037		TATUNG	037
KLH	070		TEAC	025 037 068
KONIA	036		TECHNICS	021
LG(Goldstar)	006 007 008 009 010		TEKNIKA	006 021 025 031
LIOYD	025		TMK	066
LOGIK	038		TOSHIBA	003 019 029 051 052
LXI	025		TOTEVISION	002 006
MAGNAVOX	021 056 059		UNITECH	002
MARANTZ	007 008 018 021 026 037 062		VECTOR RESEARCH	007 026
MARTA	006		VICTOR	026
MEI	021		VIDEO CONCEPTS	007 026
MEMOREX	006 021 024 025		VIDEOSONIC	002
MGA	034		WARDS	002 003 006 019 020 021 024 025 034 038 041
MIDLAND	005		YAMAHA	007 008 018 026 037
MINOLTA	019 041 075		ZENITH	023 027 033
MITSUBISHI	019 034 041 046			

CABLE BOX

Brand	Code	Brand	Code
SAMSUNG	000 001 002 003 004 005 006 007	REGENCY	015 023
GI	041	SA	042 043
HAMLIN	003 024 031	SCIENTIFIC ATLAN	042 043
HITACHI	025 030	SPRUCER	022
JERROLD	038 039	STARGATE 2000	036
MACOM	025 030	SYLVANIA	016
MAGNAVOX	019 023 028	TEXSCAN	016
OAK	026	TOCOM	032
PANASONIC	003 022 027 037 044	UNIVERSAL	033 034
PHILIPS	019 021 023 028	VIEWSTAR	019 021 023 028
PIONEER	004 018 020 044	WARNER AMEX	046
RCA	014 022 040	ZENITH	017 029 035 037 045
REGAL	003		

SAMSUNG DVD

Product	Code	Product	Code
DVD	000 001 002	Home Theater VCR COMBO	014 015 016
DVDR	003 004	HDD Recorder COMBO	017
BD Record	005 006	TWIN TRAY COMBO	018
VCR COMBO	007 008 009 010 011	STB DVD COMBO	019
VCR Record	012	DVD Receiver	020
DHR COMBO	013	AV Receiver	021

DVD

Brand	Code	Brand	Code
ANAM	030	INTEGRA	092
AUDIOVOX	075	JBL	091
AUDIOLOGIC	085	JVC	022 033 115 116
ANABA	072	JATON	073
APEX DIGITAL	070 071 074 086 083 084 088 111 112	KENWOOD	051 108 109
AIWA	114	KISS	073
BROKSONIC	062	KONKA	059 100 106 107
BLAUPUNKT	074	KLH	074 075
B&K	122 123	LG(Goldstar)	025 031
CURTIS MATHES	027	LOEWE	057
CYBER HOME	077 078 079 082	LASONIC	058
CLARION	080 125	MOBILE AUTHORITY	054
CIRRUS	081	MEMOREX	055
CYBER HOME	065	MALATA	056
CINEVISION	095	MAGNAVOX	076 093
DAEWOO	066	MINTEK	074 094
DENON	146	MONYKA	073
FARENHEIT	067 068	NORCENT	048 049 050
FISHER	090	NEXT BASE	052
GPX	060	NEC	053
GO VIDEO	061 089 133 135	NANTAUS	144
GE	069 074	NESA	074
GREENHILL	074	OPTOMEDIA ELECTRONICS	105
HITACHI	064 113	OPTIVIEW	072
HITEKER	071	ONKYO	076 092 119
HOYO	073	PHILCO	044 045
HARMAN / KARDON	091 110	PRINCETON	046 047
IRT	089	PROSCAN	023

DVD

Brand	Code
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	062 090
SHINSONIC	094

Brand	Code
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

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

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
HITACHI	022
HUGHES NETWORK	015 017
IQ	020
IQ PRISM	020
JANEIL	059
JERROID	063
JVC	069 070
LG(Goldstar)	044 073

Brand	Code
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
STAR TRAK	026
STS	020 027
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

Setting the Clock

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.)

Option 1: Setting the Clock Manually

Setup
- Return
- Language   English
- Clock
- Timer
- Game Mode   Off
- V-Chip
- Caption
- Menu Transparency   Medium
- Blue Screen   Off
- ▼ Color Weakness

Setup

Enter

1   Press the **MENU** button. Press the ◄ or ► button to select "Setup", then press the **ENTER** button.

2   Press the ▲ or ▼ button to select "Clock", then press the **ENTER** button.

Clock
- Return
- Clock Mode   **Auto** / **Manual**
- Clock Set

Month / Day / Year	Hour / Min
-- . -- . ----	-- : -- --

- Time Zone
- DST   Off

Setup
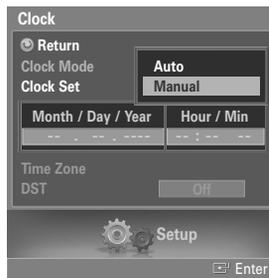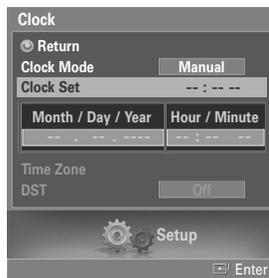
Enter

3   Press the ▲ or ▼ button to select "Clock Mode", then press the **ENTER** button. Press the ▲ or ▼ button to select "Manual", then press the **ENTER** button.

Clock
- Return
- Clock Mode   Manual
- Clock Set   -- : -- --

Month / Day / Year	Hour / Minute
-- . -- . ----	-- : -- --

- Time Zone
- DST   Off

Setup
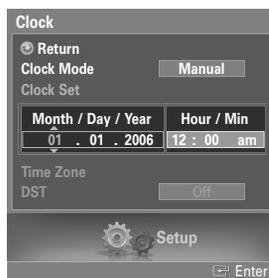
Enter

4   Press the ▲ or ▼ button to select "Clock Set", then press the **ENTER** button.

Clock
- Return
- Clock Mode   Manual
- Clock Set

Month / Day / Year	Hour / Min
01 . 01 . 2006	12 : 00 am

- Time Zone
- DST   Off

Setup

Enter

5   Press the ◄ or ► button to move to "Month", "Day", "Year", "Hour", "Min", or "am/pm". Set the time you want by pressing the ▲ or ▼ button, then press the **ENTER** button. The time set in the Clock Set will appear.

- You can set the month, day, year, hour and minute directly by pressing the number buttons on the remote control.

  Select "Return" by pressing the ▲ or ▼ button, then press the **ENTER** button to return to the previous menu. Press the **EXIT** button to exit.

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

Option 2: Setting the Clock Automatically

The Clock can be set automatically if you are receiving a digital signal.

Setup	
⚙ Return	
Language	**English**
Clock	
Timer	
Game Mode	Off
V-Chip	
Caption	
Menu Transparency	**Medium**
Blue Screen	**Off**
▼ Color Weakness	

Setup

⮐ Enter

1 Press the **MENU** button. Press the ◄ or ► button to select "Setup", then press the **ENTER** button.

2 Press the ▲ or ▼ button to select "Clock", then press the **ENTER** button.

Clock		
⚙ Return		
Clock Mode	**Auto**	
Clock Set	**Manual**	
Month / Day / Year	Hour / Min	
-- . -- . ----	-- : -- --	
Time Zone		
DST	**Off**	

Setup
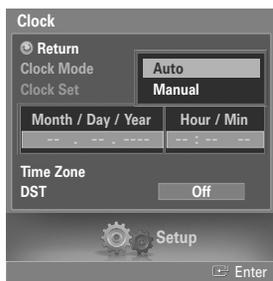
⮐ Enter

3 Press the ▲ or ▼ button to select "Clock Mode", then press the **ENTER** button. Press the ▲ or ▼ button to select "Auto", then press the **ENTER** button.

Time Zone
Select the time zone where you are located.
Newfoundland
Atlantic
Eastern
Central
Mountain
Pacific
Alaska
Hawaii

⬍ Move ⮐ Enter ▥ Return
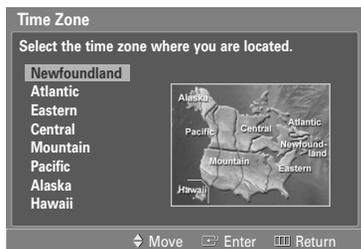
4 Press the ▲ or ▼ button to select "Time Zone", then press the **ENTER** button.
Press the ▲ or ▼ button to highlight the time zone for your local area (and to move the highlight to the appropriate time zone on the map of the United States), then press the **ENTER** button.

- When you set up Auto Time, the set time may not be correct depending on the broadcasting station and signal. If there is a difference between the real time and set time, please set the time manually.

Clock		
⚙ Return		
Clock Mode	**Auto**	
Clock Set	-- : -- --	
Month / Day / Year	Hour / Min	
-- . -- . ----	-- : -- --	
Time Zone	**Off**	
DST	**On**	

Setup

⮐ Enter

5 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.

Select "Return" by pressing the ▲ or ▼ button, then press the **ENTER** button to return to the previous menu.
Press the **EXIT** button to exit.

Setting the On/Off Timer

Setup
- Return
- Language — English
- Clock
- Timer
- Game Mode — Off
- V-Chip
- Caption
- Menu Transparency — Medium
- Blue Screen — Off
- ▼ Color Weakness

Setup

⊞ Enter

Timer
- Return
- On Timer
  - Hour / Min — 12 : 00 am
  - Channel — Air 3
  - Volume — 10
  - Activation — Off
- Off Timer — Inactivated
  - Hour / Min — 12 : 00 am
  - Activation — Off
- Sleep Timer — Off

Setup

⊞ Enter

1 Press the **MENU** button. Press the ◀ or ▶ button to select "Setup", then press the **ENTER** button.

2 Press the ▲ or ▼ button to select "Timer", then press the **ENTER** button.

Press the ▲ or ▼ button to select "On Timer", then press the **ENTER** button. Press the ▲ or ▼ button to adjust "Hour/Min", then press the ▶ button to move to the next step.
Set other items using the same method as above.
To activate On Timer with the setting entered, set Activation to "Off", "Mon~Fri", "Daily", or "Once" by pressing ▲ or ▼ button.
Press the **ENTER** button.

- You can set the hour, minute, and channel directly by pressing the number buttons on the remote control.

Timer
- Return
- On Timer — 12 : 00 am
  - Hour / Min — 12 : 00 am
  - Channel — Air 3
  - Volume — 10
  - Options — Once
- Off Timer
  - Hour / Min — 12 : 00 am
  - Activation — Off
- Sleep Timer — Off

Setup

⊞ Enter

3 Press the ▲ or ▼ button to select "Off Timer", then press the **ENTER** button. Press the ▲ or ▼ button to adjust "Hour/Min", then press the ▶ button to move to the next step. Set other items using the same method as above.

To activate Off Timer with the setting entered, set Activation to "Off", "Mon~Sat", "Mon~Fri", "Daily", or "Once" by pressing ▲ or ▼ button. Press the **ENTER** buton.

When finished, select "Return" by pressing ▲ or ▼ button and **ENTER** button to return to the previous menu.
Press the **EXIT** button to exit.

- 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 television will eventually turn off, if no controls are operated for 3 hours after the TV was turned on by the 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.

English-33

Setting the Sleep Timer

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

Setup	
⟳ Return	
Language	English
Clock	
Timer	
Game Mode	Off
V-Chip	
Caption	
Menu Transparency	Medium
Blue Screen	Off
▼ Color Weakness	
🔧 Setup	
↵ Enter	

1 Press the **MENU** button. Press the ◀ or ▶ button to select "Setup", then press the **ENTER** button.

2 Press the ▲ or ▼ button to select "Timer", then press the **ENTER** button.
Press the ▲ or ▼ button to select "Sleep Timer", then press the **ENTER** button.

Timer	
⟳ Return	
On Timer	Inactivated
Hour / Min	Channel
12 : 00 am	Air 3
Volume	Activation
10	Once
Off Timer	Inactivated
Hour / Min	Activation
12 : 00 am	Daily
Sleep Timer	30 min.
🔧 Setup	
↵ Enter	
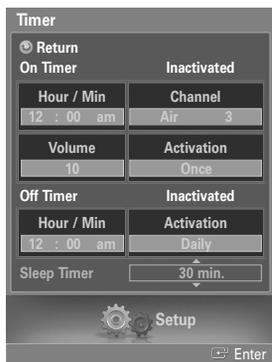
3 Press the ▲ or ▼ button to set sleep timer to "30 min.", "60 min.", "90 min.", "120 min.", "150 min.", "180 min.", or "Off", then press the **ENTER** button.
Select "Return" by pressing the ▲ or ▼ button, then press the **ENTER** button to return to the previous menu.
Press the **EXIT** button to exit.

Alternate method

Press the **SLEEP** button on the remote control repeatedly until the appropriate interval appears (any of the preset values from "Off" to "180 min.").

Sleep Timer : 90 min.
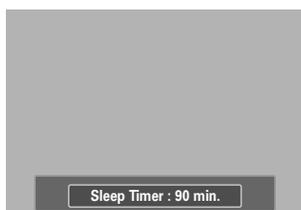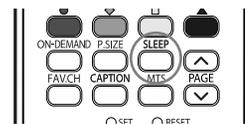
Viewing an External Signal Source

Use the remote control to switch between viewing signals from connected equipment, such as a VCR, DVD, Set-Top Box or the TV source (air or cable).
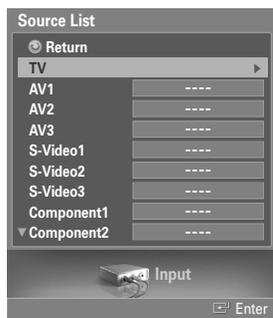
Setting the Signal Source

Input
○ Return	
Source List	TV
Edit Name	

Input

↩ Enter

1 Press the **MENU** button.
Press the **ENTER** button to select "Input".

Source List
◉ Return	
TV	▶
AV1	----
AV2	----
AV3	----
S-Video1	----
S-Video2	----
S-Video3	----
Component1	----
▼ Component2	----

Input

↩ Enter

2 Press the ▲ or ▼ button to select "Source List", then press the **ENTER** button.
Press the ▲ or ▼ button to select a signal source, then press the **ENTER** button.

- When you connect equipment to the TV, you can choose between the following sets of jacks: "AV1", "AV2", "S-Video1", "S-Video2", "Component1", "Component2", "HDMI1", or "HDMI2" on the TV's rear panel, and "AV3", or "S-Video3" on the TV's side panel.

AV1

Alternate method

Press the **SOURCE** button on the remote control repeatedly to select an external signal source.
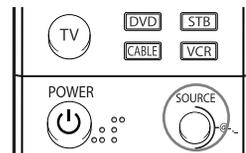
➣ Only connected devices can be selected.

➣ Before selecting an input source, make sure the corresponding external device is connected first.

➣ HDMI input can be selected only when the external device is turned on and connected to the TV.

Assigning Names to External Input Mode

This feature enables you to name the input source you have connected.

Input	
Return	
Source List	TV
Edit Name	▶
Input	
	⏎ Enter

1 Press the **MENU** button. Press the **ENTER** button to select "Input".

2 Press the ▲ or ▼ button to select "Edit Name", then press the **ENTER** button.

Edit Name	
Return	
AV1	----
AV2	----
AV3	----
S-Video1	----
S-Video2	----
S-Video3	----
Component1	----
Component2	----
▼ HDMI1	----
Input	
	⏎ Enter
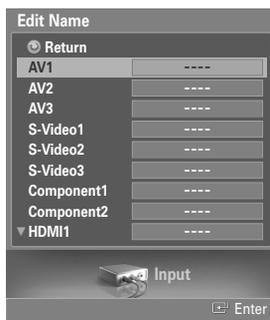
3 Press the ▲ or ▼ button to select a signal source to edit, then press the **ENTER** button.

Edit Name	
Return	
AV1	----
AV2	**VCR**
AV3	**DVD**
S-Video1	**D-VHS**
S-Video2	**Cable STB**
S-Video3	**HD STB**
Component1	**Satellite STB**
Component2	
▼ HDMI1	▼ **PVR STB**
Input	
	⏎ Enter

4 Press the ▲ or ▼ button to select the external device : 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 (Video On Demand) STB, TV.

Press the **ENTER** button.
Set other signal sources (AV1, AV2, AV3, S-Video1, S-Video2, S-Video3, Component1, Component2, HDMI1, HDMI2) using the same method as listed above.

Select "Return" by pressing the ▲ or ▼ button, then press the **ENTER** button to return to the previous menu.
Press the **EXIT** button to exit.

Selecting Your Favorite Channels

You can store your favorite channels for each available input source (such as TV and CATV).

Preset : To use the Channel Manager function, first run Auto Program (see pages 23~24).

