SAMSUNG

CT29M16MQU
CT25M20MQU
CT29M20MQU
CT21T20MQU

COLOR TELEVISION

Owner's Instructions

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

Free Datasheet http://www.datasheet4u.com/

Important Warranty Information Regarding Television Format Viewing

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

Wide screen format televisions (16:9, the aspect ratio of the screen width to height) are primarily designed to view wide screen format full-motion video. The images displayed on them should primarily be in the wide screen 16:9 ratio format, or expanded to fill the screen if your model offers this feature, and constantly moving. Displaying stationary graphics and images on screen, such as the dark side-bars on non-expanded standard format television video and programming, should be limited to no more than 15% of the total television viewing per week.

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

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

CONTENTS

Chapter 1: Your New TV 5

List of Features 5
Familiarizing Yourself with The TV 6
Front Panel Buttons 6
Side Panel Jacks 6
Rear Panel Jacks 7
Remote Control. 8

Chapter 2: Installation 9

Connecting VHF and UHF Antennas 9
Antennas with 300-ohm Flat Twin Leads 9
Antennas with 75-ohm Round Leads 10
Separate VHF and UHF Antennas 10
Connecting Cable TV 10
Cable without a Cable Box 10
Connecting to a Cable Box that Descrambles All Channels . . 11
Connecting to a Cable Box that Descrambles Some Channels 11
Connecting a VCR. 12
Connecting an S-VHS VCR 14
Connecting a Second VCR to Record from the TV. 15
Connecting a DVD Player 15
Connecting a Camcorder. 16
Installing Batteries in the Remote Control 17

Chapter 3: Operation 18

Turning the TV On and Off 18
Plug & Play Feature 18
Viewing the Menus and On-Screen Displays 20
Viewing the Menus 20
Viewing the Display 20
Selecting a Menu Language 21
Memorizing the Channels 22
Selecting the Video Signal-source 22
Storing Channels in Memory (Automatic Method) 23
Adding and Erasing Channels (Manual Method). 24
Changing Channels. 25
Using the Channel Buttons 25
Directly Accessing Channels 25
Using the PRE-CH Button to select the Previous Channel . . . 25
Labeling the Channels. 26
Adjusting the Volume 27
Using the Mute Button 27
Setting the Clock. 28
Customizing the Picture 29
Using Automatic Picture Settings 30
Customizing the Sound. 31
Using Automatic Sound Settings 32
Setting the Blue Screen Mode 33
Setting The On/Off Melody 34
Viewing an External Signal Source 35
Setting the Signal Source. 37
Assigning Names to External input mode 36

Chapter 4: Special Features 37

Changing the Color Tone 37
Changing the Screen Size 38
Digital Noise Reduction 39
DNIe Jr™ (Digital Natural Image engine) 40
Tilt 41
Using the R.Surf Feature 42
Choosing a Multi-Channel Sound (MTS) Soundtrack 43
Extra sound settings (Auto Volume, Turbo Sound or Pseudo Stereo) . . 44
Setting the On/Off Timer 45
Setting the Sleep Timer 46
Setting the Preferred Volume Level 47
Viewing Closed Captions 48
Viewing the Demonstration 49

Chapter 5: Troubleshooting 50

Identifying Problems 50

Appendix 51

Cleaning and Maintaining Your TV 51
Using Your TV in Another Country 51
Specifications 51

Chapter One

YOUR NEW TV

List of Features

Your TV was designed with the latest technology. This TV is a high-performance unit that includes the following special features:

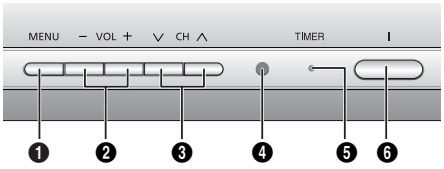
- Full Flat Screen
- Easy-to-use remote control
- Easy-to-use on-screen menu system
- Automatic timer to turn the TV on and off
- Adjustable picture and sound settings that can be stored in the TV's memory
- Automatic channel tuning for up to 181 channels
- A special filter to reduce or eliminate reception problems
- A built-in multi-channel sound decoder for stereo and bilingual listening
- Built-in, dual channel speakers
- A special sleep timer

Familiarizing Yourself with The TV

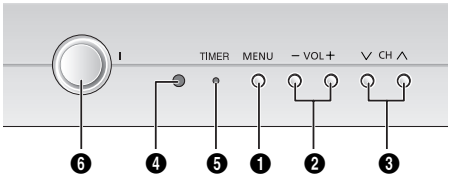
Front Panel Buttons

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

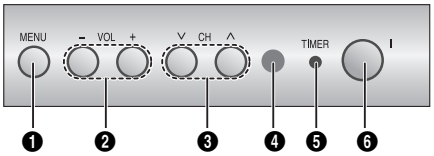
CT29M16MQU



CT25M20MQU/CT29M20MQU



CT21T20MQU



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

❷ VOL – and +
Press to increase or decrease the volume. Also used to select items on the on-screen menu.

❸ CH ∨ and CH ∧
Press to change channels. Also press to select various items on the on-screen menu.
You can use the **CH**∨ or **CH**∧ button, switch on the TV when it is standby mode.

❹ Remote Control Sensor
Aim the remote control towards this spot on the TV.

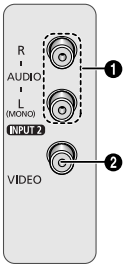
❺ TIMER indicator
When the TV is turned on, the TIMER indicator blinks five times. This indicator illuminates when the TIMER mode is set to the "On" position after setting the clock and either the On timer or Off timer, with the remote control. Even if the power is turned off, this indicator stays lit. (Clock must be set before using this function.)

❻ I (Power)
Press to turn the TV on and off.

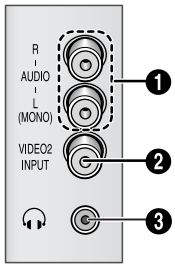
Side Panel Jacks

You can use the side panel jacks to connect an A/V component that is used only occasionally, such as a camcorder or video game. (For information on connecting equipment, see page 16.)

CT29M16MQU/
CT25M20MQU/
CT29M20MQU



CT21T20MQU



❶ AUDIO INPUT jacks
Used to connect the audio signals from a camcorder or video game.

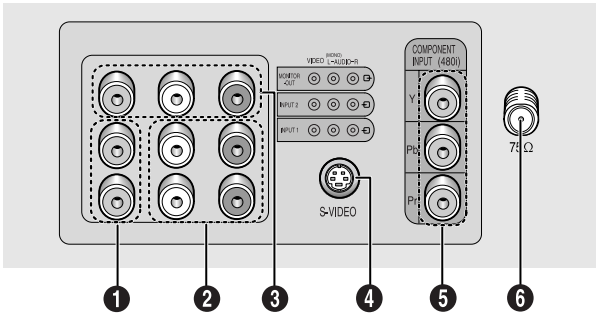
❷ VIDEO INPUT jack
Used to connect a video signal from a camcorder or video game.

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

Rear Panel Jacks

Use the rear panel jacks to connect an A/V component that will be connected continuously, such as a VCR or a DVD player.
Because there are two sets of input jacks, you can connect two different A/V components (i.e., a VCR and a DVD, 2 VCRs, etc.)

For more information on connecting equipment, see pages 9 – 15.



❶ VIDEO INPUT jack
Video signals from VCRs, DVD players and similar devices.

❷ AUDIO INPUTS (INPUT1 and 2)/DVD AUDIO INPUTS (INPUT 2)
Audio signals from VCRs, DVD players and similar devices.
Use these jacks to connect the audio signals from a DVD player when using the DVD video input jacks. When not using the DVD jacks, these audio jacks function as audio for Video 2 or S-VIDEO.

❸ AUDIO-VIDEO MONITOR OUTPUT jacks
These audio-video signals are identical to A/V signals being displayed on the big screen. (Typically used as the input signals for a recording VCR.)

❹ SUPER VIDEO INPUT jack (CT29M16MQU/CT25M20MQU/ CT29M20MQU)
S-Video signal from an S-VHS VCR or DVD player.
Note: In S-Video mode, Audio Output depends what kind of audio input source is connected to the side audio input jacks (AV2).

❺ COMPONENT VIDEO INPUT jacks
Connect video from a DVD player.
Note: Only black and white signals are output from a monitor in DVD mode.

❻ VHF/UHF
Connect to an antenna or to a cable TV system.

Remote Control

You can use the remote control up to about 23 feet from the TV. When using the remote, always point it directly at the TV.

❶ POWER
Turns the TV on and off.

❷ Number buttons
Press to select channels directly on the TV.

❸ +100
Press to select channels over 100. For example, to select channel 121, press "+100," then press "2" and "1."

❹ MUTE
Press to temporarily cut off the sound.

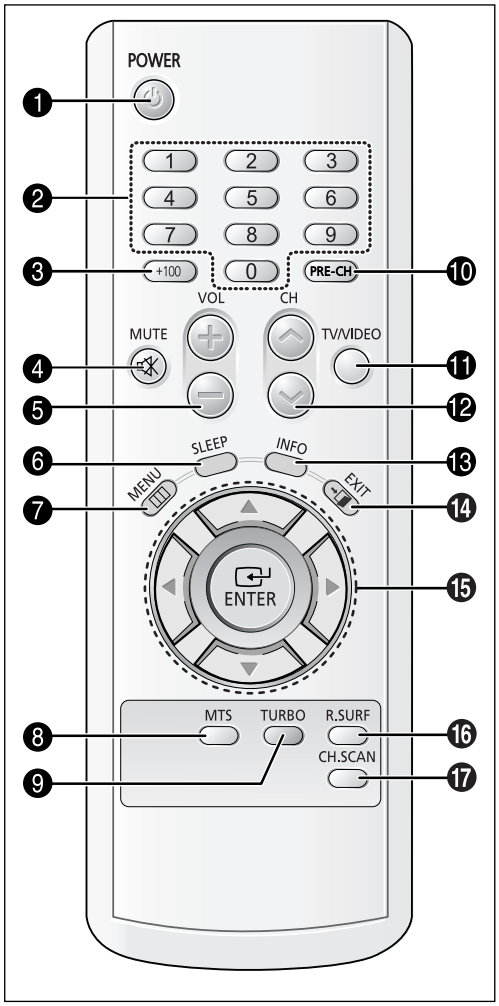
❺ VOL -, VOL +
Press to increase or decrease the volume.