To Store Your Favorite Channels:

Channel	
Return	
Antenna	Air
Auto Program	
Channel Manager	
Fine Tune	
Signal Strength	
LNA	On

Channel

Enter

1 Press the **MENU** button. Press the ◄ or ► button to select "Channel", then press the **ENTER** button.

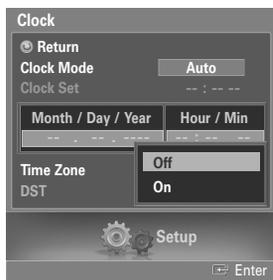| Channel Manager	
Return	
All	
Added	
Favorite	
Default List Mode	All

Channel

Enter

2 Press the ▲ or ▼ button to select "Channel Manager", then press the **ENTER** button. Press the ▲ or ▼ button to select "All", then press the **ENTER** button.

Channel Manager	All Channel List
Air 2	Added Favorite

1/ 2

2	Watch	4
5	Add	7
8	Delete	10
11	Name	13
14	Favorite	17
18	Return	20
21	22	23

List Mode   Delete All
Enter   Return

3 Press the ▲/▼/◄/► buttons to select a channel, then press the **ENTER** button and option window will appear.

Press the ▲ or ▼ button to select "Favorite", the press the **ENTER** button and a ♥ mark, designating the channel as a Favorite Channel will appear. Press the **ENTER** button again to deselect the selected channel and the ♥ mark will disappear.

• Red button (List Mode) : If you press the Red button repeatedly, the All Channel List, the Added Channel List or the Favorite Channel List is selected sequentially.

Select "Return" by pressing the ▲ or ▼ button, then press the **ENTER** button to return to the previous menu. Press the **EXIT** button to exit.

➣ Only memorized channels can be set as Favorite channels.

Air ♥
2
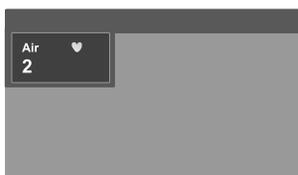
Alternate method

Select Channel menu ➔ Channel Manager ➔ Favorite
Press the **FAV.CH** button repeatedly to jump from one favorite channel to another.
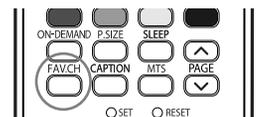
Viewing the Channel Lists

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

Preset : To use the Channel Manager function, first run Auto Program (see pages 23~24).
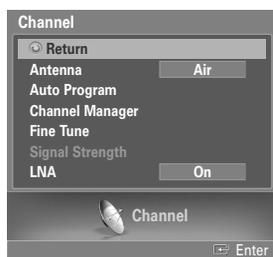
Channel
- Return
- Antenna — Air
- Auto Program
- Channel Manager
- Fine Tune
- Signal Strength
- LNA — On

Channel
Enter

1   Press the **MENU** button. Press the ◄ or ► button to select "Channel", then press the **ENTER** button.

Channel Manager
- Return
- All
- Added
- Favorite
- Default List Mode — All

Channel
Enter

2   Press the ▲ or ▼ button to select "Channel Manager", then press the **ENTER** button. Press the ▲ or ▼ button to select "All", then press the **ENTER** button.
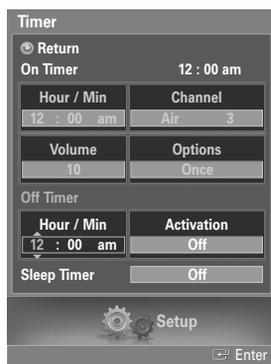
Channel Manager   All Channel List

Air   2   Added

1/ 2

2	3	4
5	6	7
8	9	10
11	12	13
14	15	17
18	19	20
21	22	23

List Mode   Delete All
Page   Enter   Return
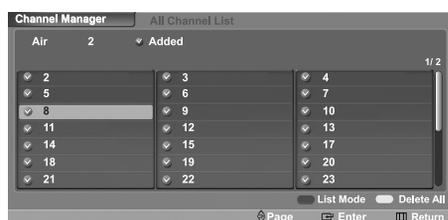
3   If you want to watch the channel, press the ▲/▼/◄/► buttons to select a channel, then press the **ENTER** button and the option window will appear.

Channel Manager   All Channel List

Air   2   Added

1/ 2

2	Watch	4
5	Add	7
8	Delete	10
11	Name	13
14	Favorite	17
18	Return	20
21	22	23

List Mode   Delete All
Enter   Return

4   Press the **ENTER** button to select "Watch", then press the **ENTER** button again.
The selected channel broadcasting window will appear.

Channel Manager   All Channel List

Air   2   Added

1/ 2

2	3	4
5	6	7
8	9	10
11	12	13
14	15	17
18	19	20
21	22	23

List Mode   Delete All
Page   Edit   Exit

Alternate method

Press the **CH MGR** button on the remote control to display a list of channels.

DELETE CH
0
ANT/ENG/NUM CH MGR   STILL   DATA-SERVICE
D
REW   STOP   PLAY   FF
VOL   CH
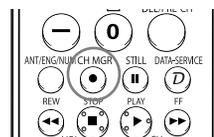
Adding and Erasing Channels

Preset : To use the Channel Manager function, first run Auto Program (See pages 23~24).

Channel	
↺ Return	
Antenna	Air
Auto Program	
Channel Manager	
Fine Tune	
Signal Strength	
LNA	On

Channel

⌨ Enter

1 Press the **MENU** button. Press the ◀ or ▶ button to select "Channel", then press the **ENTER** button.

| Channel Manager	
↺ Return	
All	
Added	
Favorite	
Default List Mode	All

Channel

⌨ Enter

2 Press the ▲ or ▼ button to select "Channel Manager", then press the **ENTER** button. Press the ▲ or ▼ button to select "Added" then press the **ENTER** button.
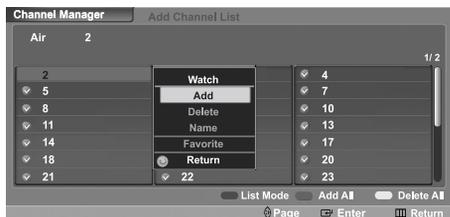
3 Press the ▲/▼/◀/▶ buttons to select a channel, then press the **ENTER** button and option window will appear. Press the ▲ or ▼ button to select "Add", then press the **ENTER** button; the ✅ mark will appear and the channel will be added.
To deselect the selected channel, press the ▲ or ▼ button to select "Delete", then press the **ENTER** button.
The ✅ mark will disappear.
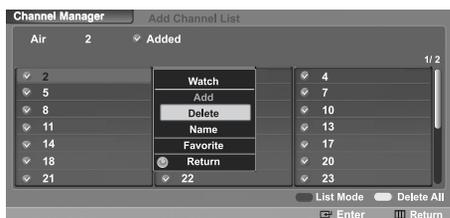
- Red button (List Mode) : If you press the Red button repeatedly, the All Channel List, the Added Channel List or the Favorite Channel List is selected sequentially.
- Green button (Add All) : Press to add all channels of the channel list.
- Yellow button (Delete All) : Press to delete all channels of the channel list.

Select "Return" by pressing the ▲ or ▼ button, then press the **ENTER** button to return to the previous menu.
Press the **EXIT** button to exit.

Labeling the Channels

Use this feature to assign an easy-to-remember label to analog channels (i.e., "CBS", "ESPN", "PBS2", "CNN02", and etc.) A label consists of five fields, where each field is a letter, a number or a blank. When the **INFO** button is pressed, the channel label will appear.

Channel
- ↻ **Return**
- **Antenna** — **Air**
- **Auto Program**
- **Channel Manager**
- **Fine Tune**
- Signal Strength
- **LNA** — **On**

▥ **Channel**

↵ Enter

1. Press the **MENU** button. Press the ◀ or ▶ button to select "Channel", then press the **ENTER** button.

Channel Manager
- ↻ **Return**
- **All**
- **Added**
- **Favorite**
- **Default List Mode** — **All**

▥ **Channel**

↵ Enter

2. Press the ▲ or ▼ button to select "Channel Manager", then press the **ENTER** button. Press the ▲ or ▼ button to select "All", then press the **ENTER** button.

Channel Manager — All Channel List
Air   2   ✓ Added
1/2
✓ 2		Watch		✓ 4
✓ 5		Add		✓ 7
✓ 8		Delete		✓ 10
✓ 11		Name		✓ 13
✓ 14		Favorite		✓ 17
✓ 18	●	Return		✓ 20
✓ 21	✓ 22			✓ 23
List Mode   Delete All
↵ Enter   ▥ Return

3. Press the ▲/▼/◀/▶ button to select a channel, then press the **ENTER** button and option window will appear. Press the ▲ or ▼ button to select "Name", then press the **ENTER** button.

Channel Manager — All Channel List
Air   2   ✓ Added
1/2
✓ 2	A	Watch		✓ 4
✓ 5		Add		✓ 7
✓ 8		Delete		✓ 10
✓ 11		Name		✓ 13
✓ 14		Favorite		✓ 17
✓ 18	●	Return		✓ 20
✓ 21	✓ 22			✓ 23
List Mode   Delete All
↕ Adjust   ↵ Enter   ▥ Return

4. Press the ▲ or ▼ button to select a letter, a number or a blank. (Results in this sequence: A...Z, 0...9, +, -, *, /, blank).

Channel Manager — All Channel List
Air   2   ✓ Added
1/2
✓ 2	C N N O 2	Watch		✓ 4
✓ 5		Add		✓ 7
✓ 8		Delete		✓ 10
✓ 11		Name		✓ 13
✓ 14		Favorite		✓ 17
✓ 18	●	Return		✓ 20
✓ 21	✓ 22			✓ 23
List Mode   Delete All
↕ Adjust   ↵ Enter   ▥ Return

5. Press the ◀ or ▶ button to switch to the next field, which will be selected. Select a second letter or digit by pressing ▲ or ▼ button, as above.

Repeat the process to select the last three digits. To erase the assigned new name, press and hold the ▲ or ▼ button until a blank appears.

When you have finished, press the **MENU** button. Select "Return" by pressing the ▲ or ▼ button, then press the **ENTER** button to return to the previous menu. Press the **EXIT** button to exit.

➢ If you add or delete a TV channel, the labeled channels will also be added or deleted.

English-40

Fine Tuning Analog Channels | Analog |

Use fine tuning to manually adjust a particular channel for optimal reception.
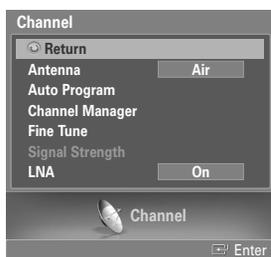
Channel
- Return
- Antenna — Air
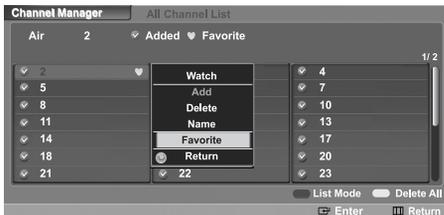- Auto Program
- Channel Manager
- Fine Tune
- Signal Strength
- LNA — On

Channel
↩ Enter

1 Press the **MENU** button. Press the ◀ or ▶ button to select "Channel", then press the **ENTER** button.

2 Press the ▲ or ▼ button to select "Fine Tune", then press the **ENTER** button.

Fine Tune
- Return
- Air 7 * ▬▬▬▮▬▬▬ +3
- Reset — OK

Channel
↩ Save

3 Press the ▼ 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.

Fine Tune
- Return
- Air 7
  - OK
- Reset
  - Cancel

Channel
↩ Enter

4 Press the ▲ or ▼ button to select "OK" or "Cancel". To reset the fine tuning setting, press the ▲ or ▼ button to select "OK", then press the **ENTER** button.

Select "Return" by pressing the ▲ or ▼ button, then press the **ENTER** button return to the previous menu. Press the **EXIT** button to exit.

➢ Only analog TV channels can be fine tuned.

➢ " * " will appear next to the name of fine-tuned channels.

Checking the Digital-Signal Strength | Digital |

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.

Channel
◌ **Return**
Antenna   Air
Auto Program
Channel Manager
Fine Tune
Signal Strength
LNA   On
🛰 Channel
⊡ Enter

1   Press the **MENU** button. Press the ◀ or ▶ button to select "Channel", then press the **ENTER** button.
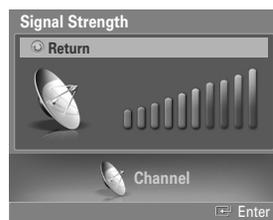
2   Press the ▲ or ▼ button to select "Signal Strength", then press the **ENTER** button.

Signal Strength
◌ **Return**
🛰 Channel
⊡ Enter

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.

Select "Return" by pressing the ▲ or ▼ button, then press the ENTER button to return to the previous menu. Press the **EXIT** button to exit.

LNA (Low Noise Amplifier)

If the TV is operating in a weak-signal area, sometimes the LNA function can improve the reception (a low-noise preamplifier boosts the incoming signal).

Channel
◌ **Return**
Antenna   Air
Auto Program
Channel Manager
Fine Tune
Signal Strength
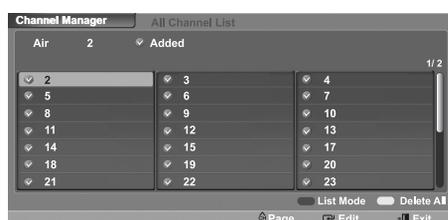**LNA**   On
🛰 Channel
⊡ Enter

1   Press the **MENU** button. Press the ◀ or ▶ button to select "Channel", then press the **ENTER** button.

2   Press the ▲ or ▼ button to select "LNA", then press the **ENTER** button.

Channel
◉ **Return**
Antenna   Air
Auto Program
Channel Manager
Fine Tune
Signal Strength   Off
LNA   On
🛰 Channel
⊡ Enter

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

Select "Return" by pressing the ▲ or ▼ button, then press the **ENTER** button to return to the previous menu. Press the **EXIT** button to exit.

➢ The LNA setting must be made separately for each channel.

➢ If the picture is noisy with the LNA set to On, select Off.

Picture Control

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

Picture	
○ Return	
Mode	
Size	16:9
Digital NR	On
DNle	On
My Color Control	
Film Mode	Off

Picture

⏎ Enter

Changing the Picture Standard

1 Press the **MENU** button. Press the ◀ or ▶ button to select "Picture", then press the **ENTER** button.

2 Press the ▲ or ▼ button to select "Mode", then press the **ENTER** button. Press the ▲ or ▼ button again to select "Mode", then press the **ENTER** button.

Mode	
◉ Return	
Mode	**Dynamic**
Contrast	**Standard**
Brightness	**Movie**
Sharpness	**Custom**
Color	
Tint (G/R)	G50 ▬▬ R50
Color Tone	Cool1
Reset	OK

Picture

⏎ Enter

3 Press the ▲ or ▼ button to select the desired picture mode (Dynamic, Standard, Movie, or Custom), then press the **ENTER** button.

Select "Return" by pressing the ▲ or ▼ button, then press the **ENTER** button to return to the previous menu.
Press the **EXIT** button to exit.

- Choose "Dynamic" for viewing the TV during the day or when there is a bright light in the room.
- Choose "Standard" for the standard factory settings.
- Choose "Movie" when viewing the movie.
- Choose "Custom" if you want to adjust the settings according to personal preference (see "Customizing the Picture Settings", page 44).

Customizing the Picture Settings

You can use the on-screen menus to change the "Contrast", "Brightness", "Sharpness", "Color", "Tint", and "Color Tone" according to personal preference. You can select "Standard" which automatically recalls your personalized picture settings.

Picture
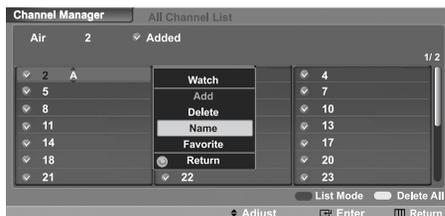|	
⊙ Return	
Mode	
Size	16:9
Digital NR	On
DNIe	On
My Color Control	
Film Mode	Off

Picture

⊞ Enter

1 Press the **MENU** button. Press the ◀ or ▶ button to select "Picture", then press the **ENTER** button.

2 Press the ▲ or ▼ button to select "Mode", then press the **ENTER** button. Press the ▲ or ▼ button again to select "Mode", then press the **ENTER** button.

Mode
⊙ Return	
Mode	Dynamic
Contrast	Standard
Brightness	Movie
Sharpness	Custom
Color	90
Tint (G/R)	G50 ▬▬█▬▬ R50
Color Tone	Cool1
Reset	OK

Picture

⊞ Enter

3 Press the ▲ or ▼ button to select the desired picture mode (Dynamic, Standard, Movie, or Custom), then press the **ENTER** button.
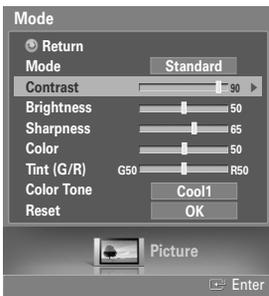
Mode
⊙ Return	
Mode	Standard
Contrast	▬▬▬▬▬█ 90 ▶
Brightness	▬▬█▬▬ 50
Sharpness	▬▬█▬ 65
Color	▬▬█▬▬ 50
Tint (G/R)	G50 ▬▬█▬▬ R50
Color Tone	Cool1
Reset	OK

Picture

⊞ Enter

4 Press the ▲ or ▼ button to select a particular option (Contrast, Brightness, Sharpness, Color, or Tint (G/R)), then press the **ENTER** button.

Press the ◀ or ▶ button to decrease or increase the value of a particular item.

Mode
▲	
Contrast	▬▬▬▬█ 100
▼	

• While adjusting a picture option, you can also select another option (Contrast, Brightness, Sharpness, Color, or Tint (G/R)) by pressing the ▲ or ▼ button.

Mode

◎ Return
Mode   Standard
Contrast   ━━━━━━━■ 90
Brightness   ━━━━■   50
Sharpness   ━━━━━■   65
Color   ━━━━■   50
Tint (G/R)   G50 ━━━■━━━ R50
Color Tone   Cool1
Reset   OK

🖼 Picture
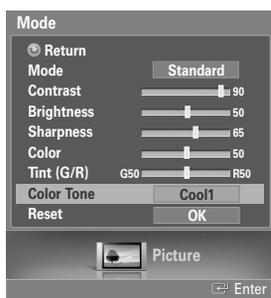
⏎ Enter

5 Press the **ENTER** button to return to "Mode".
Press the ▲ or ▼ button to select "Color Tone", then press the
ENTER button.

Mode

◎ Return
Mode   Standard
Contrast   ━━━━━━━■ 90
Brightness   ━━━■━   50
Sharpness   ┌──────────
Color   │ Cool2
Tint (G/R)   │ Cool1
Color Tone   │ Normal
Reset   │ Warm1
                │ Warm2

🖼 Picture

⏎ Enter

6 Press the ▲ or ▼ button to select a particular option (Cool2, Cool1, Normal,
Warm1, or Warm2), then press the **ENTER** button.

Mode

◎ Return
Mode   Standard
Contrast   ━━━━━━━■ 90
Brightness   ━━━━■   50
Sharpness   ━━━━━■   65
Color   ━━━━■   50
Tint (G/R)   G50 ━━━━■━━ R50
Color Tone   ┌──────────
Reset   │ OK
                 │ Cancel
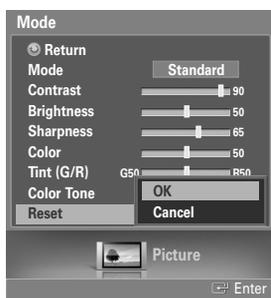
🖼 Picture

⏎ Enter

Resetting the Picture Settings to the Factory Defaults

7 To return the factory defaults, select "Reset" by pressing the ▲ or ▼ button.
Press the **ENTER** button.
Press the ▲ or ▼ button to select "OK" or "Cancel", then press the
ENTER button.

Select "Return" by pressing the ▲ or ▼ button, then press the
**ENTER** button to return to the previous menu. Press the **EXIT** button to exit.

• If you set "Reset" to "OK", the previously adjusted settings will be
reset to the factory defaults.

➣ The reset function must be set separately for each mode (Dynamic, Standard, Movie, or Custom).

Changing the Picture Size

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

Picture
☉ **Return**	
Mode	
Size	**16:9**
Digital NR	**On**
DNle	**On**
My Color Control	
Film Mode	**Off**

Picture

⏎ Enter

1 Press the **MENU** button. Press the ◀ or ▶ button to select "Picture", then press the **ENTER** button.
Press the ▲ or ▼ button to select "Size", then press the **ENTER** button.

Picture
☉ **Return**	
Mode	**16:9**
Size	**Zoom1**
Digital NR	**Zoom2**
DNle	**Wide Fit**
My Color Contro	**4:3**
Film Mode	

Picture

⏎ Enter

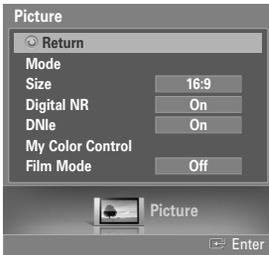**2** Press the ▲ or ▼ buttons to select the screen format you want, then press the **ENTER** button.

Select "Return" by pressing the ▲ or ▼ button, then press the **ENTER** button to return to the previous menu.
Press the **EXIT** button to exit.

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

Alternate method

Press the **P.SIZE** button on the remote control repeatedly to select one of the picture size settings.

Zoom1 ⬍ Move
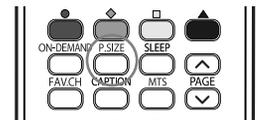
➣ You can select only the 16:9, 4:3 and Wide Fit screen sizes in the DTV Component (720p, 1080i) or HDMI (720p, 1080i) mode.

➣ For Zoom1, Zoom2, and Wide Fit (DTV's HD signal only), you can adjust the vertical position using the ▲ or ▼ button after pressing the P.SIZE button on the remote control.

➣ When watching a DTV's HD signal, you can use Wide Fit. Horizontal zoom (Wide Fit) sets the optical picture format by expanding it both horizontally and vertically. For example, you can reset the picture in 4:3 format to 16:9. Wide Fit does not support all external devices.

➣ To maintain scale in the Wide Fit mode, portions of the picture on the top and bottom will be cropped.

4 : 3

Wide Fit
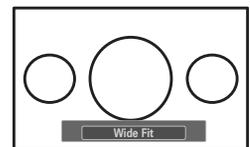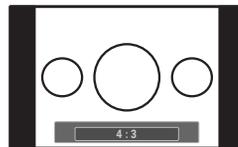
Setting the My Color Control Mode

My Color Control allows you to adjust colors according to your preference, by adjusting skin, sky, and grass tones using the predefined settings (Blue, Green, Pink, Standard, and Custom) without affecting other colors on the screen.

Picture	
○ Return	
Mode	
Size	16:9
Digital NR	On
DNIe	On
My Color Control	
Film Mode	Off
	Picture
	⏎ Enter

My Color Control	
◉ Return	
Easy Control	▶
Detail Control	
	Picture
	⏎ Enter

Original   **Custom**

Easy Control
Blue   Green   Pink   Standard   Custom
⏎ Enter   Return

Using the My Color Control Function in the Easy Control Menu

Skin, sky and grass tones are easily adjustable to suit your preferences.

1   Press the **MENU** button. Press the ◀ or ▶ button to select "Picture", then press the **ENTER** button.

2   Press the ▲ or ▼ button to select "My Color Control", then press the **ENTER** button.

3   Press the ▲ or ▼ button to select "Easy Control", then press the **ENTER** button.
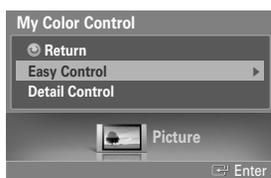
4   Press the ▲ or ▼ button to select from the various picture settings. The original picture (before adjustment) is shown on the left side, while the selected mode is shown on the right side.

   •   There are seven My Color Control modes: Blue, Green, Pink, Standard, and Custom.
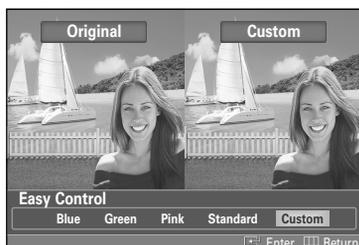
   Select "Return" by pressing the ▲ or ▼ button, then press the **ENTER** button to return to the previous menu.
   Press the **EXIT** button to exit.

➢ Changing the settings in the "Detail Control" menu (see page 48) will automatically set the My Color Control mode to "Custom".

➢ Pressing the ENTER button on the remote control for 3 seconds when there is no OSD on the screen will display the My Color Control menu.

English-47

Picture	
◎ Return	
Mode	
Size	16:9
Digital NR	On
DNIe	On
My Color Control	
Film Mode	Off

Picture

⏎ Enter

My Color Control	
◎ Return	
Easy Control	
Detail Control	▶

Picture

⏎ Enter

Detail Control		
◎ Return		
Blue	▭	50
Green	▭	50
Pink	▭	50
Reset		
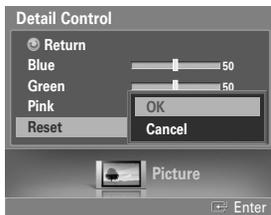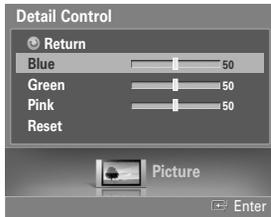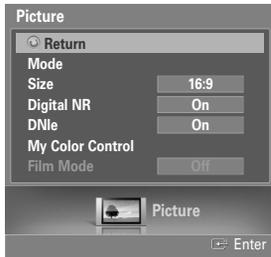
Picture

⏎ Enter

Using the My Color Control Function in the Easy Control Menu

Users can adjust the 3 My Color Control colors (Blue, Green, and Pink).

1 Press the **MENU** button. Press the ◀ or ▶ button to select "Picture", then press the **ENTER** button.

2 Press the ▲ or ▼ button to select "My Color Control", then press the **ENTER** button.

3 Press the ▲ or ▼ button to select "Detail Control", then press the **ENTER** button.

4 Press the ▲ or ▼ button to select the desired color and then press the **ENTER** or ▶ button.

• The original picture (before adjustment) is shown on the left side, while the picture after adjustment is shown on the right side, and an adjustment bar is shown on the bottom of the screen.

Original	Adjusted

Detail Control		
Blue	▭	50

◀▶ Adjust ⏎ Enter Ⅲ Return

5 Press the ◀ or ▶ button to adjust the settings.
Press the ▲ or ▼ button to choose other colors.

6 Press the **ENTER** or **MENU** button to confirm the changes and return to the previous menu.

Detail Control		
◎ Return		
Blue	▭	50
Green	▭	50
Pink	OK	
Reset	Cancel	

Picture

⏎ Enter

Resetting the My Color Control Colors to the Factory Defaults

You can return to the factory default settings for My Color Control colors.

7 Press the ▲ or ▼ button to select "Reset", then press the **ENTER** button.
Press the ▲ or ▼ button to select "OK" or "Cancel", then press the **ENTER** button.
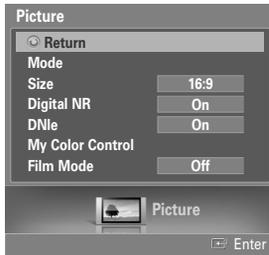The previously adjusted My Color Control colors will be reset to the factory defaults.

Select "Return" by pressing the ▲ or ▼ button, then press the **ENTER** button to return to the previous menu. Press the **EXIT** button to exit.

Using the Color Weakness Enhancement Feature

This feature adjusts the Red, Green or Blue color to compensate for the user's particular color weakness.
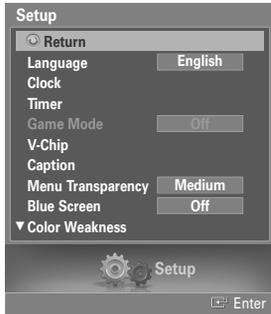
Setup	
↺ Return	
Language	English
Clock	
Timer	
Game Mode	Off
V-Chip	
Caption	
Menu Transparency	Medium
Blue Screen	Off
▼ Color Weakness	
⚙ Setup	
⊞ Enter	

1   Press the **MENU** button. Press the ◀ or ▶ button to select "Setup", then press the **ENTER** button.

2   Press the ▲ or ▼ button to select "Color Weakness", then press the **ENTER** button.

Color Weakness	
⊙ Return	
Color Weakness	Off
Red	On
Green	0
Blue	0
⚙ Setup	
⊞ Enter	

3   Press the ▲ or ▼ button to select "Color Weakness", then press the **ENTER** button. Press the ▲ or ▼ button to select "On", then press the **ENTER** button.

Color Weakness	
⊙ Return	
Color Weakness	On
Red	0
Green	0
Blue	0
⚙ Setup	
⊞ Enter	
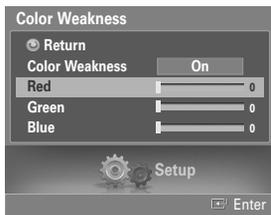
4   Press the ▲ or ▼ button to select a color to be adjusted, then press the **ENTER** button.

Press the ◀ or ▶ button to adjust the value of a color selected.

Color Weakness	
▲ Red	0
▼	

•   You can also select these options (Red, Green, or Blue) by pressing the ▲ or ▼ button.

Select "Return" by pressing the ▲ or ▼ button, then press the **ENTER** button to return to the previous menu.
Press the **EXIT** button to exit.

Digital Noise Reduction

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.

| Picture	
◎ Return	
Mode	
Size	16:9
Digital NR	On
DNIe	On
My Color Control	
Film Mode	Off

Picture

⊞ Enter

1 Press the **MENU** button. Press the ◀ or ▶ button to select "Picture", then press the **ENTER** button.

2 Press the ▲ or ▼ button to select "Digital NR", then press the **ENTER** button.

Picture	
◉ Return	
Mode	
Size	16:9
Digital NR	Off
DNIe	On
My Color Control	
Film Mode	Off

Picture

⊞ Enter

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

Select "Return" by pressing the ▲ or ▼ button, then press the **ENTER** button to return to the previous menu.
Press the **EXIT** button to exit.

DNIe (Digital Natural Image engine)

This TV includes the DNIe function to provide high visual quality. If you set DNIe to on, you can view the screen with the DNIe feature activated. If you set the DNIe to Demo, you can view the applied DNIe and normal pictures on the screen, for demonstration purposes. Using this function, you can view the difference in the visual quality.

Picture	
⊙ Return	
Mode	
Size	16:9
Digital NR	On
DNIe	On
My Color Control	
Film Mode	Off

Picture
▣ Enter

1 Press the **MENU** button. Press the ◀ or ▶ button to select "Picture", then press the **ENTER** button.

2 Press the ▲ or ▼ button to select "DNIe", then press the **ENTER** button.

Picture	
◉ Return	
Mode	
Size	16:9
Digital NR	
DNIe	Off
My Color Contro	Demo
Film Mode	On

Picture
▣ Enter

3 Press the ▲ or ▼ button to select "Off", "Demo", or "On" then press the **ENTER** button.

- • Off : Switches off the DNIe mode.
- • Demo : The screen before applying DNIe appears on the left and the screen after applying DNIe appears on the right.
- • On : Switches on the DNIe mode.

Select "Return" by pressing the ▲ or ▼ button,then press the **ENTER** button to return to the previous menu.
Press the **EXIT** button to exit.

➢ DNIe™ (Digital Natural Image engine) **DNIe™**

This feature brings you a more detailed image with 3D noise reduction and detail, contrast and white enhancement.

➢ The DNIe function is not supported in the Movie mode. (It is inactivated.)

Setting the Film Mode

You can automatically sense and process film signals from all sources and adjust the picture for optimum quality.

Picture
- Return
- Mode
- Size — 16:9
- Digital NR — On
- DNIe — On
- My Color Control
- Film Mode — Off

Picture

Enter

1 Press the **MENU** button. Press the ◄ or ► button to select "Picture", then press the **ENTER** button.

2 Press the ▲ or ▼ button to select "Film Mode", then press the **ENTER** button.
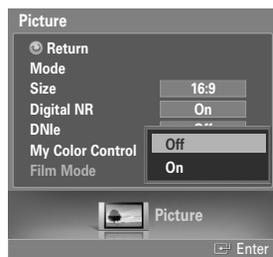
Picture
- Return
- Mode
- Size — 16:9
- Digital NR — On
- DNIe
- My Color Control — Off
- Film Mode — On

Picture

Enter

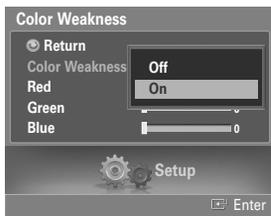3 Press the ▲ or ▼ button to select "Off" or "On", then press the **ENTER** button.

Select "Return" by pressing the ▲ or ▼ button, then press the **ENTER** button to return to the previous menu.
Press the **EXIT** button to exit.

➢ The Film Mode can only be set when viewing an analog signal in AV modes (AV or S-Video) that support SD (Standard Definition) signals (480i).

Freezing the Picture

Press the **STILL** button to freeze a moving picture. (Normal sound will still be heard.)

To cancel this function, press the **STILL** button again or press any button on the remote control.

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".

Setup	
◎ Return	
Language	**English**
Clock	
Timer	
Game Mode	Off
V-Chip	
Caption	
Menu Transparency	**Medium**
Blue Screen	**Off**
▼ Color Weakness	

Setup

⏎ Enter

1 Press the **MENU** button. 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.

Setup	
◎ Return	
Language	**English**
Clock	
Timer	
Game Mode	Off
V-Chip	
Caption	
Menu Transparency	Medium
Blue Screen	**Off**
▼ Color Weakness	**On**

Setup

⏎ Enter

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

Select "Return" by pressing the ▲ or ▼ button, then press the **ENTER** button to return to the previous menu.
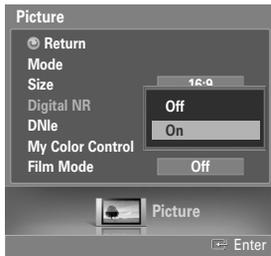Press the **EXIT** button to exit.