❻ SLEEP
Press to select a preset time interval for automatic shutoff.

❼ MENU
Displays the main on-screen menu.

❽ MTS (Multichannel Television Stereo)
Press to choose stereo, mono or Separate Audio Program (SAP broadcast).

❾ TURBO
Press to turn the TURBO sound On or Off.



❿ PRE-CH
Tunes to the previous channel.

⓫ TV/VIDEO
Press to display all of the available video sources (i.e., Antenna/Cable, VCR).

⓬ CH ∧ and CH ∨ (Channel Up/Down)
Press CH ∧ or CH ∨ to change channels.

⓭ INFO
Press to see the time, channel, etc., on-screen.

⓮ EXIT
Press to exit the menu.

⓯ Up, Down, Left, Right (▲, ▼, ◄, ►)/ ENTER
Press to select highlight up, down, left, or right. While using the on-screen menus, press the ENTER button to activate (or change) a particular item.

⓰ R-SURF
Press the SURF button to automatically return to a preferred channel after a user-preset time delay.

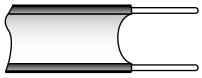
⓱ CH.SCAN
Not available.

Chapter Two

INSTALLATION

Connecting VHF and UHF Antennas

If your antenna has a set of leads that look like this, see "Antennas with 300-ohm Flat Twin Leads" below.



If your antenna has one lead that looks like this, see "Antennas with 75-ohm Round Leads", on page next.

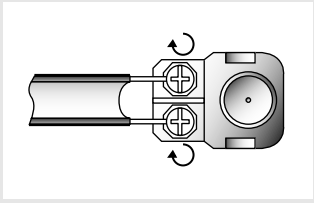
If you have two antennas, see "Separate VHF and UHF Antennas", on page next.

Antennas with 300-ohm Flat Twin Leads

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

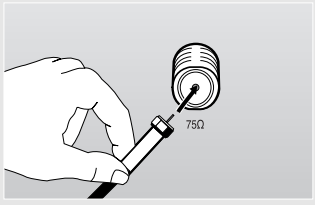
1

Place the wires from the twin leads under the screws on the 300-75 ohm adaptor (not supplied). Use a screwdriver to tighten the screws.



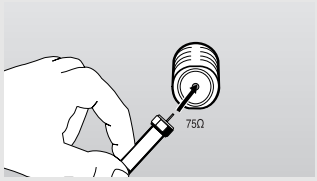
2

Plug the adaptor into the VHF/UHF terminal on the bottom of the back panel.



Antennas with 75-ohm Round Leads

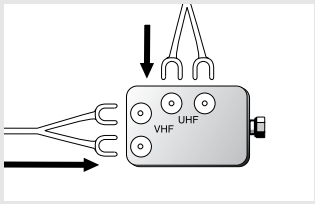
1
Plug the antenna lead into the VHF/UHF terminal on the bottom of the back panel.



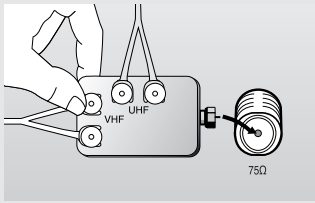
Separate VHF and UHF Antennas

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 a an optional combiner-adaptor (available at most electronics shops).

1
Connect both antenna leads to the combiner.



2
Plug the combiner into the VHF/UHF terminal on the bottom of the rear panel.

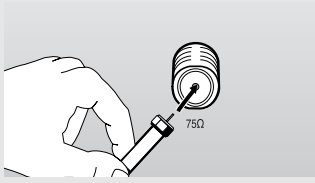


Connecting Cable TV

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

Cable without a Cable Box

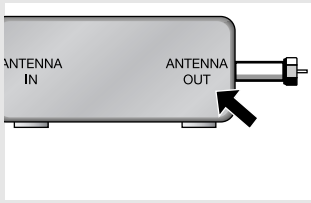
1
Plug the incoming cable into the VHF/UHF antenna terminal on back of the TV.



◄ Because this TV is cable-ready, you do not need a cable box to view unscrambled cable channels.

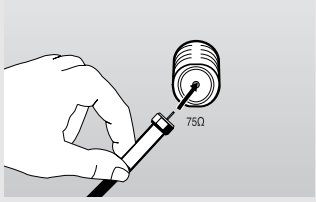
Connecting to a Cable Box that Descrambles All Channels

1
Find the cable that is connected to the ANTENNA OUT terminal on your cable box.



◄ This terminal might be labeled "ANT OUT", "VHF OUT" or simply, "OUT".

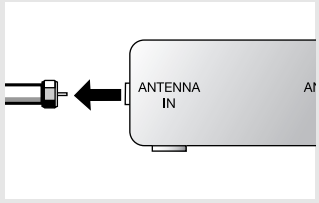
2
Connect the other end of this cable to the VHF/UHF antenna terminal on the back of the TV.



Connecting to a Cable Box that Descrambles Some Channels

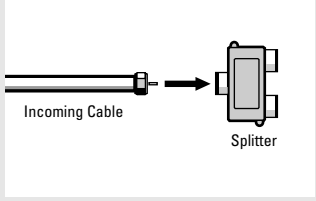
If your cable box descrambles only some channels (such as premium channels), follow the instructions below. You will need a two-way splitter, an RF (A/B) switch and four lengths of coaxial cable. (These items are available at most electronics stores.)

1
Find and disconnect the cable that is connected to the ANTENNA IN terminal on your cable box.

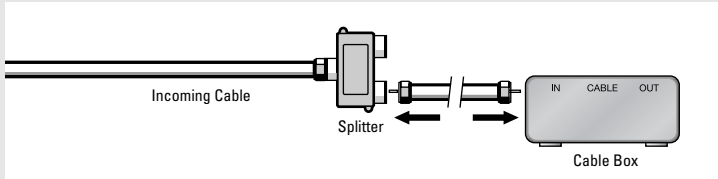


◄ This terminal might be labeled "ANT IN", "VHF IN" or simply, "IN".

2
Connect this cable to a two-way splitter.

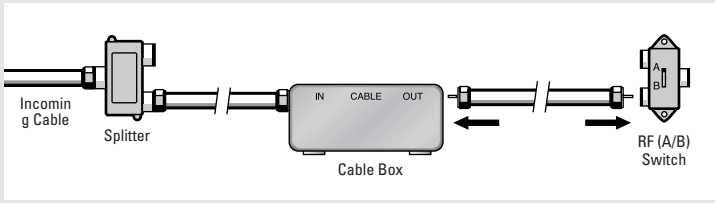


3
Connect a coaxial cable between an OUTPUT terminal on the splitter and the IN terminal on the cable box.



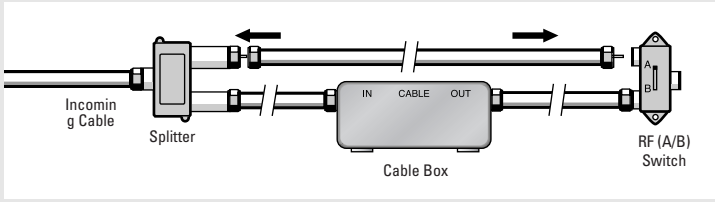
4

Connect a coaxial cable between the ANTENNA OUT terminal on the cable box and the B–IN terminal on the RF(A/B) switch.



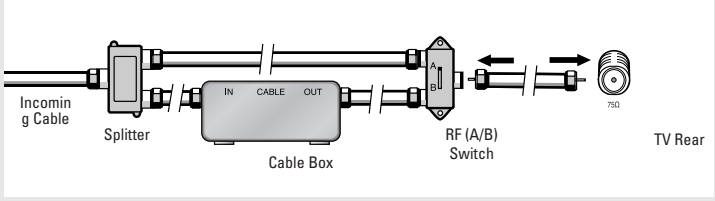
5

Connect another cable between the other OUT terminal on the splitter and the A–IN terminal on the RF (A/B) switch.



6

Connect the last coaxial cable between the OUT terminal on the RF (A/B) switch and the VHF/UHF terminal on the rear of the TV.



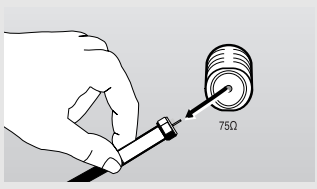
After you've made this connection, set the A/B switch to the "A" position for normal viewing. Set the A/B switch to the "B" position to view scrambled channels. (When you set the A/B switch to "B", you will need to tune your TV to the cable box's output channel, which is usually channel 3 or 4.)

Connecting a VCR

These instructions assume that you have already connected your TV to an antenna or a cable TV system (according to the instructions on pages 9-11). Skip step **1** if you have not yet connected to an antenna or a cable system.

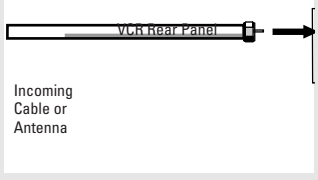
1

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



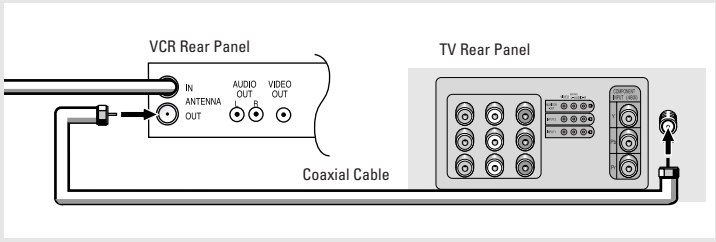
2

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



3

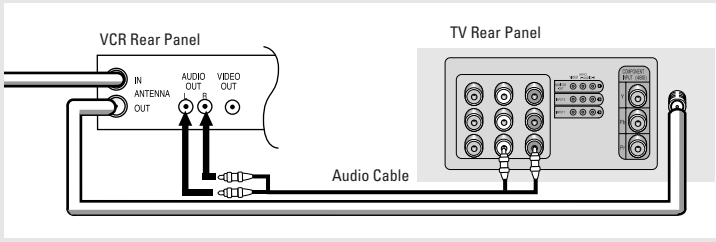
Connect a coaxial cable between the ANTENNA OUT terminal on the VCR and the antenna terminal on the TV.



A coaxial cable is usually included with a VCR. (If not, check your local electronics store).

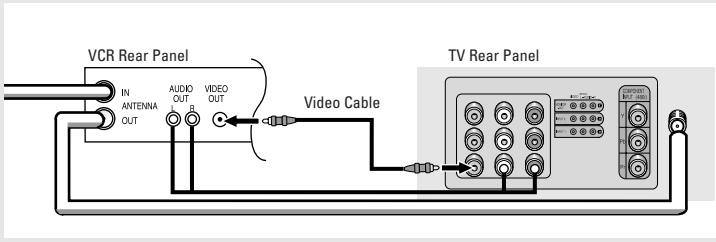
4

Connect a set of audio cables between the AUDIO OUT jacks on the VCR and the AUDIO jacks on the TV.



5

Connect a video cable between the VIDEO OUT jack on the VCR and the VIDEO jack on the TV.



Follow the instructions in “Viewing an External Signal Source” to view your VCR tape.

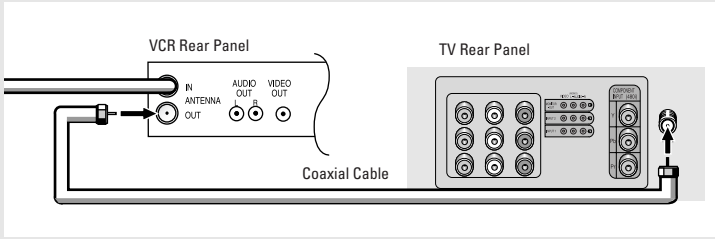
Note: This figure shows the Standard connector-jack panel. The actual configuration for your TV may be different.

Connecting an S-VHS VCR (CT29M16MQU/CT25M20MQU/CT29M20MQU)

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.)

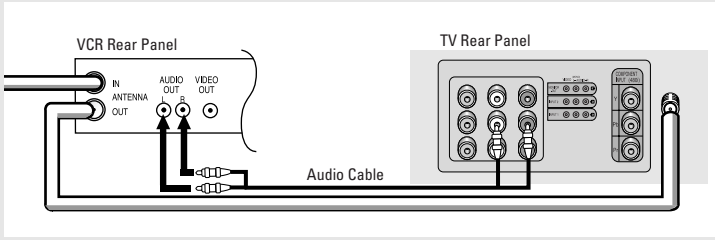
1

To begin, follow steps 1–3 in the previous section to connect the antenna or cable to your VCR and your TV.



2

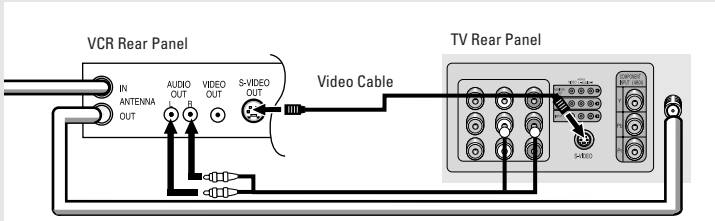
Connect a set of audio cables between the AUDIO OUT jacks on the VCR and the 2 AUDIO INPUT jacks on the TV.



Make sure the jacks you are using are underneath the number "2."

3

Connect an S-video cable between the S-VIDEO OUT jack on the VCR and the S-VIDEO INPUT jack on the TV.



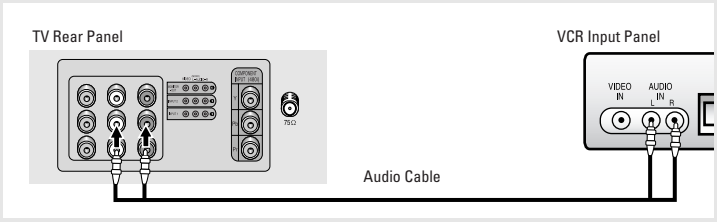
An S-video cable is usually included with an S-VHS VCR. (If not, check your local electronics store.)

Note: This figure shows the Standard connector-jack panel. The actual configuration for your TV may be different.

Connecting a Second VCR to Record from the TV

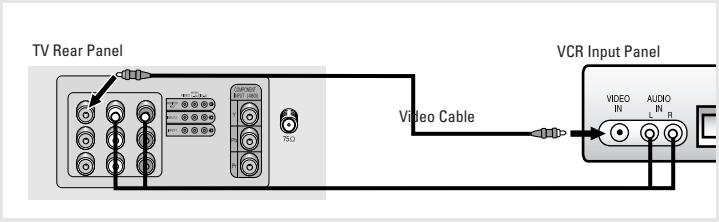
Your TV can send out signals of its picture and sound to be recorded by a second VCR. To do this, connect your second VCR as follows:

1
Connect a set of audio cables between the AUDIO OUT jacks on the TV and the AUDIO IN jacks on the VCR.



(The VCR input jacks might be either on the front or on back of the VCR.)

2
Connect a video cable between the VIDEO OUT jack on the TV and the VIDEO IN jack on the VCR.

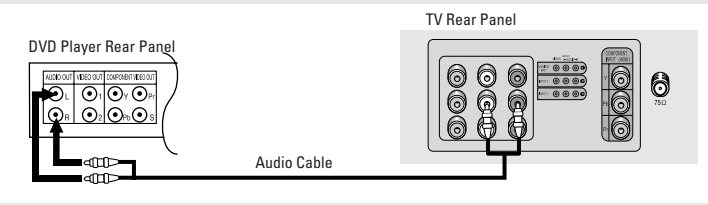


Refer to your VCR's instructions for more information about how to record using this kind of connection.

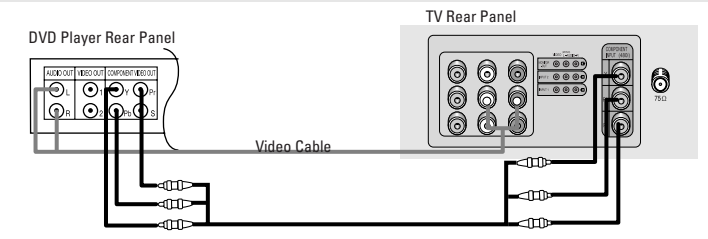
Connecting a DVD Player

The rear panel jacks on your TV make it easy to connect a DVD player to your TV.

1
Connect a set of audio cables between the AUDIO INPUT 2 jacks on the TV and the AUDIO OUT jacks on the DVD player.



2
Connect a video cable between the COMPONENT INPUT (Y, Pb, Pr) jacks on the TV and the COMPONENT VIDEO OUT (Y, Pb, Pr) jacks on the DVD player.



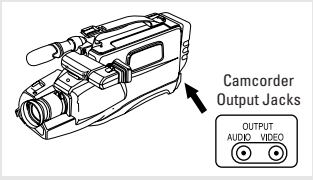
Note: For an explanation of Component video, see your DVD player's owner's manual.

Note: This figure shows the Standard connector-jack panel. The actual configuration for your TV may be different.

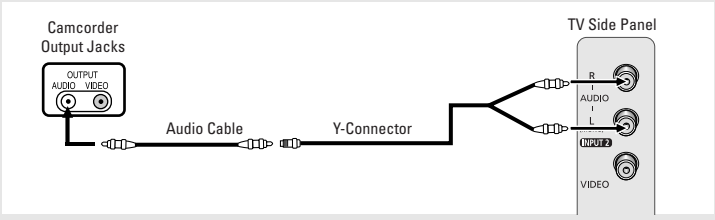
Connecting a Camcorder

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. (Also see "Viewing an External Signal Source" on page 35).

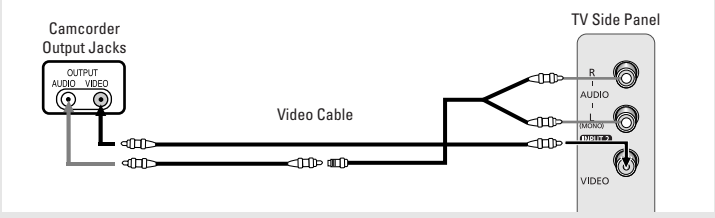
1
Locate the A/V output jacks on the camcorder. They are usually found on the side or back of the camcorder.