Sound Control

You can control and customize the sound levels and settings of the TV with the remote control.

Adjusting the Volume

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

Using the MUTE Button
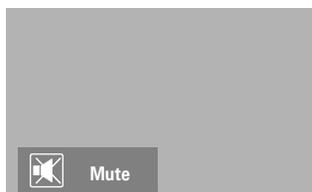
At any time, you can temporarily cut off the sound. Press the **MUTE** button on the remote control. The message "Mute" is displayed and the sound cuts off. To turn mute off, press the **MUTE** button again or press either the **VOL+** or **VOL−** button.
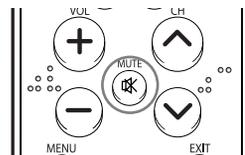
Using Automatic Sound Settings

Your TV has automatic sound settings ("Standard", "Music", "Movie", and "Speech") that are preset at the factory.
You can select "Custom", which automatically recalls your personalized sound settings.
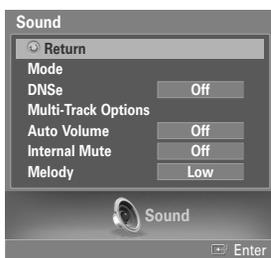
1
Press the **MENU** button. Press the ◀ or ▶ button to select "Sound", then press the **ENTER** button.
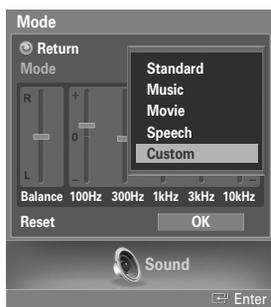
2
Press the ▲ or ▼ button to select "Mode", then press the **ENTER** button.
Press the ▲ or ▼ button again to select "Mode", then press the **ENTER** button.
Press the ▲ or ▼ button to select a particular item (Standard, Music, Movie, Speech, or Custom), then press the **ENTER** button.

Select "Return" by pressing the ▲ or ▼ button, then press the **ENTER** button to return to the previous menu.
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", page 55).

➣ The **VOL+**, **VOL−** and **MUTE** buttons do not operate when the Internal Mute is set to on.

Customizing the Sound

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

Sound
- ◎ Return
- Mode
- DNSe .... Off
- Multi-Track Options
- Auto Volume .... Off
- Internal Mute ...... Off
- Melody .... Low

Sound

↵ Enter

1 Press the **MENU** button. Press the ◀ or ▶ button to select "Sound", then press the **ENTER** button.

Mode
- ◎ Return
- Mode
  - **Standard**
  - **Music**
  - **Movie**
  - **Speech**
  - **Custom**
- Balance 100Hz 300Hz 1kHz 3kHz 10kHz
- Reset .... OK

Sound

↵ Enter

2 Press the ▲ or ▼ button to select "Mode", then press the **ENTER** button. Press the ▲ or ▼ button again to select "Mode", then press the **ENTER** button. Press the ▲ or ▼ button to select a particular item (Standard, Music, Movie, Speech, or Custom), then press the **ENTER** button.

Mode
- ◎ Return
- Mode .... Custom
- Balance 100Hz 300Hz 1kHz 3kHz 10kHz
- Reset .... OK

Sound

↵ Enter

3 Press the ▼ button. Press the ◀ or ▶ button to select a particular item (Balance, 100Hz, 300Hz, 1kHz, 3kHz, 10kHz) to be changed, then press the **ENTER** button.
Press the ▲ or ▼ button to increase or decrease the selected frequency. Press the **ENTER** button.

- The equalizer function is set for each mode (Standard, Music, Movie, Speech, or Custom).

Mode
- ◎ Return
- Mode .... Custom
- Balance 100Hz 300H OK
- Reset .... Cancel

Sound
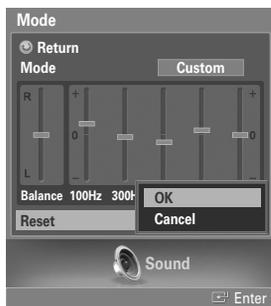
↵ Enter

4 To return the factory defaults, select "Reset" by pressing the ▲ or ▼ button. Press the **ENTER** button.
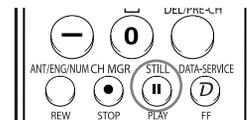Press the ▲ or ▼ button to select "OK" or "Cancel", then press the **ENTER** button.

Select "Return" by pressing the ▲ or ▼ button, then press the **ENTER** button to return to the previous menu.
Press the **EXIT** button to exit.

➢ **L/R Sound Balance Adjustment**
To adjust the sound balance of the L/R speakers.

➢ **Bandwidth Adjustment (100Hz, 300Hz, 1kHz, 3kHz, 10kHz)**
To adjust the level of different bandwidth frequencies.

Setting up DNSe (Digital Natural Sound engine)

DNSe enhances the sound quality, automatically controls output, and prevents sound distortion.
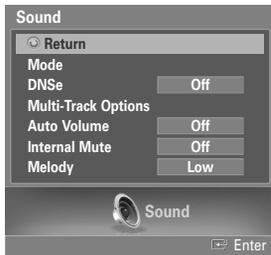
Sound
- ↻ Return
- Mode
- DNSe — Off
- Multi-Track Options
- Auto Volume — Off
- Internal Mute — Off
- Melody — Low

Sound

↵ Enter

1 Press the **MENU** button. Press the ◀ or ▶ button to select "Sound", then press the **ENTER** button.

2 Press the ▲ or ▼ button to select "DNSe", then press the **ENTER** button.

Sound
- ◉ Return
- Mode
- DNSe
- Multi-Track Opti — Off
- Auto Volume — On
- Internal Mute — Off
- Melody — Low

Sound

↵ Enter

Off
On

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

Select "Return" by pressing the ▲ or ▼ button, then press the **ENTER** button to return to the previous menu.
Press the **EXIT** button to exit.

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.

Sound	
↻ Return	
Mode	
DNSe	Off
Multi-Track Options	
Auto Volume	Off
Internal Mute	Off
Melody	Low

Sound

↵ Enter

1   Press the **MENU** button. 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.

Sound	
◉ Return	
Mode	
DNSe	Off
Multi-Track Options	
Auto Volume	Off
Internal Mute	On
Melody	

Sound

↵ Enter

3   Press the ▲ or ▼ button to select "Off" or "On", then press the **ENTER** button.
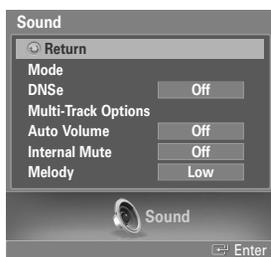
Select "Return" by pressing the ▲ or ▼ button, then press the **ENTER** button to return to the previous menu.
Press the **EXIT** button to exit.

Choosing a Multi-Channel Sound (MTS) track ⃞Digital⃞

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.

Sound	
⟳ Return	
Mode	
DNSe	Off
Multi-Track Options	
Auto Volume	Off
Internal Mute	Off
Melody	Low
🔊 Sound	
	⊡ Enter

1 Press the **MENU** button. 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.

Multi-Track Options	
⟳ Return	English
Preferred Langua	Spanish
Multi-Track Sou	French
🔊 Sound	
	⊡ Enter

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

Select "Return" by pressing the ▲ or ▼ button, then press the **ENTER** button to return to the previous menu.
Press the **EXIT** button to exit.

Alternate method

Press the **MTS** button on the remote control.
You can listen in a language other than the favorite language by pressing the **MTS** button.

1. English
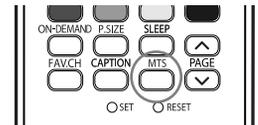
Choosing a Multi-Channel Sound (MTS) track [Analog]

Depending on the particular program being broadcast, you can listen to Stereo, SAP, or Mono.

Sound	
↻ **Return**	
Mode	
DNSe	**Off**
Multi-Track Options	
Auto Volume	**Off**
Internal Mute	**Off**
Melody	**Low**
🔊 Sound	
	⏎ Enter

1 Press the **MENU** button. 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.

Multi-Track Options	
⏺ **Return**	
Preferred Langua	**Mono**
Multi-Track Soun	**▼ Stereo**
🔊 Sound	
	⏎ Enter

3 Press the ▲ or ▼ button to select "Multi-Track Sound", then press the **ENTER** button.
Press the ▲ or ▼ button to select a setting you want, then press the **ENTER** button.

Select "Return" by pressing the ▲ or ▼ button, then press the **ENTER** button to return to the previous menu.
Press the **EXIT** button to exit.

➢ 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.

➢ Choose "Mono" for channels that are broadcasting in mono, or if you are having difficulty receivind a stereo signal.

Alternate method

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

Stereo

English-59
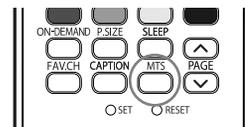
Selecting the Internal Mute

When using a device such as a Home Theater or Amplifier with external speakers, you can set Internal Mute to On to cut off sound from the TV's internal speakers.
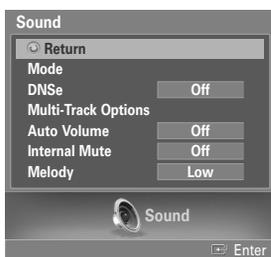
Sound	
↻ Return	
Mode	
DNSe	Off
Multi-Track Options	
Auto Volume	Off
Internal Mute	Off
Melody	Low

Sound

⊞ Enter

1 Press the **MENU** button. Press the ◀ or ▶ button to select "Sound", then press the **ENTER** button.

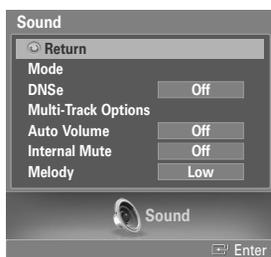2 Press the ▲ or ▼ button to select "Internal Mute", then press the **ENTER** button.

Sound	
◉ Return	
Mode	
DNSe	Off
Multi-Track Options	
Auto Volume	Off
Internal Mute	**Off**
Melody	**On**

Sound
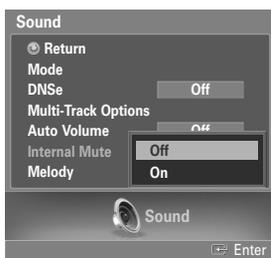
⊞ Enter

3 Press the ▲ or ▼ button to select "On", then press the **ENTER** button. Pressing the ▲ or ▼ button will alternate between "Off" and "On".

Select "Return" by pressing the ▲ or ▼ button, then press the **ENTER** button to return to the previous menu.
Press the **EXIT** button to exit.

➢ The **VOL +**, **VOL −** and **MUTE** buttons do not operate when the Internal Mute is set to On.

➢ When Internal Mute is on, only the "Multi-Track Options" menu is available in the Sound menu.

➢ To watch TV with an external speaker system such as a home theater system, set Internal Mute to On. To watch TV with the internal speaker or to record video with a VCR through AV OUT of the TV, set Internal Mute to Off.

English-60

Setting the On/Off Melody

A melody sound can be set to come on when the TV is powered On or Off.
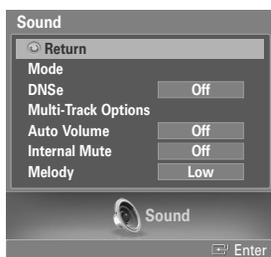
Sound	
⊙ **Return**	
Mode	
DNSe	Off
Multi-Track Options	
Auto Volume	Off
Internal Mute	Off
Melody	Low

🔊 Sound

↵ Enter

1 Press the **MENU** button. Press the ◀ or ▶ button to select "Sound", then press the **ENTER** button.

Sound	
⊙ **Return**	
Mode	
DNSe	Off
Multi-Track Options	Off
Auto Volume	Low
Internal Mute	Medium
Melody	High

🔊 Sound

↵ Enter

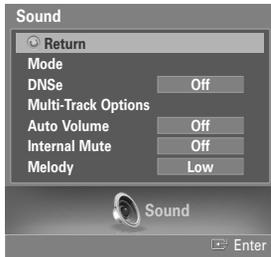2 Press the ▲ or ▼ button to select "Melody", then press the **ENTER** button.
Press the ▲ or ▼ button to select a value you want, then press the **ENTER** button.

Select "Return" by pressing the ▲ or ▼ button, then press the **ENTER** button to return to the previous menu.
Press the **EXIT** button to exit.

Setting the Function Help

Displays Help on the menu functions. The Help appears at the top of the screen.

Setup
⟲ Return	
Language	**English**
Clock	
Timer	
Game Mode	Off
V-Chip	
Caption	
Menu Transparency	Medium
Blue Screen	Off
▼ Color Weakness	

⚙ Setup

⏎ Enter

1 Press the **MENU** button. Press the ◀ or ▶ button to select "Setup", then press the **ENTER** button.

Setup
▲ Game Mode	Off
V-Chip	
Caption	
Menu Transparency	Medium
Blue Screen	Off
Color Weakness	
Function Help	On
CableCARD™	
CableCARD Setup	
▼ SW Upgrade	2006-08-18

⚙ Setup

⏎ Enter

2 Press the ▲ or ▼ button to select "Function Help", then press the **ENTER** button.

② Switches the Function Help on.

Setup
▲ Game Mode	Off
V-Chip	
Caption	
Menu Transparency	Medium
Blue Screen	Off
Color Weakness	
Function Help	Off
CableCARD™	On
CableCARD Setup	
▼ SW Upgrade	2006-08-18

⚙ Setup

⏎ Enter

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

Select "Return" by pressing the ▲ or ▼ button, then press the **ENTER** button to return to the previous menu.
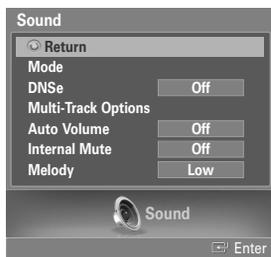Press the **EXIT** button to exit.

➢ The Function Help default setting is On.

Setting the Data Service

It is used to decide whether or not to use the Data Service. When it is set to "Off", all the functions relating to Data Application are disabled.

Setup	
⟲ Return	
Language	English
Clock	
Timer	
Game Mode	Off
V-Chip	
Caption	
Menu Transparency	Medium
Blue Screen	Off
▼ Color Weakness	

🗘 Setup

⌨ Enter

1 Press the **MENU** button. Press the ◀ or ▶ button to select "Setup", then press the **ENTER** button.

Setup	
▲ V-Chip	
Caption	
Menu Transparency	Medium
Blue Screen	Off
Color Weakness	
Function Help	Off
CableCARD™	
CableCARD Setup	
SW Upgrade	2006-08-18
Data Service	Off

🗘 Setup

⌨ Enter

2 Press the ▲ or ▼ button to select "Data Service", then press the **ENTER** button.

- When the current antenna setting is "AIR", you cannot select "Data Service" because it is disabled.

Setup	
▲ V-Chip	
Caption	
Menu Transparency	Medium
Blue Screen	Off
Color Weakness	
Function Help	Off
CableCARD™	
CableCARD Setup	
SW Upgrade	Off
Data Service	On

🗘 Setup

⌨ Enter

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

- When the data service setting is changed from "On" to "Off", all the running Data Applications are closed so you cannot perform any operation relating to data services.

Select "Return" by pressing the ▲ or ▼ button, then press the **ENTER** button to return to the previous menu.
Press the **EXIT** button to exit.

➢ When the current antenna mode is "AIR", the data service is set to "Off". When the mode is changed to "CABLE", the data service is activated.

➢ When the current antenna mode is "CABLE", the data service is set to "On".

Menu Transparency Level

Adjusts the transparency of the menu screen.

Setup
↺ Return	
Language	English
Clock	
Timer	
Game Mode	Off
V-Chip	
Caption	
Menu Transparency	Medium
Blue Screen	Off
▼ Color Weakness	

⚙ Setup
↵ Enter

1 Press the **MENU** button. Press the ◄ or ► button to select "Setup", then press the **ENTER** button.

Setup
⊙ Return	
Language	English
Clock	
Timer	
Game Mode	Off
V-Chip	
Caption	High
Menu Transpare	Medium
Blue Screen	Low
▼ Color Weakness	Opaque

⚙ Setup
↵ Enter

2 Press the ▲ or ▼ button to select "Menu Transparency", then press the **ENTER** button.
Press the ▲ or ▼ button to select level, then press the **ENTER** button.

Select "Return" by pressing the ▲ or ▼ button, then press the **ENTER** button to return to the previous menu.
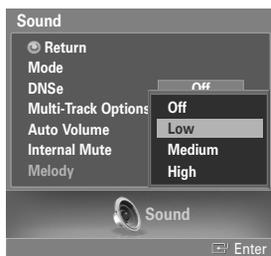Press the **EXIT** button to exit.

Using Game Mode

When connecting to a game console such as PlayStation™ or Xbox™, you can enjoy a more realistic gaming experience by setting the Game Mode to on.

Setup
⊙ Return	
Language	English
Clock	
Timer	
Game Mode	Off
V-Chip	
Caption	
Menu Transparency	Medium
Blue Screen	Off
▼ Color Weakness	

Setup
↵ Enter

1 Press the **MENU** button. Press the ◀ or ▶ button to select "Setup", then press the **ENTER** button.

2 Press the ▲ or ▼ button to select "Game Mode", then press the **ENTER** button.

Setup
⊚ Return	
Language	English
Clock	
Timer	
Game Mode	Off
V-Chip	On
Caption	
Menu Transparency	Medium
Blue Screen	Off
▼ Color Weakness	

Setup
↵ Enter

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

Select "Return" by pressing the ▲ or ▼ button, then press the **ENTER** button to return to the previous menu.
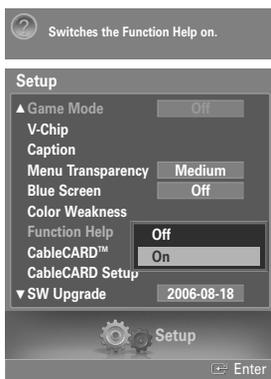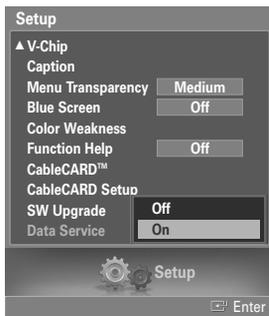Press the **EXIT** button to exit.

Restrictions on Game Mode (Caution)

Component1
🎮 Game Mode

- To disconnect the game console and connect another external device, set Game to Off in the setup menu.
- If you display the TV menu in Game Mode, the screen shakes slightly.
- The mark (🎮) appears6 on the screen which means that Game Mode is on with the selected source.

➢ Game Mode is not available in TV mode.

➢ If the picture is poor when an external device (DVD, VCR etc.) is connected to the TV, check if the Game Mode is On. The Game Mode should be set to Off.

If Game Mode is On

- Picture and Sound Modes are automatically changed to Custom.
  You cannot select other modes.
- Sound Mode in the Sound menu is deactivated. Adjust the sound using the equalizer.
- The Reset Sound function is activated. Selecting the Reset function after setting the equalizer resets it to the factory defaults.
- If the picture is poor when external device is connected to TV, check if Game Mode is On. Set Game Mode to Off and connect exernal devices.

Using the V-Chip

Access to channels and programs is controlled by a password (i.e., a 4-digit secret code that is defined by the user).
The on-screen menu will instruct you to assign a password (you can change it later, if necessary).

How to Change Your Password

Setup
↻ Return	
Language	English
Clock	
Timer	
Game Mode	Off
V-Chip	
Caption	
Menu Transparency	Medium
Blue Screen	Off
▼ Color Weakness	

Setup

Enter

1 Press the **MENU** button. Press the ◀ or ▶ button to select "Setup",
then press the **ENTER** button.
Press the ▲ or ▼ button to select "V-Chip", then press the
ENTER button.

2 Press the ▼ button. Press the number buttons to enter your current
4-digit PIN. (The default PIN for a new TV set is "0000".)
The "V-Chip" menu is displayed.

V-Chip
↻ Return	
V-Chip Lock	Off
TV Parental Guidelines	
MPAA Rating	
Canadian English	
Canadian French	
Downloadable U.S.Rating	
Change PIN	

Setup

Enter

3 Press the ▲ or ▼ button to select "Change PIN", then press the **ENTER** button.

Change PIN
⊕ Return
Enter Current PIN
Enter New PIN.
Confirm New PIN.

Setup

Enter

4 Press the ▼ button. Press the number buttons to enter your new
4-digit PIN. Re-enter your new PIN to confirm.

The message will automatically disappear, and return to the previous
menu after a few seconds, even if the **ENTER** button is not pressed.

Select "Return" by pressing the ▲ or ▼ button, then press the
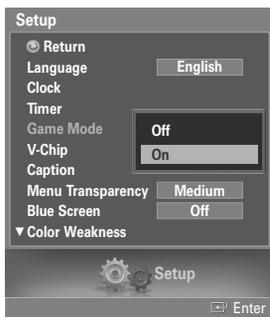**ENTER** button to return to the previous menu.
Press the **EXIT** button to exit.

➣ The PIP doesn't function when the V-Chip is active.

➣ 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) → MUTE → 8 → 2 → 4 → POWER (On).

➣ The V-Chip function only works in TV, AV mode and S-Video mode.

U.S.A Only

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

How to Enable/Disable the Rating Controls

Setup
⟳ **Return**	
Language	**English**
Clock	
Timer	
Game Mode	Off
V-Chip	
Caption	
Menu Transparency	**Medium**
Blue Screen	**Off**
▼ **Color Weakness**	

⚙ Setup

⊡ Enter

1   Press the **MENU** button. Press the ◀ or ▶ button to select "Setup",
    then press the **ENTER** button.
    Press the ▲ or ▼ button to select "V-Chip", then press the **ENTER** button.

2   Press the ▼ button. Press the number buttons to enter your current
    4-digit PIN. (The default PIN for a new TV set is "0000".)
    The "V-Chip" menu is displayed.

V-Chip
⊚ **Return**	
V-Chip Lock	**Off**
TV Parental Gui	**On**
MPAA Rating	
Canadian English	
Canadian French	
Downloadable U.S.Rating	
Change PIN	

⚙ Setup

⊡ Enter

3   The "V-Chip" screen will appear. Press the ▲ or ▼ button to select
    "V-Chip Lock".
    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.

    Select "Return" by pressing the ▲ or ▼ button, then press the
    ENTER button to return to the previous menu.
    Press the **EXIT** button to exit.

English-67

How to Set up Restrictions Using "TV Parental Guidelines"

The parental restrictions can be set up using either of two methods: The "TV Parental Guidelines" or "MPAA Rating".
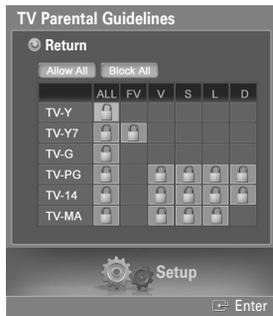
Setup
◎ Return	
Language	English
Clock	
Timer	
Game Mode	Off
V-Chip	
Caption	
Menu Transparency	Medium
Blue Screen	Off
▼ Color Weakness	

Setup
⏎ Enter

1 Press the **MENU** button. Press the ◄ or ► button to select "Setup", then press the **ENTER** button.
Press the ▲ or ▼ button to select "V-Chip", then press the **ENTER** button.

2 Press the ▼ button. Press the number buttons to enter your current 4-digit PIN. (The default PIN for a new TV set is "0000".)
The "V-Chip" menu is displayed.

V-Chip
◉ Return	
V-Chip Lock	On
TV Parental Guidelines	►
MPAA Rating	
Canadian English	
Canadian French	
Downloadable U.S.Rating	
Change PIN	

Setup
⏎ Enter

3 Press the ▲ or ▼ button to select "TV Parental Guidelines", then press the **ENTER** button.

TV Parental Guidelines
	ALL	FV	V	S	L	D
◉ Return						
Allow All	Block All					
TV-Y	🔒					
TV-Y7	🔒	🔒				
TV-G	🔒					
TV-PG	🔒		🔒	🔒	🔒	🔒
TV-14	🔒		🔒	🔒	🔒	🔒
TV-MA	🔒		🔒	🔒	🔒	

Setup
⏎ Enter

4 You can independently lock the TV ratings.
The locked TV (FCC) ratings are indicated by the symbol " 🔒 ".
Press the ▲ / ▼ / ◄ / ► buttons and the **ENTER** button to activate the appropriate restrictions for TV (FCC) rating system.
To unlock items that are locked, press the **ENTER** button again.

TV-Y   : Young children
TV-Y7 : Children 7 and over
TV-G   : General audience
TV-PG : Parent guidance
TV-14   : Viewers 14 and over
TV-MA : Mature audience

➢ Allow All : Press to unlock all TV ratings.
Block All : Press to lock all TV ratings.

Select "Return" by pressing the ▲ or ▼ button, then press the **ENTER** button to return to the previous menu. Press the **EXIT** button to exit.

➢ 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 parental guidelines must be set up separately for each age group. (See page 70)

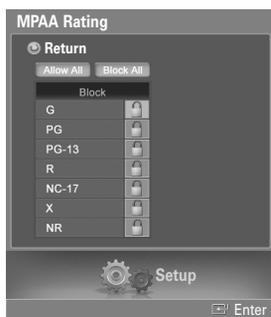## How to Set up Restrictions Using "MPAA Rating"

The Movie rating system uses the "MPAA" (Motion Picture Association of America) system, and its main application is for movies. When the rating control is on, the TV will automatically block any programs that are coded with objectionable ratings (either "MPAA Rating" or "TV Parental Guidelines").

Setup
- ⟳ Return
- Language   **English**
- Clock
- Timer
- Game Mode   Off
- V-Chip
- Caption
- Menu Transparency   Medium
- Blue Screen   Off
- ▼ Color Weakness

Setup

⊡ Enter

1 Press the **MENU** button. Press the ◀ or ▶ button to select "Setup", then press the **ENTER** button.
Press the ▲ or ▼ button to select "V-Chip", then press the **ENTER** button.

2 Press the ▼ button. Press the number buttons to enter your current 4-digit PIN. (The default PIN for a new TV set is "0000".)
The "V-Chip" menu is displayed.

V-Chip
- ◉ Return
- V-Chip Lock   On
- TV Parental Guidelines
- MPAA Rating   ▶
- Canadian English
- Canadian French
- Downloadable U.S.Rating
- Change PIN

Setup

⊡ Enter

3 Press the ▲ or ▼ button to select "MPAA Rating", then press the **ENTER** button.

MPAA Rating
- ◉ Return
- Allow All   Block All
- Block
- G   🔓
- PG   🔓
- PG-13   🔓
- R   🔓
- NC-17   🔓
- X   🔓
- NR   🔓

Setup

⊡ Enter

4 Press the ▲ or ▼ button to select a appropriate restriction.

Press the **ENTER** button to activate the restriction selected.
The " 🔒 " symbol is indicated.
To unlock items that are locked, press the **ENTER** button again.

Select "Return" by pressing the ▲ or ▼ button, then press the **ENTER** button to return to the previous menu.
Press the **EXIT** button to exit.

➤ Allow All : Press to unlock all TV ratings.

  Block All : Press to lock all TV ratings.

Important Notes About Parental Locks

Explanation of the MPAA and TV (FCC) Rating Systems:

TV (FCC) Age-Based Ratings

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.

TV (FCC) Content Category

FV	Fantasy violence.
D	Sexually suggestive dialog.
L	Adult language.
S	Sexual situation.
V	Violence.

MPAA Rating System (Movies)

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.

- TV (FCC) ratings : The particular rating that you have selected will be locked (and indicated as a red "L" on a blue background). Also, all of the age-based ratings will be locked within the particular group (i.e., "group 1" or "group 2"). Suppose that the TV-G rating and all of its contents (V, S, L, and D) are locked. In that case, more restrictive ratings (TV-PG, TV-14, and TV-MA) and all of their contents (V, S, L, and D) are automatically locked as well.
- MPAA ratings : The particular rating that you have selected will be locked. In addition, more restrictive ratings will be locked as well.
- Neither TV (FCC) ratings nor MPAA ratings apply to news programs.

How to Set up Restrictions Using Canadian English

Setup
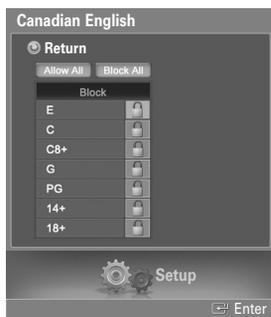|	
⟲ Return	
Language	**English**
Clock	
Timer	
Game Mode	Off
V-Chip	
Caption	
Menu Transparency	**Medium**
Blue Screen	**Off**
▼ Color Weakness	

⚙ **Setup**

⊡ Enter

1 Press the **MENU** button. Press the ◄ or ► button to select "Setup", then press the **ENTER** button.
Press the ▲ or ▼ button to select "V-Chip", then press the **ENTER** button.

2 Press the ▼ button. Press the number buttons to enter your current 4-digit PIN. (The default PIN for a new TV set is "0000".)
The "V-Chip" menu is displayed.

V-Chip
⊚ Return	
V-Chip Lock	**On**
TV Parental Guidelines	
MPAA Rating	
Canadian English	►
Canadian French	
Downloadable U.S.Rating	
Change PIN	

⚙ **Setup**

⊡ Enter

3 Press the ▲ or ▼ button to select "Canadian English", then press the **ENTER** button.

Canadian English
⊚ Return
Allow All   Block All
Block
E   🔒
C   🔒
C8+   🔒
G   🔒
PG   🔒
14+   🔒
18+   🔒

⚙ **Setup**

⊡ Enter

➣ Allow All : Press to unlock all TV ratings.

   Block All : Press to lock all TV ratings.

4 Press the ▲ or ▼ button to select a appropriate restriction.

Press the **ENTER** button to activate the restriction selected.
The " 🔒 " symbol is indicated.
To unlock items that are locked, press the **ENTER** button again.

Select "Return" by pressing the ▲ or ▼ button, then press the **ENTER** button to return to the previous menu.
Press the **EXIT** button to exit.

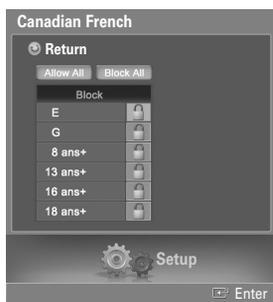|	
E	Exempt programming includes...news, sports, documentaries and other information programming, talk shows, music videos, and variety programming.
C	Programming intended for children under age 8.
C8+	Programming generally considered acceptable for children 8 years and over to watch on their own.
G	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 Canadian French

Setup
- ↺ Return
- Language .... English
- Clock
- Timer
- Game Mode .... Off
- V-Chip
- Caption
- Menu Transparency ... Medium
- Blue Screen .... Off
- ▼ Color Weakness

🔧 Setup

↵ Enter

1 Press the **MENU** button. Press the ◄ or ► button to select "Setup", then press the **ENTER** button.
Press the ▲ or ▼ button to select "V-Chip", then press the **ENTER** button.

2 Press the ▼ button. Press the number buttons to enter your current 4-digit PIN. (The default PIN for a new TV set is "0000".)
The "V-Chip" menu is displayed.

V-Chip
- ⊙ Return
- V-Chip Lock .... On
- TV Parental Guidelines
- MPAA Rating
- Canadian English ►
- Canadian French ►
- Downloadable U.S.Rating
- Change PIN

🔧 Setup

↵ Enter

3 Press the ▲ or ▼ button to select "Canadian French", then press the **ENTER** button.

Canadian French
- ⊙ Return
- Allow All | Block All
- Block
- E 🔓
- G 🔓
- 8 ans+ 🔓
- 13 ans+ 🔓
- 16 ans+ 🔓
- 18 ans+ 🔓

🔧 Setup

↵ Enter

4 Press the ▲ or ▼ button to select a appropriate restriction.

Press the **ENTER** button to activate the restriction selected.
The " 🔒 " symbol is indicated.
To unlock items that are locked, press the **ENTER** button again.

Select "Return" by pressing the ▲ or ▼ button, then press the **ENTER** button to return to the previous menu.
Press the **EXIT** button to exit.

➣ Allow All : Press to unlock all TV ratings.

Block All : Press to lock all TV ratings.

E	Exempt programming includes...news, sports, documentaries and other information programming, talk shows, music videos, and variety programming.
G	General.
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.

Using the V-Chip for Digital channels

Parental restriction information can be used while watching DTV channels.

Setup

↻ Return	
Language	English
Clock	
Timer	
Game Mode	Off
V-Chip	
Caption	
Menu Transparency	Medium
Blue Screen	Off
▼ Color Weakness	

Setup
Enter

1   Press the **MENU** button. Press the ◀ or ▶ button to select "Setup", then press the **ENTER** button.
Press the ▲ or ▼ button to select "V-Chip", then press the **ENTER** button.

2   Press the ▼ button. Press the number buttons to enter your current 4-digit PIN. (The default PIN for a new TV set is "0000".)
The "V-Chip" menu is displayed.

V-Chip

◉ Return	
V-Chip Lock	On
TV Parental Guidelines	
MPAA Rating	
Canadian English	▶
Canadian French	▶
Downloadable U.S.Rating	▶
Change PIN	

Setup
Enter

3   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.

— Rating title

Downloadable U.S. Rating

↻ Return	
Humor Level	▶1 / 2
Allow All Block All	
DH	
MH	
H	
VH	
EH	

Setup
Enter

The number of current rating title

The number of all rating title

4   You can independently lock the TV ratings. The locked TV ratings are indicated by the symbol "🔒". To unlock a locked channel, press the **ENTER** button again.
Press the ▲/▼/◀/▶ buttons and the **ENTER** button to activate the appropriate restrictions for TV rating system.