2
Connect an audio cable between the AUDIO OUTPUT jack on the camcorder and the AUDIO terminals on the side of the TV.



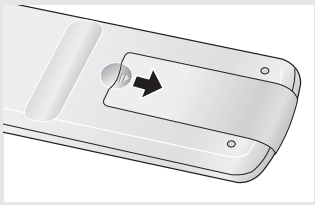
3
Connect a video cable between the VIDEO OUTPUT jack on the camcorder and the VIDEO terminal on the side of the TV.



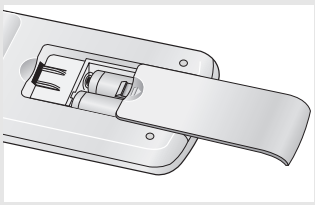
The audio-video cables shown here are usually included with a Camcorder. (If not, check your local electronics store.) If your camcorder is stereo, you need to connect a set of two cables.

Installing Batteries in the Remote Control

1
Slide the cover out completely.

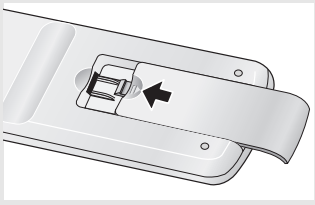


2
Install two AAA size batteries.



◄ Make sure to match the "+" and "–" ends of the batteries with the diagram inside the compartment.

3
Replace the cover.



◄ Remove the batteries and store them in a cool, dry place if you won't be using the remote control for a long time.

The remote control can be used up to about 23 feet from the TV.

(Assuming typical TV usage, the batteries last for about one year.)

Chapter Three

OPERATION

Turning the TV On and Off

Press the " **I** " button (On/Off) on the front of the television.
Press the **POWER** button on the remote control to switch the television on.
Caution : One pole switch is totally not off (one line still live) if power cord is not unplugged.

Plug & Play Feature

When the TV is initially powered On, five basic customer settings proceed automatically and subsequently: Setting the language, Video signal source, Ant. input check, Auto program and Clock.

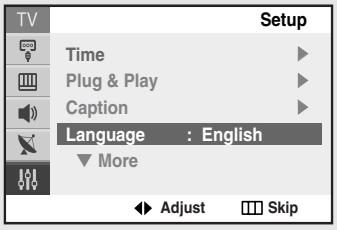
1

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

The message "Plug & Play" is displayed.
It flickers for a little while and then the "Language" menu is automatically displayed.

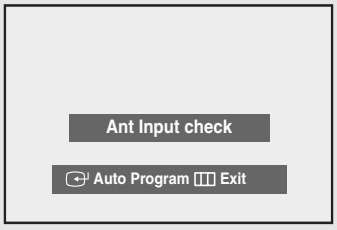
2

Press the ◀ or ▶ button to select the desired language.



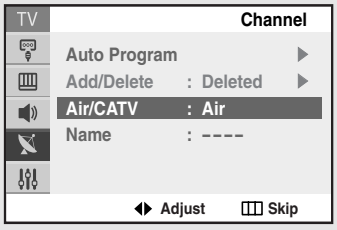
3

Press the **MENU** button then the "Ant Input check" is automatically displayed. Make sure that the antenna is connected to the TV. Press the **ENTER** button and then the "Channel" menu is automatically displayed.



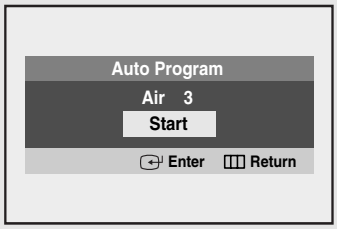
4

Press the ◀ or ▶ button to select signal source (Air, STD, HRC, IRC).



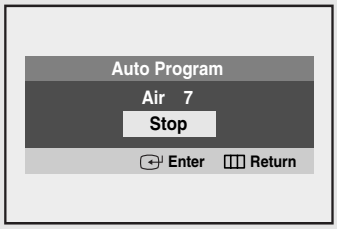
5

Press the **MENU** button and then the "Auto Program" is automatically displayed.



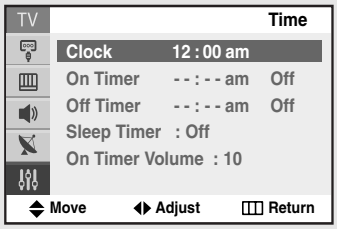
6

Press the **ENTER** button to start "Auto Program" or press the **MENU** button to return. (refer to "Auto program" on page 25.) The TV will begin memorizing all of the available channels.



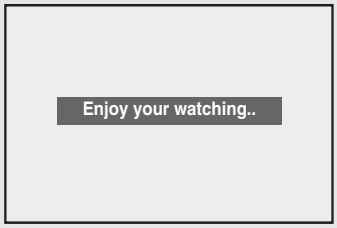
7

Press the **ENTER** button and then press the ◀ or ▶ button to move the hour or minute. Set the hour or minute by pressing the ▲ or ▼ button. (refer to "Setting the Clock" on page 30.)



8

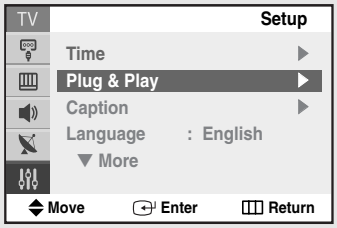
When you have finished, press the **MENU** button. The message "Enjoy your watching.." is displayed.



9

If you want to reset this feature

(1) Press the **MENU** button.
(2) Press the ▲ or ▼ button to select the "Setup", then press the **ENTER** button.
(3) Press the ▲ or ▼ button to select "Plug & Play", then press the **ENTER** button. The message "Plug & Play" is displayed.



Note: Plug & Play feature doesn't work when in the AV mode.

Viewing the Menus and On-Screen Displays

Viewing the Menus

1

With the power on, press the **MENU** button.

The main menu appears on the screen. Its left side has five icons: Input, Picture, Sound, Channel and Setup.

◄ The on-screen menus disappear from the screen after two minutes.

2

Use the ▲ and ▼ buttons to highlight one of the 5 icons. Then press the **ENTER** button to access the icon's sub-menu.

3

Press the **EXIT** button to exit.

◄ You can also use the **MENU**, **CH** and **VOL** buttons on the control panel of the TV to make selections.

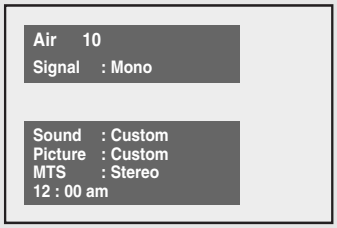
Viewing the Display

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

1

Press the **INFO** button.

The on-screen display shows any or all of the following:
Active channel, the channel label, signal, picture mode, sound mode, MTS and the current time.



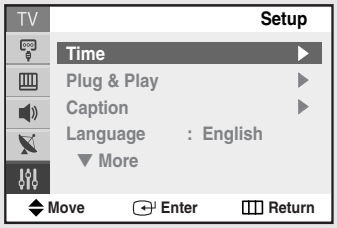
◄ The on-screen displays disappear after ten seconds.

Selecting a Menu Language

1

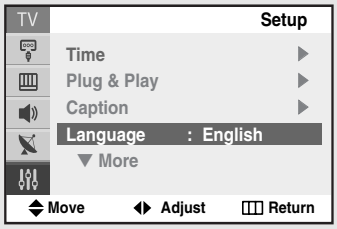
Press the **MENU** button to display the menu.

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



2

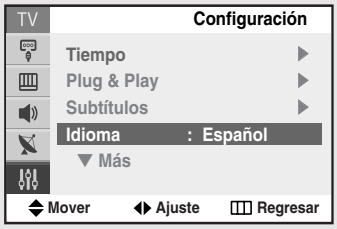
Press the ▲ or ▼ button to select “Language”, then press the **ENTER** button.



3

Press the ◀ or ▶ button to select the appropriate language: “English”, “Español” or “Português”.

Press the **EXIT** button to exit.



Memorizing the 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 (manual).

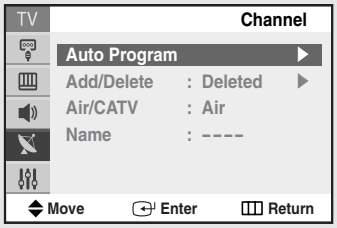
Selecting the Video Signal-source

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

1

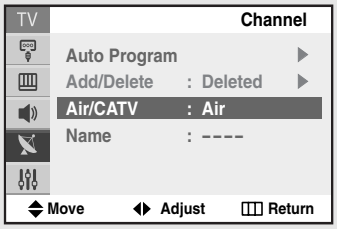
Press the **MENU** button to display the menu.

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



2

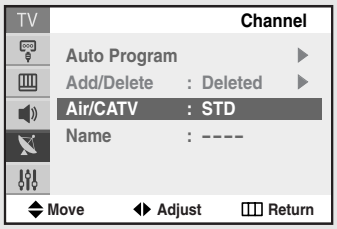
Press the ▲ or ▼ button to select "Air/CATV", then press the **ENTER** button



3

Repeatedly press the ◀ or ▶ button to cycle through these choices: "Air" (antenna) "STD", "HRC" or "IRC" (all cable TV)

Press the **EXIT** button to exit.



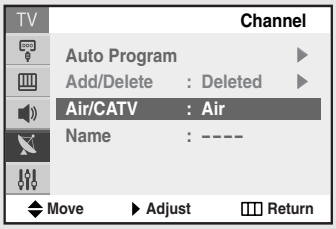
Note: STD, HRC and IRC identify various types of cable TV systems. Contact your local cable company to identify the type of cable system that exists in your particular area.

At this point the signal source has been selected. Proceed to "Storing Channels in Memory" (next page).