Select "Return" by pressing the ▲ or ▼ button, then press the **ENTER** button to return to the previous menu. Press the **EXIT** button to exit.
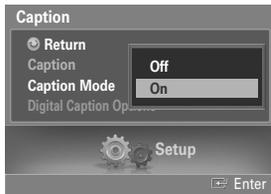
➣ Allow all: Press to unlock all TV ratings. / Block all: Press to lock all TV ratings.

➣ 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 : Violence 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 source mode.
(Depending on the broadcasting signal, the Analog Caption function may operate on digital channels.)

Setup
○ Return	
Language	**English**
Clock	
Timer	
Game Mode	Off
V-Chip	
Caption	
Menu Transparency	**Medium**
Blue Screen	**Off**
▼ Color Weakness	

Setup
↵ Enter

1 Press the **MENU** button. 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.

Caption
◉ Return	
Caption	**Off**
Caption Mode	**On**
Digital Caption Op......	

Setup
↵ Enter

3 Press the ▲ or ▼ button to select "Caption", then press the **ENTER** button.

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

Caption
◉ Return	
Caption	**Default**
Caption Mode	**CC1**
Digital Caption Opti	▼ **CC2**

Setup
↵ Enter

4 Press the ▲ or ▼ button to select "Caption Mode", then press the **ENTER** button.
Press the ▲ or ▼ button to select submenu (Default, CC1~CC4, or Text1~Text4) you want, then press the **ENTER** button.

Select "Return" by pressing the ▲ or ▼ button, then press the **ENTER** button to return to the previous menu.
Press the **EXIT** button to exit.

➤ The default is "Default".

   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 NonSynchronous 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 and Fourth Text Services. These data channels are used only if Text1 and Text2 data bandwidth is not sufficient.

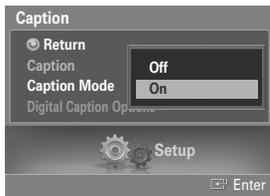➤ The Caption feature only works in TV, AV and S-Video mode.

➤ The availability of captions depends on the program being broadcast.

Viewing Closed Captions (On-Screen Text Messages) Digital

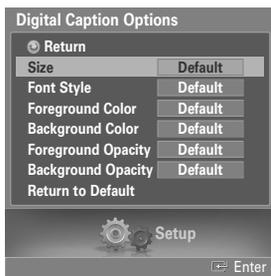The Digital Captions function operates on digital channels.

Setup
○ Return	
Language	**English**
Clock	
Timer	
Game Mode	Off
V-Chip	
Caption	
Menu Transparency	Medium
Blue Screen	Off
▼ Color Weakness	

Setup

⊡ Enter

1 Press the **MENU** button. 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.

Caption
◎ Return	
Caption	**Off**
Caption Mode	**On**
Digital Caption Options	

Setup

⊡ Enter

3 Press the ▲ or ▼ button to select "Caption", then press the **ENTER** button.

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

Caption
◎ Return	
Caption	▲ CC1
Caption Mode	CC2
Digital Caption Opti	▼ CC3

Setup
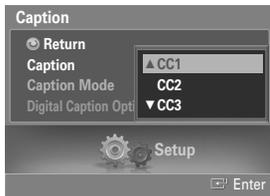
⊡ Enter

4 Press the ▲ or ▼ button to select "Caption Mode", then press the **ENTER** button.
Press the ▲ or ▼ button to select submenu (Default, Service1~Service6, CC1 ~ CC4, or Text1 ~ Text4) you want, then press the **ENTER** button.

Caption
◎ Return	
Caption	On
Caption Mode	Default
Digital Caption Options	▶

Setup

⊡ Enter

5 Press the ▲ or ▼ button to select "Digital Caption Options", then press the **ENTER** button.

English-75

Digital Caption Options

⏎ Return	
Size	Default
Font Style	Default
Foreground Color	Default
Background Color	Default
Foreground Opacity	Default
Background Opacity	Default
Return to Default	

⚙ Setup

⏎ Enter

6 Press the ▲ or ▼ button to select "Size", then press the **ENTER** button.
Press the ▲ or ▼ button to select the desired item in the Size menu,
then press the **ENTER** button.
Set other listed options below using the same method as above.
Select "Return" by pressing the ▲ or ▼ button, then press the **ENTER** button
to return to the previous menu. Press the **EXIT** button to exit.

➣ The availability of captions depends on the program being broadcast.

➣ "Default" means to return to the original caption options set by the broadcaster.

Size
This option consists of "Default", "Small", "Standard", and "Large". The default is "Default".

Font Style
This option consists of "Default", "Style0 ~ Style 7". You can change the font you want.
The default is "Default".

Foreground Color
This option consists of "Default", "White", "Black", "Red", "Green", "Blue", "Yellow", "Magenta", and "Cyan".
You can change the color of the letter. The default is "Default".

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. The default is "Default".

Foreground Opacity
This option consists of "Default", "Solid", "Flashing", "Translucent", and "Transparent".
You can change the opacity of the letter. The default is "Default".

Background Opacity
This option consists of "Default", "Solid", "Flashing", "Translucent", and "Transparent".
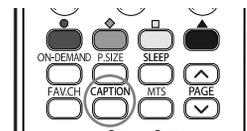You can change the background opacity of the caption. The default is "Default".

Return to Default
This option sets each of "Size", "Font Style", "Foreground Color", "Background Color", "Foreground
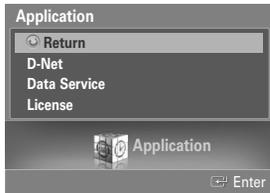Opacity", and "Background Opacity" Color to its default.

Caption : On

Alternate method

Press the **CAPTION** button on the remote control
repeatedly to select "On" or "Off".

License Information

Application
- ☉ **Return**
- **D-Net**
- **Data Service**
- **License**

🖥 Application

⏎ Enter

License

Java POWERED   SAMSUNG

◀ Exit

---

1 Press the **MENU** button.
Press the ◀ or ▶ button to select "Application", then press the **ENTER** button.

---

2 Press the ▲ or ▼ button to select "License", then press the **ENTER** button.

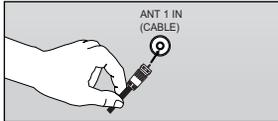- It displays the information about the Software Platform License of the TV.

---

3 Press the **EXIT** button to close the License application.

Connecting CableCARD

You must obtain a CableCARD from a local cable service provider.

ANT 1 IN
(CABLE)

1. Plug the incoming cable into the ANT 1 IN (CABLE) terminal on the back of the TV.
➢ The CableCARD recognizes input signals from ANT 1 IN (CABLE).

TV Rear Panel

CableCARD™

Cable CARD™

**Please insert the
card as shown.**
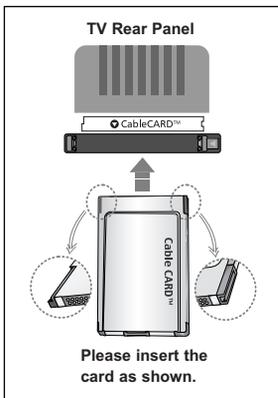
2. Insert the CableCARD into the "CableCARD" slot and the message "CableCARD™, Inserted" is displayed.

In order to start service for
this device, please contact
customer sevice at
PH# 888 705-7171

CableCARD(tm): 0-010-405-737-577
Host ID: 0-020-174-928

MAC ID Number

Serial Number

3. Within a few minutes after step 2, the message is displayed with a phone number to call for activating the CableCARD. This message contains the CableCARD ID and Host ID numbers of your TV, which records these numbers in preparation for activation.

ⓘ **Weak or no signals.**

Updating Channel List

4. After activation, the cable provider will send activation messages to the CableCARD. During this operation, the message "Updating Channel List" is displayed. When the "Updating Channel List" process is completed, the message "Updating Completed" is displayed and your TV will switch to an active channel.

5. Within a few minutes after step 4, the message "Receiving Data Service Signal" is displayed and disappears.

TIME WARNER
CABLE

Initializing, please wait...

14

6. The TWC ODN loading screen is displayed. (Loading screen number start from 14 to 1.)

Using the CableCARD

This menu works with a CableCARD provided by a local cable service provider.

Prior to accessing this menu, a CableCARD should be connected to the rear panel of the TV.

For detailed connection instructions, refer to the "Connecting a CableCARD" section on page 78 of this manual.

Displaying CableCARD related information

To access information on Status, Pairing, Network Setup of the CableCARD provided by the service provider in CableCARD menu.

Setup	
▲ Game Mode	Off
V-Chip	
Caption	
Menu Transparency	Medium
Blue Screen	Off
Color Weakness	
Function Help	Off
CableCARD™	▶
CableCARD Setup	
▼ SW Upgrade	2006-08-18

⚙ Setup

⏎ Enter

1 Press the **MENU** button. Press the ◀ or ▶ button to select "Setup", then press the **ENTER** button.

2 Press the ▲ or ▼ button to select "CableCARD™", then press the **ENTER** button.

Select "Return" by pressing the ▲ or ▼ button, then press the **ENTER** button to return to the previous menu.
Press the **EXIT** button to exit.

Using the CableCARD Setup Function

Sets up relevant CableCARD options.

CableCARD Reset

Resets CableCARD when the channels provided by CableCARD are not available.

Setup	
▲ Game Mode	Off
V-Chip	
Caption	
Menu Transparency	Medium
Blue Screen	Off
Color Weakness	
Function Help	Off
CableCARD™	
CableCARD Setup	▶
▼ SW Upgrade	2006-08-18

⚙ Setup

⏎ Enter

1 Press the **MENU** button. Press the ◀ or ▶ button to select "Setup", then press the **ENTER** button.

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

CableCARD Setup
⊙ Return
CableCARD™ Reset
Channel List Reorganization

⚙ Setup

⏎ Enter

3 Press the ▲ or ▼ button to select "CableCARD™ Reset", then press the **ENTER** button.

Channel List Reorganization

Deletes and reorganizes the channel list provided by CableCARD.

This feature should be used if you change or upgrade your CableCARD service.

Setup	
▲ Game Mode	Off
V-Chip	
Caption	
Menu Transparency	Medium
Blue Screen	Off
Color Weakness	
Function Help	Off
CableCARD™	
CableCARD Setup	►
▼ SW Upgrade	2006-08-18

Setup

⏎ Enter

1 Press the **MENU** button. Press the ◀ or ▶ button to select "Setup", then press the **ENTER** button.

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

CableCARD Setup
⟳ Return
CableCARD™ Reset
Channel List Reorganization

Setup

⏎ Enter

3 Press the ▲ or ▼ button to select "Channel List Reorganization", then press the **ENTER** button.
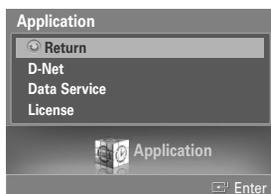
English-80

Application
- ○ **Return**
- **D-Net**
- **Data Service**
- **License**

Application

Enter

1   Press the **MENU** button.
Press the ◀ or ▶ button to select "Application", then press the **ENTER** button.

Application
- ○ **Return**
- **D-Net**
- **Data Service** ▶
- **License**

Application

Enter

2   Press the ▲ or ▼ button to select "Data Service", then press the **ENTER** button.

- Executable Data Applications display in the Application List program.
- The **DATA-SERVICE** button on your remote control performs the same function as shown above.
- When the data service is set to "Off" in the Setup menu, the item cannot be selected because it is disabled.

Receiving Data Service Signal

3   Press the ▲ or ▼ button to select a Data Application to run.

Preparing Data Service

What's D-Net?

D-Net refers to a home network consisting of devices supporting D-Net (IEEE1394) connection (such as digital VCRs and Set-Top Boxes).

D-Net (IEEE1394) interface is capable of supporting various high-end digital A/V applications, such as A/V device control and signal routing, Digital Video (DV) editing, home networking.

How to connect compatible IEEE1394 Devices

Connecting compatible IEEE1394 devices is simple using this TV.
A secure digital interface is provided to other digital home entertainment units, such as a DTV, a Set-Top Box, an AV-HDD, a digital VCR, a MPEG Camcorder.

TV Rear Panel

1 IEEE 1394 Cable

Digital VCR (D-VHS)
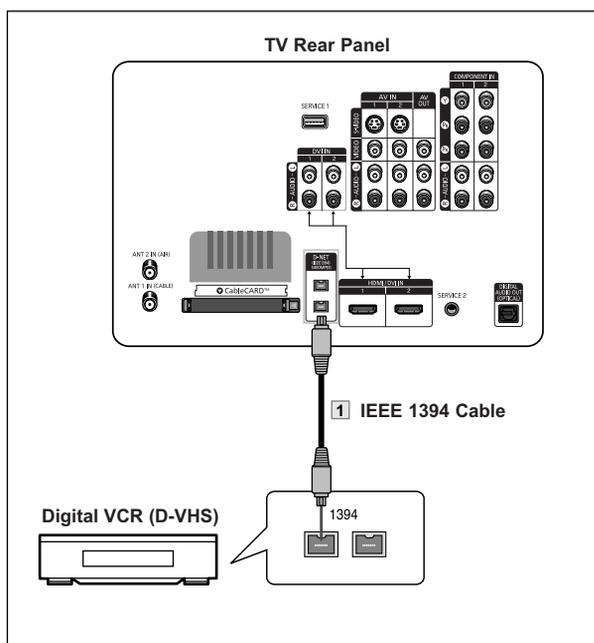
1394

1 | Connect the IEEE1394 Cable from the jack of the component with IEEE1394 capability, such as a Set-Top Box or a Digital VCR to the D-NET (IEEE1394) S400MPEG jack on the TV.

2 | Press the **D-Net** button on the Remote Control.

3 | Select the D-Net (IEEE1394) Compatible device.

➢ To access D-Net (IEEE1394) in the menu, see page 87.

➢ The IEEE1394 interface is equipped with a copy protection standard called Digital Transmission Content Protection (DTCP).

➢ The name of 1394 Jack on the external device may be different according to the manufacturer (i.e., DTV LINK or i.LINK).

➢ The supported video format is MPEG-2 Digital video. Other digital video formats (e.g. DV format...) are not supported. For audio, Dolby Digital and MPEG Digital Audio are supported, other digital audio formats (e.g. MP3, DTS) are not supported.

➢ Because IEEE1394 is an evolving technology, it is possible that some or all of the features of a device you connect to the TV through the IEEE1394 port may not operate.

➢ There may be a single IEEE1394 jack depending on the specifications of the external device.

When Connecting D-Net (IEEE1394) Compatible devices

The last device in the chain should not be looped back to the TV as the TV may not be able to work with the other devices.

To connect two or more D-Net (IEEE1394) Compatible devices, follow the diagram below.

A maximum 10 D-Net (IEEE1394)
Compatible devices can be connected.

IEEE1394
cable

IEEE1394
cable

IEEE1394
cable

IEEE1394
cable

IEEE1394
cable

IEEE1394
cable

IEEE1394
cable

IEEE1394
cable
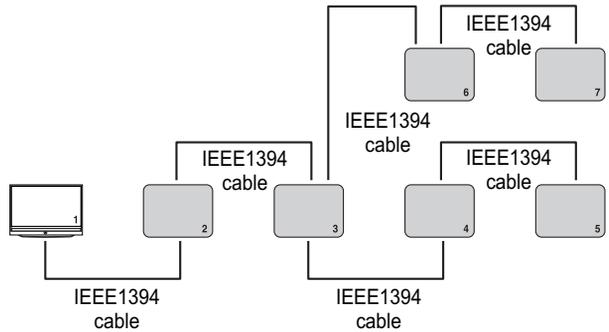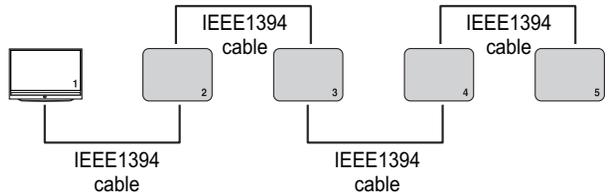
IEEE1394
cable

Do not connect D-Net (IEEE1394)
Compatible devices in a way
that creates a loop.

IEEE1394
cable

IEEE1394
cable

IEEE1394
cable
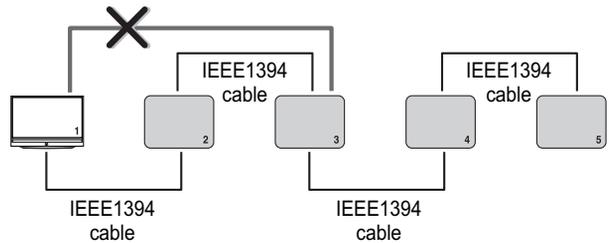
IEEE1394
cable

➤ IEEE1394 cables longer than 14.76 feet (177.16 inches) should not be used between devices.

Connection Options

There are two different connection options for connecting D -Net (IEEE1394) compatible devices.
Select the most suitable option according to your network of audio/video products.

The Direct Device-To-Device Option

D-Net (IEEE1394) permits the chaining of devices, unlike
analog audio and video connections where each device needs to
be individually connected to the TV. This allows you to connect
your D-VHS to your 1394 Set-Top Box only, then connect the
Set-Top Box to the TV. More IEEE1394 devices can be added to
the chain as needed. Each video device can be viewed on the
TV's D-Net and information can be sent from any IEEE1394
device to other compatible devices.

DTV STB

Digital VCR
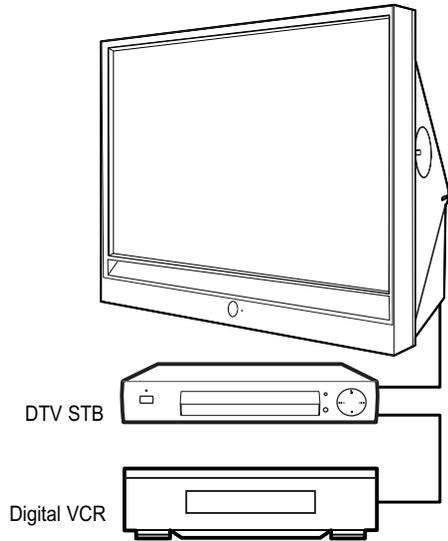
The Hub Connection Option

D-Net (IEEE1394) also permits connecting devices using the TV as a hub. Each device is capable of sending
information, which may include audio and video, to any other device on the network.

Other 1394 Device

1394 Monitor   Digital VCR   DTV STB   Digital VCR
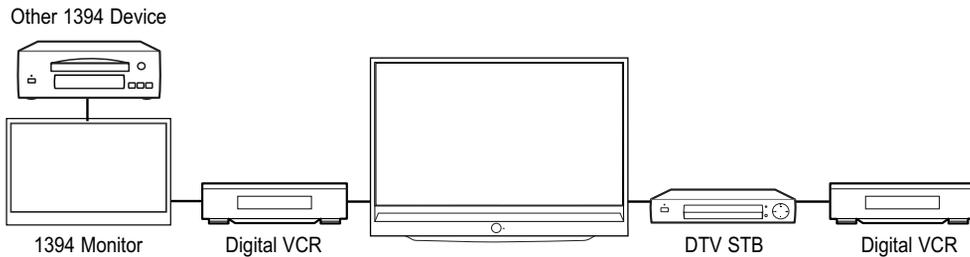
4-Pin and 6-Pin Connectors

Two different types of connectors are used for IEEE1394 terminals and cables, a 4-pin and a 6-pin.

The 4-pin connector sends digital audio, digital video and digital control signals to and from devices. The TV has two available 4-pin connection jacks, of which two are at the back.

The 6-pin connector also sends digital audio, video and control signals, but in addition, sends low voltage electrical power. There are no 6 pin connectors on this TV.
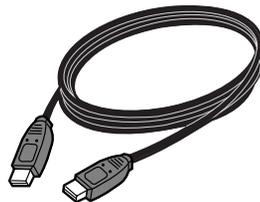
It is not possible to directly connect a 6-pin connector to a 4-pin jack, and vice versa. In order to connect a 6-pin device to a 4-pin device, an adaptor or adaptor cable is required, easily purchased from an electronics or computer store.
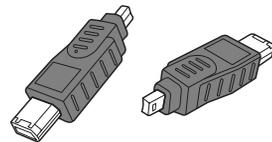
Connecting a 6-pin device (such as a camcorder) via an adapter to the TV, (if it is designed to receive electrical power from another 6-pin device) will require that the camcorder be directly connected to the AC supply, or that the camcorder's battery power be used.

Selecting a D-Net device

Prior to viewing an IEEE1394 device, it first needs to be selected in the D-Net Device List.

1 Connect the relevant D-Net (IEEE1394) Compatible device in the list.
(See "How to connect compatible IEEE1394 Devices" on page 82)
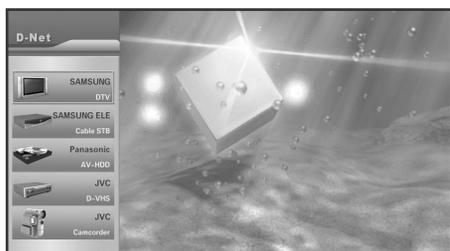
2 Press the **D-Net** button on the remote control.

- The TV and all other devices connected on the D-Net (IEEE1394) chain appear in the D-Net device list.
- If "UNKNOWN" is listed in the device list, the device is not supported by the TV, and cannot be controlled with the TV remote control or the D-Net control panel on the screen.

- The device list is in the order of DTV, STB, AV-HDD, D-VHS, Camcorder and UNKNOWN.
If there are multiple devices of the same type, the devices will be listed in ascending order of the manufacturer name with Samsung first as the exception. If there are multiple devices of the same type and they are manufactured by the same company, they will be listed in the order of their serial number.
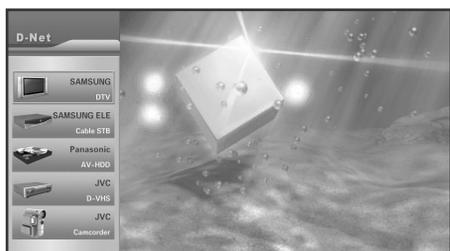
3 Select a connected D-Net device by pressing the ▲ or ▼ button.

- It is possible to connect a D-Net device to another device and to the TV while the TV is ON.
The D-Net device list automatically adds the newly-connected device to the list.
See "How to connect compatible IEEE1394 Devices", page 82 for connecting D-Net (IEEE1394) Compatible devices.

4 To select a device, press the **ENTER** or ▶ button.
Then display the D-Net device control panel and operate the selected device.

- At this time, the screen changes to the picture from the selected device.

The Direct Device-To-Device Option
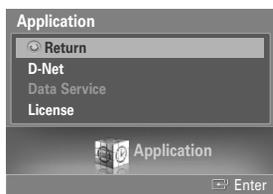
Application
↺ **Return**
D-Net
Data Service
License
▣ ⊙ **Application**
⏎ Enter

1   Press the **MENU** button.
    Press the ◀ or ▶ button to select "Application", then press the
    ENTER button.

2   Press the ▲ or ▼ button to select "D-Net", then press the
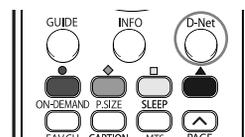   **ENTER** button.

    •   The TV and all other devices, connected on the D-Net (IEEE1394)
        chain, appear in the D-Net device list.
    •   This is also available using the **D-NET** button on the remote control.

3   Press the ▲ or ▼ button to select a D-Net (IEEE1394) connected device.

The D-Net control panel

Select an IEEE1394 device from the D-Net device list. The TV will then display the D-Net control panel.
This panel allows you to use the TV remote control to control the selected IEEE1394 device.

1   Press the **D-Net** button on the remote control.

2   Press the ▲ or ▼ button to select a D-Net (IEEE1394) connected device. Press the **ENTER** or ▶ button.

     •   The D-Net control panel appears on the bottom of the screen.

3   Use the ◀ or ▶ button on the remote control to move through the options (see next page) available in the D-Net control panel.

4   Press the **ENTER** to select an option.

5   To view the IEEE1394 device in FULL SCREEN, press the **EXIT** button or **D-Net** button on the remote control.

     ➢ Press the **D-Net** button once to display the D-Net menu. Press the **D-Net** button again to hide the menu.

➢ For information about how to use the icons, refer to the following page.

➢ **What is D-Net Mode?**
D-Net Mode refers to selecting a device from the D-Net device list except for DTV itself (it also refers to selecting another DTV connected with an IEEE 1394 cable.) In this mode, the DTV displays video from the connected device.
Although the D-Net OSD has disappeared, and video is playing from another device and not from the DTV, the DTV is in D-Net Mode.

Control Panel ( )
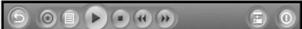
| Button	Name	To do this
	Return	Move to the D-Net device list.
	Target	Shows a list of recording devices.
	File List	Display the AV-HDD file list.
	Play	Play the digital stream from the selected digital device.
	Stop	Stop the digital stream from the selected digital device.
	Rewind	Fast rewind a digital stream from the selected digital device.
	Forward	Fast forward a digital stream from the selected digital device.
	Device menu	Display the EIA-775 OSD received from the EIA-775 standard support among 1394 devices connected. Display only in the control panel of the devices which support EIA-775 menu,
	Power	Turn the Power of the selected device ON/OFF.
	Go to recording position	When in time shift mode on AV-HDD, this moves to the recording position.
	Recording	Run the camcorder's Record function. Record video by capturing pictures displayed through the camcorder viewfinder and saving them to the built-in storage of the camcorder.
	Pause	Pause Play.
	Recording stop	Stop a recording. This only appears when it is in AV-HDD Time-Shift Mode.

➣ Press the ◀ or ▶ button on the remote control to select a control panel button and press the **ENTER** ⏎ button on the remote control.

➣ Depending on the device being controlled, not all options on the D-Net control panel may be available.

➣ Not all functions are supported for all IEEE1394 devices.

➣ It is possible to use direct buttons on the remote control (rewind, stop, play/pause, fast forward) to control external devices.

* **What is EIA-775?** : EIA-775 is an OSD standard that enables the control of external 1394 devices using functions such as Play, Stop, etc.

* **What is CEA-931?** : This is a standard for controlling external IEEE1394 devices with the TV remote control and not the remote control of the external device.

 For example, to play D-VHS, you press the Play button of the TV instead of the Play button of the D-VHS, the Play command is transmitted to the DVHA through the IEEE1394 connection.

* **What is Time-Shift Mode?** : This refers to a function that plays the file currently being recorded on the selected AV-HDD. At this time, the recording time appears at the top right of the screen and the playing time is displayed at the bottom left of the screen. For example: If you are currently 45 minutes into a one hour recording, you can backtrack and view the first 45 minutes without affecting the recording. In the Time-Shift Control Panel, the Move to Recording Position and Recording stop buttons are added to the basic AV-HDD Control Panel.

Control Panel Images for Each Device

The Control Panel is different depending on the device.
For example, for an AV-HDD, the Control Panel buttons for Play and Recording are different.

DTV Control Panel Image
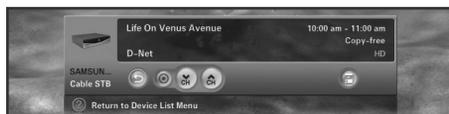
Cable STB Control Panel Image

AV-HDD Control Panel Image
When the Power is off.

AV-HDD Control Panel Image
When the Power changes.

AV-HDD Control Panel Image
When Playing.

AV-HDD Control Panel Image
When Recording.

Camcorder Control Panel Image
When in CAMERA Mode.

Camcorder Control Panel Image
When recording in CAMERA Mode.

Camcorder Control Panel Image
When in VCR Mode.

Camcorder Control Panel Image
When playing in VCR Mode.

Operating Tips

1) When the screen is switched to the TV program.
   - When you select the first button, the DTV button, in the Device List, it switches to the TV program.
   - Although you have selected another device from the Device List, if detecting a video signal from the device fails, the "Connection failed" message appears and the screen automatically switches to the TV program.
   - When the 1394 connection to the selected device is disconnected, the screen automatically switches to the TV program. If you reconnect the device, the reconnected device is automatically selected.

2) When connected to a AV-HDD
   - When a AV-HDD disc is rotating, there may be a time delay.
   - Some AV-HDDs may provide two playbacks or recordings simultaneously. In this case, there may be two Play icons in the File List and 2 AV-HDD buttons in the Target List.
   - If you copy a file from the File List, the selected AV-HDD file is played on the TV screen and recorded using the device selected from the Target List.
     If the file reaches its end, the recording device will stop automatically.
   - Some AV-HDDs may display the wrong file information after recording, depending on the situation.
   - If AV-HDD is recording, the file is automatically played which is currently being recorded, when it is selected from the Device List. (PVR function - Refer to What is Time-Shift Mode? on page 89)
   - For the "Go to recording position" button operation, the recording and playing time are displayed and the difference between them must be longer than 30 seconds.

3) When connected to D-VHS
   - Some devices support an automatic connect function (I-mode). These devices may cause a malfunction when multiple devices are connected.
   - Some D-VHS devices may not record properly when multiple devices are connected and the mode is I-mode.
   - When selecting a D-VHS being used for a recording from the device list, you can only switch to D-VHS screen mode after the recording is stopped.

4) When connected to a camcorder
   - Depending on if the camcorder is in Tape or Camera Mode, the control panel changes.
     If the camcorder turns off the power (power saving mode), the camcorder may disappear from the Device List.

5) AV-HDD, D-VHS and camcorders automatically stop when you select another device.

6) Some devices may be displayed in the Device List as 'UNKNOWN'.
   This may happen when the device does not contain the proper information or it cannot be read.

7) Some devices may not be recognized and may be disconnected from the 1394 connection when they are turned off.

8) Through D-Net, you can connect another IEEE1394 compatible TV. If the TV is connected, the TV is listed in the D-Net Devices. At this point, the screen that appears when the TV is selected is determined by the specifications of the connected TV. That is, the screen of the connected TV or another connected IEEE1394 device may be displayed.

* **What is Digital TS ?** : DTV packages digital data (video, audio and data) into 188 byte units using the MPEG-2 algorithm and transmits the data unit. It is called Digital Transport Stream or Digital TS.

When a SAMSUNG DTV which supports D-Net is connected to each other, it only transmits Radio Frequency (RF) of the selected DTV.

9) When connecting more than one STB, some STBs may not be displayed in the Device List due to STB specifications or defects when multiple devices are connected.
   Even if the device is displayed in the Device List, the connection may fail.
   STB problems may also stop the video stream while recording, or the recording may fail.
   In this case, you have to discover which device is defective by removing them one by one.

10) When multiple devices are connected, some devices may appear and then disappear periodically in the Device List. Because some devices malfunction when multiple devices are connected.

If this occurs, you have to discover and remove the defective device from the connection by removing the devices one by one.

11) When multiple devices are connected, the response time may be relatively long when selecting a device. This may happen when there is a device that malfunctions and degrades the 1394 connection speed. At this time, some of the functions of AV-HDD or D-VHS may not work, and the stream connection may fail. If this occurs, you have to discover and remove the defective device from the connection by removing the devices one by one.

12) When AV-HDD or D-VHS is being played, and you press the Pause button, some products may show the " Weak or no signals" message on the TV screen instead of a still picture as there is no video stream from the product.

13) If the number of connected IEEE 1394 devices exceeds 10, it may cause abnormal operation.
    - Yes and Play may not operate smoothly, if you play after recording.
    - Yes and the Play, Record and Copy functions do not work properly.
    - Disconnect the malfunctioning device and then try again.

14) Copy Protection
    - You can record a Copy-free, or Copy-one-generation screen.
    - Although you cannot record a No-more-copies, or Copy-never screen, you can view it through another device.
    - If you change the channel to a 'Copy-never' channel while recording a 'Copy-free' channel, the recording is automatically stopped in some devices. Even if the program was recorded, you will not be able to view the recorded 'Copy-never' channel. At this time, therefore, the user has to manually stop the recording.

Copy information

Message	Descriptions
Copy-free	Able to copy.
No-more-copies	Unable to copy anymore.
Copy-one-generation	Able to copy once.
Copy-never	Unable to copy.

15) When multiple devices are connected, and a device malfunctions while playing D-VHS or AV-HDD, the user may experience interrupted screen play.

16) When playing and recording a file simultaneously using AV-HDD and the file is copy protected, the file may not play depending on whether the AV-HDD device supports simultaneous copy protection.

1 Recording using the Target List while also watching the screen being recorded.
- Check that the AV-HDD and D-VHS devices are connected.
- Select a source device to be recorded and press the Target button in the menu.
 (Target button : The Target button is used for making a recording. When pressing this button, a menu
 appears where you can select a device that will be used to make a recording of the current screen of the current
 device. At this point, the menu shows only D-VHS and AV-HDD which are recordable among D-Net devices.)
- Select a device to be recorded from the Target List.

2 Recording a file in the File List of AV-HDD using another device.
 - Select an AV-HDD file to be recorded from the File List and press Target.
 - A source device appears on the left, and the recording device list appears on the right.

 ➣ In this case, the selected file is automatically played and displayed on the TV screen and the target device
    automatically starts recording.

 ➣ Controlling a device with another device's remote control or through manual operation, may cause a malfunction
    when controlling a device through the TV. When copying a file, the recording will stop automatically when the
    file reaches its end.

 ➣ Although you can make a recording to connected devices regardless of copy protection, you may not be able to
    watch the copy-protected recording as the playback picture may be distorted.

 ➣ When recording an HD program on cable TV or from satellite, programs on some channels may not be recorded if the
    program exceeds the limit of the allowable range of recording devices such as D-VHS.