Storing Channels in Memory (Automatic Method)

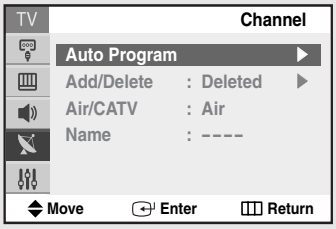
1

First, select the correct signal source (Air, STD, HRC, IRC). See steps 1~3 on previous page.



2

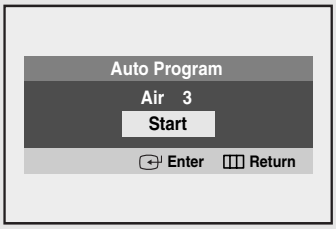
Press the ▲ or ▼ button to select "Auto program" and then press the **ENTER** button.
The "Auto Program" is automatically displayed.

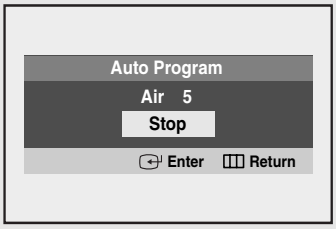


3

Press the **ENTER** button to start "Auto Program". The TV will begin memorizing all of the available channels.

After all the available channels are stored, the Auto program menu reappears. Press the **MENU** button to skip and press the **ENTER** button to stop.





◄ The TV automatically cycles through all of the available channels and stores them in memory. This takes about one to two minutes.

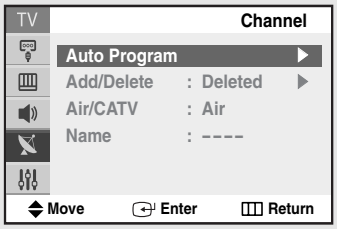
Adding and Erasing Channels (Manual Method)

First, press the CH ∧ or CH ∨ button or the number buttons to select the channel you want to add or delete.

1

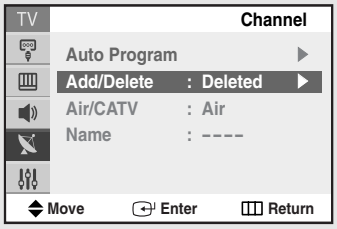
Press the **MENU** button to display the menu.

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



2

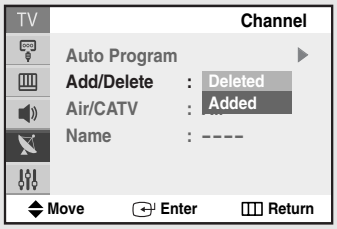
Press the ▲ or ▼ button to select "Add/Delete", then press the **ENTER** button.



3

Press the ▲ or ▼ button to select "Added" or "Deleted" then press the **ENTER** button.

Press the **EXIT** button to exit.



Changing Channels

Using the Channel Buttons

1

Press the **CH** ∧ or **CH** ∨ button to change channels.

When you press CH ∧ or CH ∨, 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.

Directly Accessing Channels

Use the number buttons to quickly tune to any channel.

1

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.

When you use the number buttons, you can directly select channels that were either erased or not memorized.

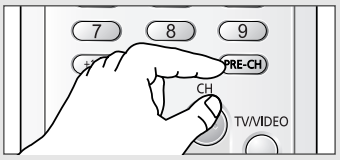
To select a channel over 100, press the **+100** button. (For channel 122, press "+100" then "2" then "2".)

To change to single-digit channels (0–9) faster, press "0" before the single digit. (For channel "4" press "0" then "4".)

Using the PRE-CH Button to select the Previous Channel

1

Press the **PRE-CH** button. The TV will switch to the last channel viewed.



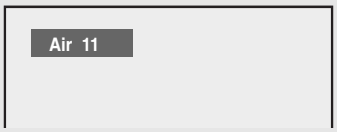
◄ To quickly switch between two channels that are far apart, tune to one channel, then use the number button to select the second channel. Then, use the PRE-CH button to quickly alternate between them.

Labeling the Channels

Use this feature to assign an easy-to-remember label to any channel (i.e., “CBS”, “ESPN”, “PBS2”, “CNN1”, etc.). A label consists of four fields, where each field is a letter, a number, “*”, or a blank. When the INFO button is pressed, the channel label will appear next to the channel number.

1

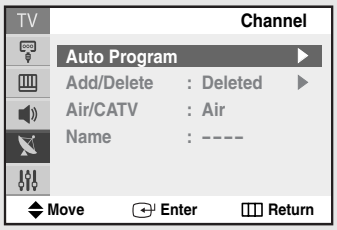
Press the **CH** ∧ or **CH** ∨ button to tune to the channel that will be labeled.



2

Press the **MENU** button to display the menu.

Press the ▲ or ▼ button to select “Channel”, then press the **ENTER** button.

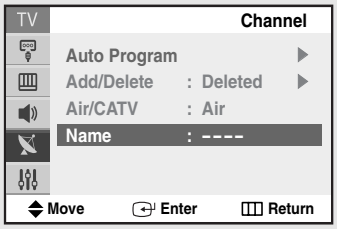


◄ Note: You cannot select “Name” in the AV mode.

3

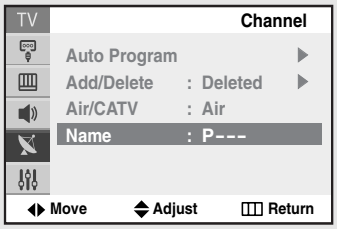
Press the ▲ or ▼ button to select “Name”.

Press the ▶ button to begin labeling. The left-most field will be highlight. (Each label has four fields. See top paragraph.)



4

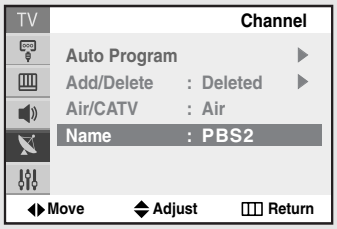
Press the ▲ or ▼ button to select a letter, a number, “*” or a blank. (Pressing ▲ or ▼ button results in this sequence: A, B,...Z, *, blank, 0, 1, ...9).



5

Press the ▶ button to switch to the next field, which will be highlight. Select a second letter or digit using the ▲ or ▼ button, as above. Repeat the process to select the last two digits.

Press the **EXIT** button to exit.



Adjusting the Volume

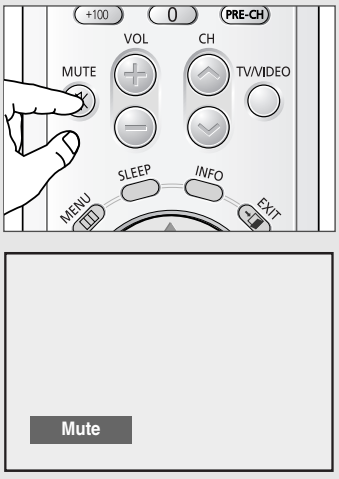
Press the **VOL +** or **– VOL –** button to increase or decrease the volume.

Using the MUTE Button

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

1

Press the **MUTE** button and the sound cuts off.
The word "Mute" will appear in the lower-left corner of the screen.



2

To turn mute off, press the **MUTE** button to again, or simply press either the **VOL +** or **VOL –** button.

Setting the Clock

1

Press the **MENU** button to display the menu.

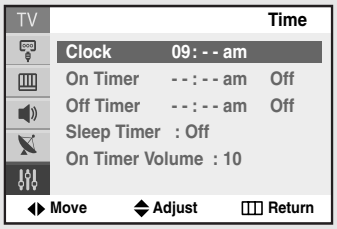
Press the ▲ or ▼ button to select "Setup", then press the **ENTER** button.

2

Press the **ENTER** button.

Press the **ENTER** button again to select the hours. (the hours digits will be highlighted).

Press the ▲ or ▼ button repeatedly until the correct hour appears.

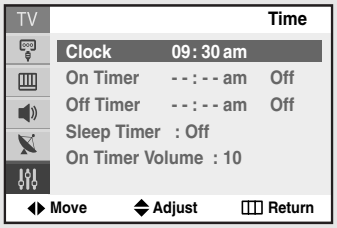


◄ When selecting the hours, be sure to select the proper time of day (am or pm).

You can change the hours by pressing the ▲ or ▼ button repeatedly (or by holding down either of these buttons).

3

After the hour is entered, Press the ▶ button. (at this point the minutes digits will be highlighted). Press the ▲ or ▼ button to select the correct minutes.



After selecting the correct minutes, press the ▶ button.

Press the **EXIT** button to exit.

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

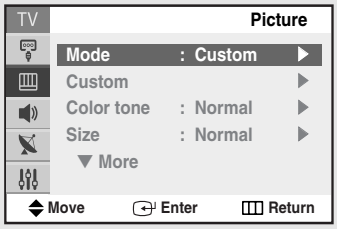
Customizing the Picture

You can use the on-screen menus to change the Contrast, Brightness, Sharpness, Color, Tint and according to personal preference. (Alternatively, you can use one of the "Automatic" settings. See next page.)

1

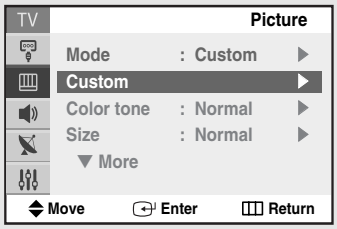
Press the **MENU** button to display the menu.

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



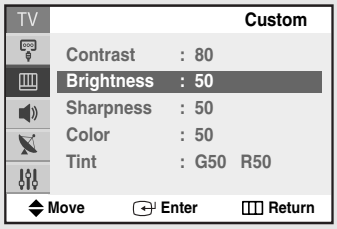
2

Press the ▲ or ▼ button to select "Custom", then press the **ENTER** button. (The words Contrast, Brightness, Sharpness, Color and Tint will appear on the screen.)