 ➣ If a recording is in process and another command is issued while the "Recording..." D-Net Notice is displayed
    on the screen, the recording may fail.

3 Press the ▲ or ▼ button to move to a recording device and press the **ENTER** or ▶ button to start recording.
- When selecting a stopped device, a recording is started. When selecting a recording or playing device,
 you will be prompted to stop that device.

4 Press the ◀ button or move to "Previous Menu" at the top and press the **ENTER** or ▶ button to hide the
recording device list and to return to the Control Panel.

Tips on stopping recording

1   In general, you can instantly evaluate the current recording device through the Target List.
If you select a device that you wish to stop, a message appears asking if you really want to stop recording.

2   For D-VHS. If you select a recording D-VHS from the Device List, a message appears asking if you really want to stop recording. When the "OK" button is selected, the recording is stopped and the D-VHS screen appears.
When the "Cancel" button is selected, the recording continues and the D-Net device list appears.

3   For AV-HDD, if the file currently being recorded is selected, you can stop the recording using the Recording stop button. After the recording is stopped, the Control panel for Normal Mode appears.

File List

1 Press the **D-Net** button on the remote control.
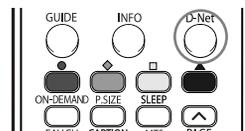
2 From the device list, move to AV-HDD by pressing the ▲ or ▼ button and then press the **ENTER** or ▶ button.

3 Press the ◀ or ▶ button to move to the File List button and then press the **ENTER** or ▶ button.
The Control Panel disappears and the file list appears which allows you to identify a current recording or playing device. However, when playing a file that is currently being recorded in Time-Shift Mode, only the Record icon appears.
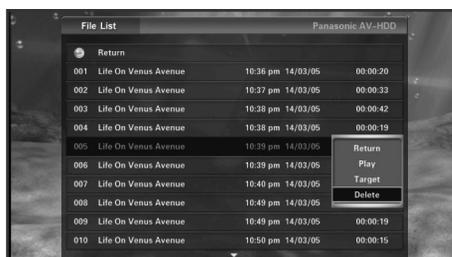
4 Press the ▲ or ▼ button to move to a file and then press the **ENTER** or ▶ button.
The sub-menu appears allowing you to play, copy or delete as shown in the figure.
Press the ▲ or ▼ button to move to a menu and then press the **ENTER** or ▶ button.
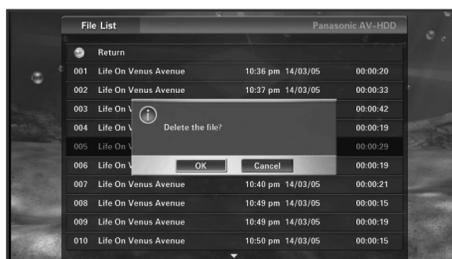
5 When selecting Play, and the file is played, the file list disappears and the Control Panel appears.
When selecting Copy, the file list disappears and the recording device list appears allowing you to record.
When selecting Delete, a deletion confirmation message appears. When selecting OK, the selected file is deleted. However, you cannot delete a file currently being played or recorded.

6 To move to the list on the next page, move the cursor to the file at the bottom and press the ▼ button; to move to the previous page, move the cursor to the Previous Menu and press the ▲ button. When pressing the ▲ button while the first file on the first page is selected, the cursor moves to the last file on the last page. When pressing the ▼ button while the last file on the last page is selected, the cursor moves to the first file on the first page.
To move to the previous page, press the **CH** ▲ button. To move to the next page, press the **CH** ▼ button.

7 To return to the file list from the sub-menu, press the ◀ button or press the **ENTER** or ▶ button in "Previous Menu".
To return to the Control Panel from the file list, press the ◀ button or press the **ENTER** or ▶ button in "Previous Menu".

8 However, if no sub-menu appears when selecting a file that is currently being played from the list, delete the file list and move to the Control Panel. (At this time, a file that is currently being played cannot be deleted. To record, use the recording device list button of the Control Panel.) When selecting a file that is currently being recorded from the list, only the Play sub-menu is activated. (You cannot copy or delete a file being recorded.)

Troubleshooting (D-Net)

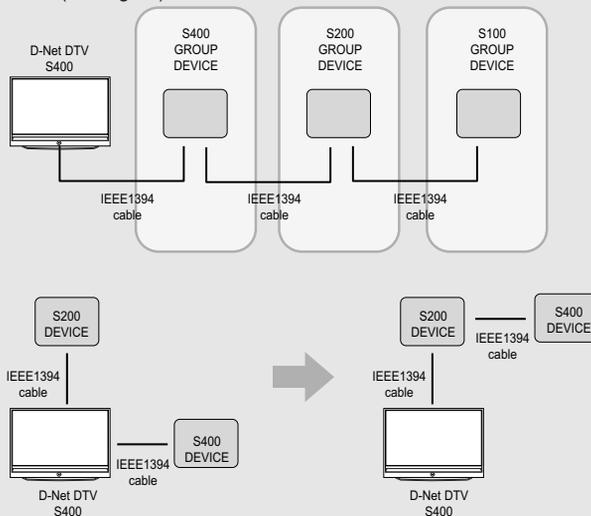| Problem	Possible Solution
The device is displayed as being "UNKNOWN".	Only DTVs, STBs, AV-HDDs, D-VHSs and MPEG camcorder IEEE 1394 devices are controllable. Other devices will display "UNKNOWN" in the device list. Some supported devices may display as "UNKNOWN" due to an initialization error. ➔ If a device is supported but is displayed as "UNKNOWN", reconnect the 1394 cable. If this does not work, because the information about the device is unreadable due to an internal error.
A connected device is not displayed in the device list.	A device, which has experienced an error during initialization, may malfunction and affect the operation of other connected devices. Other devices may not be displayed in the list. ➔ Disconnect and reconnect the1394 cable. ➔ Remove a device which does not guarantee compatibility when multiple devices are connected. ➔ The repeater and hub are not displayed in the device list.
"Check the connection with IEEE 1394 cable." message appears.	This message appears when there is a problem with the connected device or the 1394 cable. Initialization might fail when multiple devices are connected due to limitations of some connected devices. ➔ Check that the 1394 cable is making a loop and reconnect the 1394 cable. Check that cables are correctly connected to all connected devices. This message may appear due to an operating error of the 1394 port of a particular device.
"Connection is failed. Exceeds the limit of 1394 network connection." message appears.	IEEE 1394 supports a limited number of screen connections. This message appears when the limit has been exceeded. ➔ Stop unnecessary operations such as playing, recording, etc. and try it again. Turn the auto screen connection function (I-mode) of D-VHS devices OFF, and retry. If a camcorder is connected and it is not currently being used, turn it off or disconnect it from the 1394 network.

Problem	Possible Solution
"Connection is failed. 1394 network speed is not compatible." message appears.	This message appears when the connection speed of the connected device and the device selected from the Target List are different when copying data. → Connect a low speed device between the two devices. (See figure) D-Net DTV S400 · S400 GROUP DEVICE · S200 GROUP DEVICE · S100 GROUP DEVICE · IEEE1394 cable · IEEE1394 cable · IEEE1394 cable S200 DEVICE · IEEE1394 cable · D-Net DTV S400 · IEEE1394 cable · S400 DEVICE → S200 DEVICE · IEEE1394 cable · S400 DEVICE · IEEE1394 cable · D-Net DTV S400 * A 1394 device has a maximum connection speed which will be marked near the IEEE 1394 connector with an "S" number (i.e., S100,S200,S400). The higher the number, the faster the maximum connection speed. This TV has a maximum connection speed of S400.
"This device is occupied by another device." message appears.	This message appears when you try to record a device, which is currently being recorded manually or by another device, through the TV. → Stop the recording device and retry.
"Authentication is failed" message appears.	Check that the connected device supports DTCP.
"Recording is prohibited." message appears.	This message appears when trying to copy protected content. This message appears when trying to copy No-more-copies or Copy-never content.
Although DV Camcorder is in the device list, no picture is displayed on the screen when the DV camcorder is selected.	Although a camcorder which supports the DV format appears in the device list, you cannot watch video from the camcorder even if you select the camcorder as an input source, because the TV supports the MPEG format only.

Problem	Possible Solution
No picture on the screen after selecting a device	Check if the current mode for DTV and STB is set to analog by mistake. For AV-HDD, check if the played content has reached the end. (Select the item from the content list again.) For D-VHS, check if a D-VHS tape is being used. If the camcorder supports the DV format, no picture will be displayed on the screen.
"Initializing D-Net" message appears.	This message appears when the D-Net function is being initialized. Retry after a short wait to use the D-Net function.
"Exceeds the limit of device numbers." message appears.	This message appears when the number of currently connected D-Net devices exceeds 10. Retry after disconnecting unnecessary devices.
"Recordable device is not connected" message appears.	This message appears when the recordable device is not on the network when you try to make a recording using a D-Net device. Retry after connecting a recordable device (D-VHS, AV-HDD).
"Not available while recording" message appears	The message appears informing you that you cannot change the channels or change the input source using the remote control because a recording is in progress through D-Net. Retry after stopping the current recording through D-Net.
"The connected device is unavailable to perform this function for temporary problems." message appears.	This message appears when the selected function is not supported by the relevant device or the relevant device cannot execute the selected function. Most STBs, DTVs and camcorders do not support the power on/off command. This message may appear when you issue the power command for these devices. This message also appears when the command is supported but the relevant device cannot follow the command. Retry after checking the current mode of the relevant device.
D-Net cannot record video from analog channels from connected external equipment.	This message appears when the user presses the RECORD button in analog mode. D-Net only supports recording for digital.
"Not available format is selected." message appears.	This message appears when the selected device does not support the MPEG format. At present, D-Net supports MPEG TS only.
"D-Net cannot record the picture of analog channels or peripheral equipments for the input source, except TV." message appears.	This message appears when trying to record analog video or video from a device connected to the External IN port. D-Net transmits Digital TS only.
"The Disc is Empty." message appears.	This message appears when trying to record the contents of AV-HDD using another device when there is no content saved on the AV-HDD. Before make a recording from an AV-HDD to another device, first check if there is any saved content on the AV-HDD.

Problem	Possible Solution
This device is unavailable for D-Net.	This message appears if you have connected a 1394 device or equipment other than a supported device (D-VHS, DTV, STB, AV-HDD, Camcorder), or if the connected device does not support the AVC defined in the 1394 specifications, even if the device is a supported device, when you have selected the device to use it.
Connection failed. Check if the 1394 cable is connected.	This message appears if there is a connection problem when trying to use a D-Net device.
Initializing…	This message appears if the AV-HDD is booting when trying to use the AV-HDD.
Please wait. A recordable device is on standby.	This message appears if the recording device is turned off when trying to record using the D-Net device. Please wait a moment until it is turned on.
Connection failed. The device is not responding.	This message appears if there is a connection problem when trying to use a D-Net device. This message appears when the response of the component device malfunctions or is incorrect.
No space left on disc.	This message appears if the AV-HDD has no space to record.
The D-NET ERROR message appears on the screen.	Although you have connected external devices according to the procedures described in the manual to use the D-Net function, the D-NET ERROR message may appear on the screen. In this case, check to see if the jacks are damaged.

Appendix

Replacing the Lamp

- **Why do I need to replace the lamp?**
  The lamp used in a DLP TV has a limited lifespan. For the best screen quality it needs to be replaced periodically. After replacing the lamp, the screen quality will be bright and clear as new.

- **When do I need to replace it?**
  It should be replaced when the screen becomes darker, less clear or when all three LEDs on the front (Stand by/temp, Timer, and Lamp) are flashing.

- **Check before lamp replacement**
  1. The lamp must be the same code number and type.
  2. The lamp type is indicated on the back of the TV. It is also indicated on the lamp case.
  3. After checking the code number for the lamp, give the code number to the store where you purchased the TV or to a Samsung Service center.

- **Caution**
  1. Replace with the correct code numbered lamp to avoid damage to the TV.
  2. Turn the power off and wait for 30 minutes before replacing the lamp as it will be hot.
  3. Do not touch the glass part of the lamp with your bare hands and do not insert any foreign object inside the cover as it may cause poor screen quality, electric shock or fire.
  4. Do not place the old lamp near flammable objects or within the reach of children.
  5. Be sure to connect this TV directly to an AC wall outlet. If the TV's AC plug is connected to a cable box or other source, it will not allow for proper cool down time.
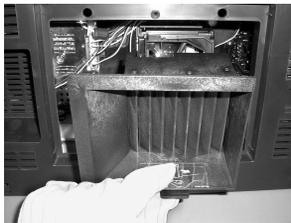
- **For replacement, you will need a 5.91-Inch screwdriver and a pair of gloves.**
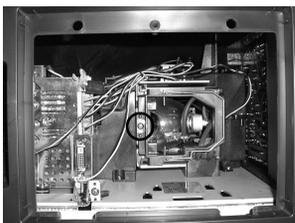
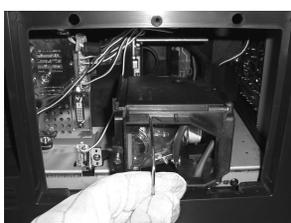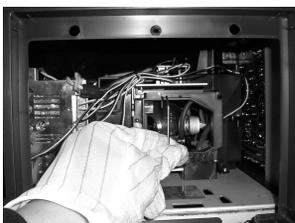1 Unplug TV, then use a screwdriver to remove the screws.

2 Remove the Lamp cover.

3 Remove the Lamp cover duct holding the tab and pulling it out.

4 Remove the screw securing the Lamp by using a screwdriver.

5 Separate the Lamp from the engine by holding the handle and pulling it out.

➢ Be sure the replacement Lamp is the same type.

➢ After replacing the lamp, align the lamp cover with the groove and secure the screws.

➢ The TV will not turn on if the lamp cover is not correctly closed (as this will activate the protective circuit).

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.
	Check that the Mute feature is off.
No color, wrong color or tint.	Make sure the program is broadcast in color.
	Adjust the picture settings.
Picture rolls vertically.	Adjust the antenna.
	Check all connections.
	If you are using a VCR, check the tracking.
The TV operates erratically.	Unplug the TV for 30 seconds, then try operating it again.
Your remote control does not operate your TV.	Press the TV button to put your remote control into TV mode.
	Make sure the remote has batteries.
The TV won't switch on.	Make sure the wall outlet is working.
	Make sure the TV is plugged in.
	Make sure the remote has batteries.
Digital broadcasting screen problem.	Please check the digital signal strength and input antenna.
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. The visual quality is of an SD grade.
Although the TV caption shows HD, the visual quality is not satisfactory.	The HD caption that appears when switching channels or when pressing the Information button on the remote control means the selected channel is simply a digital channel. If the broadcasting station converts an analog signal into digital and transmits the signal, the visual quality may not be perfect.

➢ The display panel used for the DLP TV is composed of many tiny pixels.
These pixels may occasionally appear on the screen.

Cleaning and Maintaining Your TV

Please follow these guidelines to get the maximum performance from your TV.

Placement

• Do not put the TV near extremely hot, cold, humid or dusty places.
• Do not place the TV near appliances with electric motors that create magnetic fields, such as vacuum cleaners.
• Keep the ventilation openings clear; do not place the TV on a soft surface, such as cloth or paper.
• Place the TV in a vertical position only.

Liquids

• Do not handle liquids near or on the TV. Liquids that spill into it can cause serious damage.

Cabinet

• Never open the cabinet or touch the parts inside.
• Wipe your TV with a clean and dry cloth. Never use water, cleaning fluids, wax, or chemicals.
• Do not put heavy objects on top of the cabinet.
• This DLP TV projects the image onto a large screen by applying an optical system.
  If you place the TV set face down, it might cause a problem because dirt, or some other contaminant may become attached to the inside of the TV set.

Temperature

• If your TV is suddenly moved from a cold to a warm place, unplug the power cord, and allow at least two hours for moisture that may have formed inside the unit to dry completely.

Using Your TV in Another Country

If you plan to take your TV with you to a foreign country, please be aware of the different television systems that are in use around the world. A TV designed for one system may not work properly with another system due to differences in the TV channel frequencies.

Specifications

Model Name	HL-S5686C	
Dimensions (WxDxH)	50.87 x 16.34 x 35.67 inches 1292 x 415 x 906 mm	
Weight	33.3 Kg / 73.41 lbs	
TV System	TBDAmerican TV Standard ATSC compliant 8VSB	
Channel	Terrestrial (analog) Terrestrial (digital) Cable (analog)	2-69 p2-69 1-135
Component Video IN	2 (Y Pb Pr)	480i, 480p, 720p, 1080i, 1080p
HDMI IN	2 total	Video : 480i,480p,720p,1080i,1080p (EIA/CEA-861-B compliant) Audio : Two channel linear PCM 32, 44.1 and 48kHz
Speaker Output	10W(L), 10W(R)	
Voltage	AC110-120V	
Frequency of Operation	60Hz	
Power Consumption	230W In Use, Less than 1W In Standby	

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