3

Press the ▲ or ▼ button to select a particular item, then press the **ENTER** button.

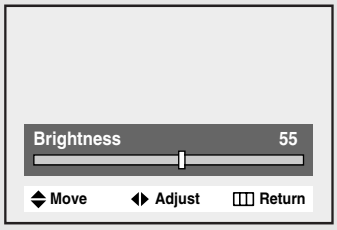


◄ After adjusting an item, the gauge will automatically disappear (after about 10 seconds).

4

Press the ◀ or ▶ button to increase or decrease the value of a particular item. For example, if you select "Brightness", pressing the ▶ button increases it.

Press the **EXIT** button to exit.



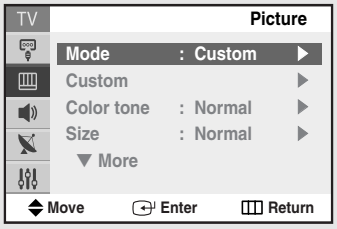
Using Automatic Picture Settings

Your TV has three automatic picture settings (“Dynamic”, “Standard” and “Movie”) that are preset at the factory. You can activate either Dynamic, Standard, Movie or Custom by pressing the P.MODE button (or by making a selection from the menu). Or, you can select “Custom” which automatically recalls your personalized picture settings.

1

Press the **MENU** button to display the menu.

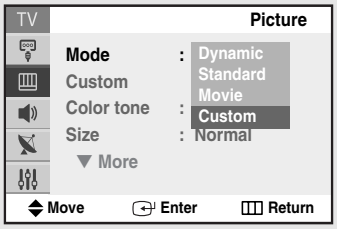
Press the ▲ or ▼ button to select “Picture”, then press the **ENTER** button.



2

Press the **ENTER** button again.
Press the ▲ or ▼ button to select the “Dynamic”, “Standard” “Movie” or “Custom” picture setting, then press the **ENTER** button.

Press the **EXIT** button to exit.



- Choose *Dynamic* for viewing the TV during the day or when there is 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”, page 29).

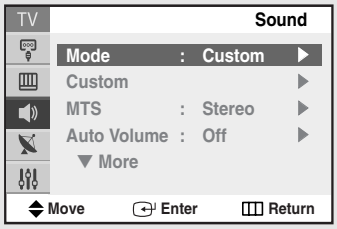
Customizing the Sound

You can use the on-screen menus to adjust the bass, treble and balance according to individual preference. (Alternatively, you can use one of the "automatic" settings. See next page.)

1

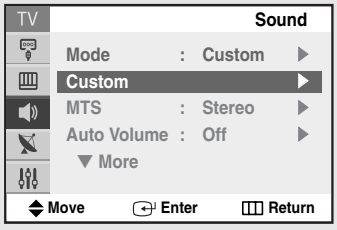
Press the **MENU** button to display the menu.

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



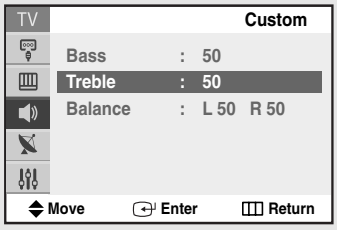
2

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



3

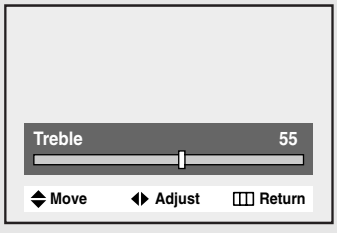
Press the ▲ or ▼ button to select a particular item, then press the **ENTER** button.



4

Press the ◀ or ▶ button to increase or decrease the value of a particular item.
For example, if you select "Treble", pressing the ▶ button increases it.

Press the **EXIT** button to exit.



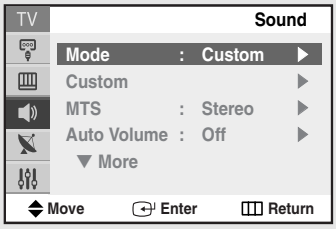
Using Automatic Sound Settings

Your TV has four automatic sound settings (“Standard”, “Music”, “Movie” and “Speech”) that are preset at the factory. You can activate either Standard, Music, Movie or Speech by pressing the S.MODE button (or by making a selection from the menu). Or, you can select “Custom”, which automatically recalls your personalized sound settings.

1

Press the **MENU** button to display the menu.

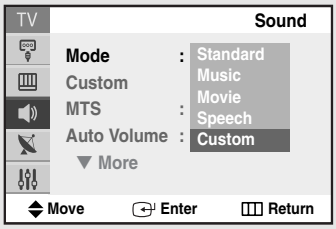
Press the ▲ or ▼ button to select the “Sound”, then press the **ENTER** button.



2

Press the **ENTER** button again.
Press the ▲ or ▼ button repeatedly to select the “Standard”, “Music” “Movie”, “Speech” or “Custom” sound settings, then press the **ENTER** button.

Press the **EXIT** button to exit.



- Choose *Standard* for the standard factory settings.
- Choose *Music* when watching music videos or concerts.
- Choose *Movies* when watching movies.
- Choose *Speech* when watching a show that is mostly dialogue (i.e., news).
- Choose *Custom* to recall your personalized settings.
  (see “Customizing the Sound”, page 31).

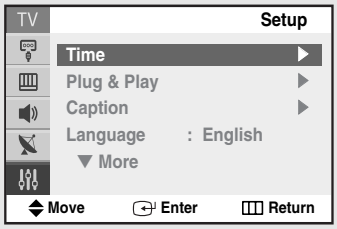
Setting the Blue Screen Mode

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

1

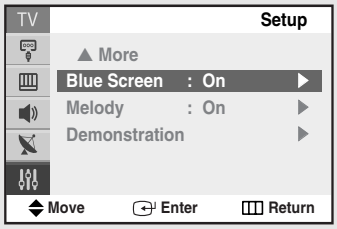
Press the **MENU** button to display the menu.

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



2

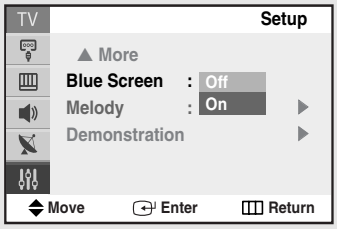
Press the ▲ or ▼ button to select "Blue Screen", then press the **ENTER** button.



3

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

Press the **EXIT** button to exit.



◄ Pressing the ▲ or ▼ button will alternate between "On" and "Off".

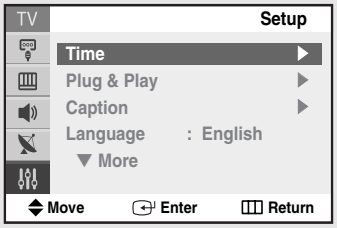
Setting The On/Off Melody

You can hear clear a melody sound when the TV is powered on or Off.

1

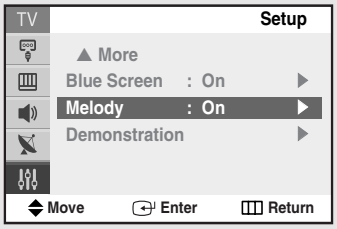
Press the **MENU** button to display the menu.

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



2

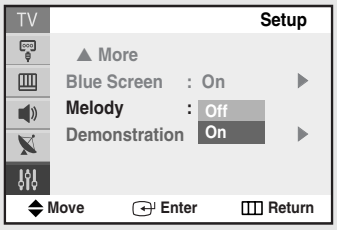
Press the ▲ or ▼ button to select “Melody”, then press the **ENTER** button.



3

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

Press the **EXIT** button to exit.



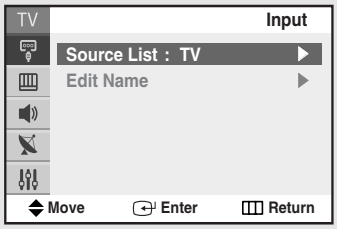
Viewing an External Signal Source

Use the remote control to switch between viewing signals from connected equipment, such as VCRs, DVD, Set-Top Box and the TV source (broadcast or cable).

Setting the Signal Source

1

Press the **MENU** button to display menu, then press the **ENTER** button.

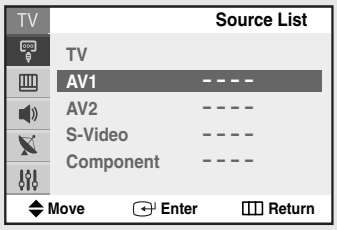


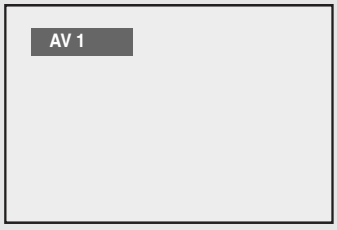
◄ Quick way to access the external signal source: Just press the "TV/VIDEO" button on the remote control.

2

Press the **ENTER** button again.
Press the ▲ or ▼ button to select signal source, then press the **ENTER** button.

Press the **EXIT** button to exit.

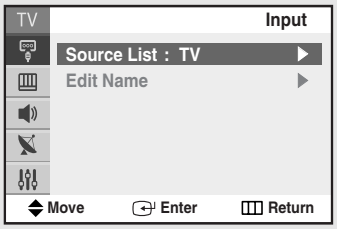




Assigning Names to External input mode

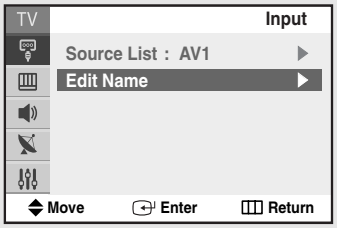
1

Press the **MENU** button to display menu, then press the **ENTER** button.



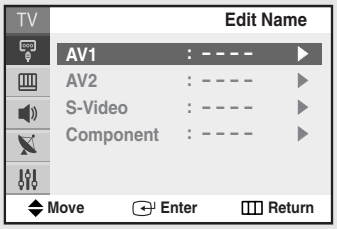
2

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



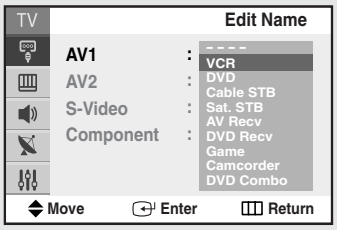
3

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



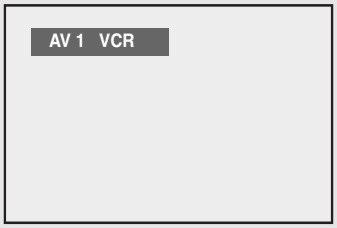
4

Press the ▲ or ▼ button to select external device (VCR, DVD, Cable STB, Sat. STB, AV Recv, DVD Recv, Game, Camcorder, DVD Combo), then press the **ENTER** button.



Set other signal sources (AV2, S-Video, Component) using the same method as listed above.

Press the **EXIT** button to exit.

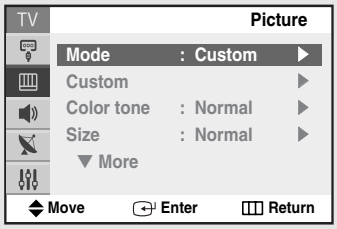


Changing the Color Tone

1

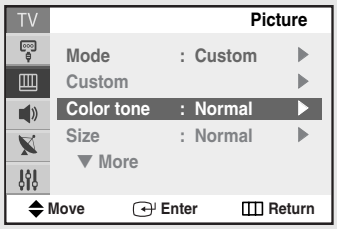
Press the **MENU** button to display the menu.

Press the ▲ or ▼ button to select the “Picture”, then press the **ENTER** button.



2

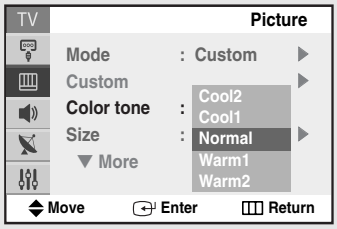
Press the ▲ or ▼ button to select “Color tone”, then press the **ENTER** button.



3

Press the ▲ or ▼ button to select “Cool2”, “Cool1”, ”Normal”, “Warm1” or “Warm2” according to personal preference, then press the **ENTER** button.

Press the **EXIT** button to exit.

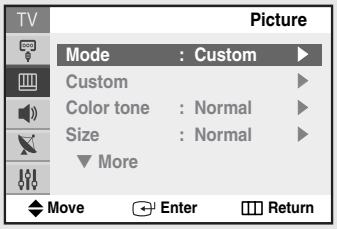


Changing the Screen Size

1

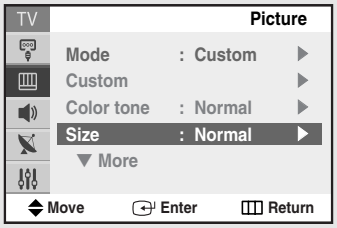
Press the **MENU** button to display the menu.

Press the ▲ or ▼ button to select the “Picture”, then press the **ENTER** button.



2

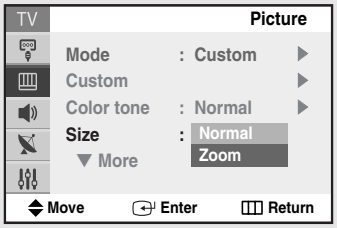
Press the ▲ or ▼ button to select “Size”, then press the **ENTER** button.

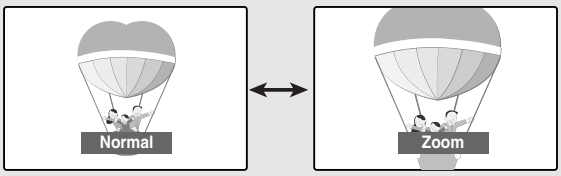


3

Press the ▲ or ▼ button to select “Normal” or “Zoom”, then press the **ENTER** button.

Press the **EXIT** button to exit.





- Normal (4:3) : Sets the picture to 4:3 normal mode.
- Zoom : Magnifies the size of the picture on screen.

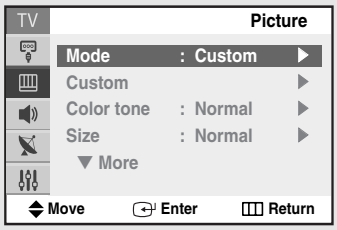
Digital Noise Reduction

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.

1

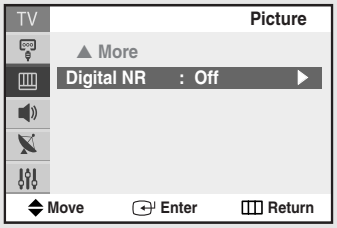
Press the **MENU** button to display the menu.

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



2

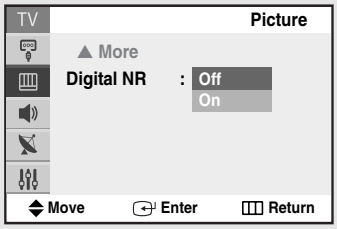
Press the ▲ or ▼ button to select "Digital NR", then press the **ENTER** button.



3

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

Press the **EXIT** button to exit.



◄ Pressing the ▲ or ▼ button will alternate between "On" and "Off".

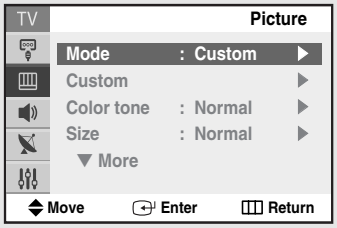
DNIe Jr™ (Digital Natural Image engine) (CT25M20MQU/CT29M20MQU/CT21T20MQU)

Samsung's New Technology enables an improved image with detail, contrast and white enhancement and 3D noise reduction.

1

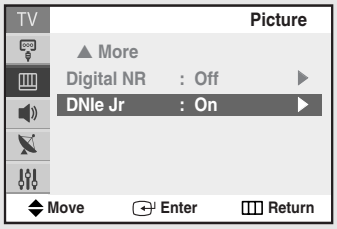
Press the **MENU** button to display the menu.

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



2

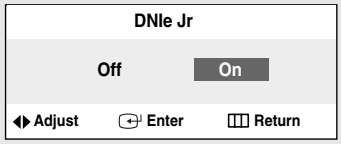
Press the ▲ or ▼ button to select "DNIe Jr", then press the **ENTER** button.



3

Press the ◀ or ▶ button to select "On", then press the **ENTER** button.

Press the **EXIT** button to exit.



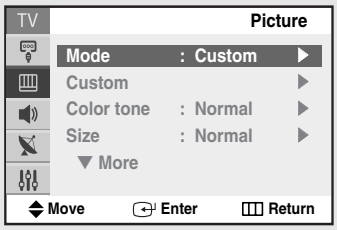
Tilt (CT29M16MQU/CT29M20MQU)

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

1

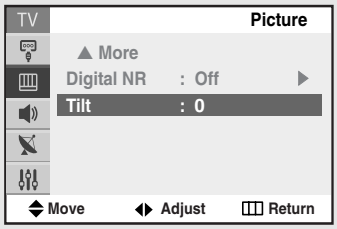
Press the **MENU** button to display the menu.

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



2

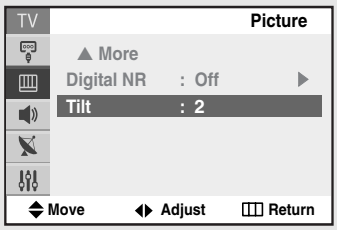
Press the ▲ or ▼ button to select "Tilt".



3

Press the ◀ or ▶ button to adjust the Tilt.

Press the **EXIT** button to exit.



Using the R.Surf Feature

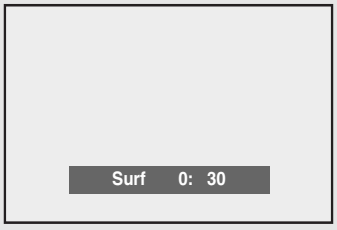
This feature allows you to set the TV to return to a particular channel after a certain amount of time. For example, you may be watching a channel when commercials start. You can set the R.Surf to “5 minutes”, then switch channels. After minutes, the TV will return to the original channel. To use the R.Surf feature:

1

While you are watching the channel to which you want to return, press the **R.SURF** button. The on-screen display will read “Surf off”.

2

Press the **R.SURF** button again to set the timer in thirty second intervals, up to five minutes.



3

The time you set will begin counting down on the screen. When the time runs out, the TV will return to the channel you were watching when you set the timer.

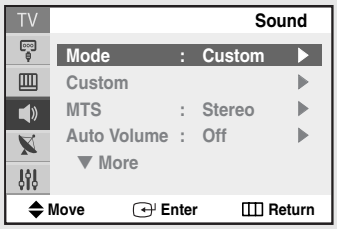
Choosing a Multi-Channel Sound (MTS) Soundtrack

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

1

Press the **MENU** button to display the menu.

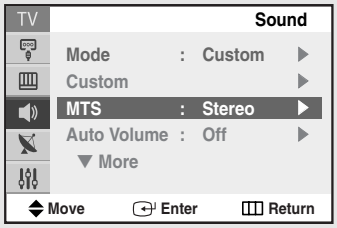
Press the ▲ or ▼ button to select the "Sound", then press the **ENTER** button.



◄ Quick way to access the MTS: Just press the "MTS" button on the remote control.

2

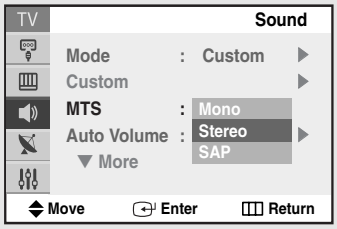
Press the ▲ or ▼ button to select the "MTS", then press the **ENTER** button.



3

Press the ▲ or ▼ button to select "Mono", "Stereo" or "SAP", then press the **ENTER** button.

Press the **EXIT** button to exit.



◄ The text at the bottom of the menu tells you if the incoming audio is Mono, Stereo or SAP.

- Choose *Mono* for channels that are broadcasting in mono, or if you are having difficulty receiving a stereo signal.
- Choose *Stereo* for channels that are broadcasting in stereo.
- Choose *SAP* to listen to the Separate Audio Program, which is usually a foreign-language translation.

Extra sound settings (Auto Volume, Turbo Sound or Pseudo Stereo)

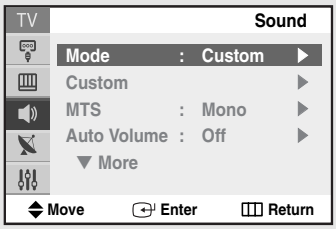
The following sound settings can be adjusted to suit your personal preferences

- **Auto Volume**
  Each broadcasting station has its own signal conditions, which can make it necessary to adjust the volume every time the channel is changed. “Auto volume” lets you automatically adjust the volume of the desired channel by lowering the sound out put when the modulation signal is high or by raising the sound output when the modulation signal is low.
- **Turbo Sound**
  Turbo sound emphasizes the bass and treble frequencies to add fullness to the sound. You can select the turbo sound by simply pressing the “TURBO” button on the remote control.
- **Pseudo Stereo**
  “Pseudo Stereo” converts a monaural sound signal into two identical left and right channels. Once the “Pseudo Stereo” is set to “On” or “Off”, the setting applies to the sound effects such as “Standard”, “Music”, “Movie” and “Speech”.

1

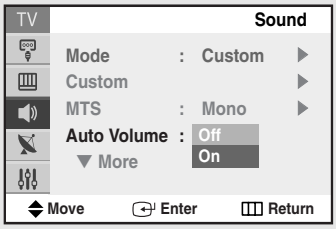
Press the **MENU** button to display the menu.

Press the ▲ or ▼ button to select the “Sound”, then press the **ENTER** button.



2

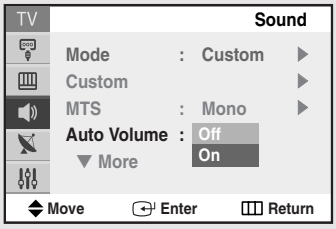
Press the ▲ or ▼ button to select the required item (Auto Volume, Turbo Sound, Pseudo Stereo), then press the **ENTER** button.



3

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

Press the **EXIT** button to exit.

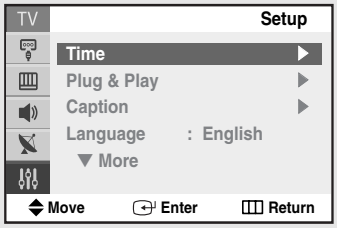


Setting the On/Off Timer

1

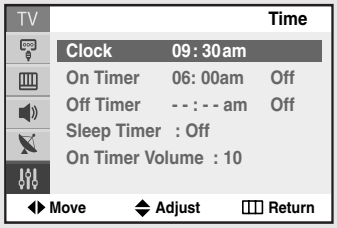
Press the **MENU** button to display the menu.

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



2

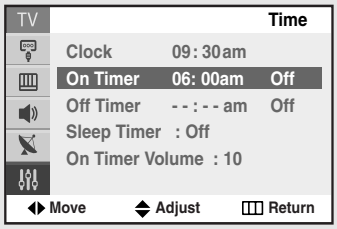
Press the **ENTER** button to select "Time".



3

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

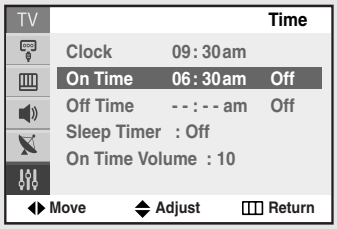
Press the ▲ or ▼ button repeatedly to select the appropriate hours (i.e., the hour when the TV will turn on.)



4

Press the ▶ button to select the minutes. (The minutes digits will be highlighted.)

Press the ▲ or ▼ button to select the appropriate minutes.



◄ Before using the timer, you must set the TV's clock. (See "Setting the Clock" on page 30).

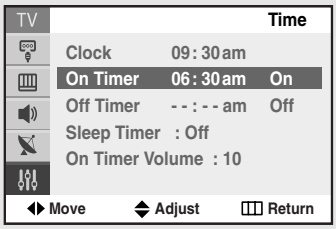
When any of the timers are set, the "Timer" LED will illuminate (front panel of TV.)

5

Press the ▶ button to select "On" or "Off".

Press the ▲ or ▼ button to turn the on-timer "On". (Repeatedly pressing the ▲ or ▲ or ▼ button will alternate between "On" and "Off".)

When finished, press the **MENU** button.



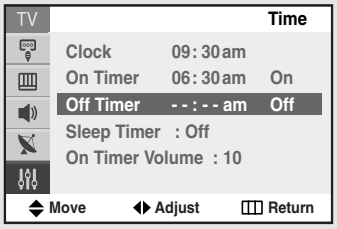
◄ To deactivate the "On time," select "Off" during this step.

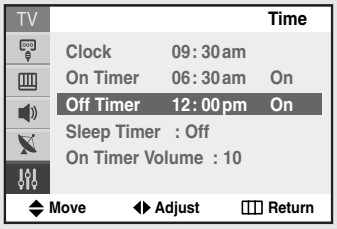
6

To set the Off time, press the ▲ or ▼ button to select "Off Time".

Press the ▶ button and set the hours and minutes. (Follow the same procedure as in steps 3~5 above.)

When finished setting the timer, press the **EXIT** button to exit.





◄ **Absent Power Off**
When you set the timer "On", your television will eventually be turned off, if you do not operate any controls during the 3 hours after the TV is turned on by timer.
This function is available in only the timer "On" mode and will prevent a leakage accident or overheating, caused by your TV left on for a long time due to the timer "On" (when you are away on holiday, for example).

Setting the Sleep Timer

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

1

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

◄ After about 5 seconds, the sleep display will disappear from the screen, and the time interval will be set.

2

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

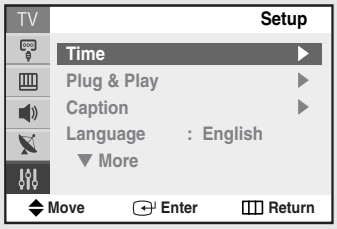
Setting the Preferred Volume Level

The preferred volume can be set for when the timer automatically turns on the TV.

1

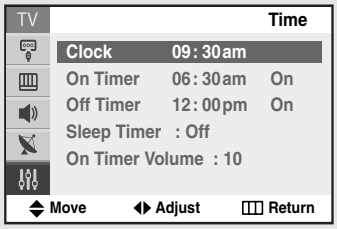
Press the **MENU** button to display the menu.

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



2

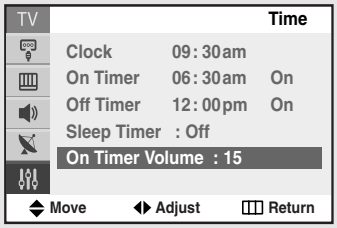
Press the **ENTER** button to select "Time".



3

Press the ▲ or ▼ button to select "On Time Volume". Press the ◀ or ▶ button to adjust volume level.

Press the **EXIT** button to exit.



Viewing Closed Captions

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

1

Press the **MENU** button to display the menu.

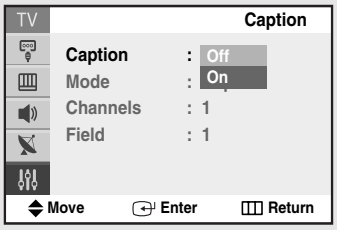
Press the ▲ or ▼ button to select the "Setup", then press the **ENTER** button.

2

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

3

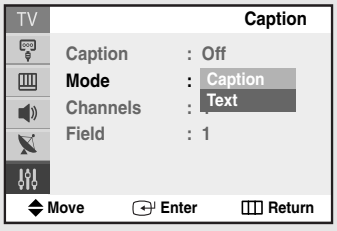
Press the **ENTER** button, then press the ▲ or ▼ button to turn closed captioning "On" or "Off". Press the **ENTER** button.



◄ Misspellings and unusual characters sometimes occur during closed caption transmissions, especially those of live events. There may be a small delay before captions appear when you change channels. These are not malfunctions of the TV.

4

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



◄ In "**Caption**" **mode**, captions appear at the bottom of the screen, and they usually cover only a small portion of the picture.

In "**Text**" **mode**, information unrelated to the program, such as news or weather, is displayed. Text often covers a large portion of the screen.

5

Depending on the particular broadcast, it might be necessary to make changes to "Channels" and "Field":
Use the ▲, ▼, ◄ and ► buttons to make the changes. (Follow the same procedure as in steps 3~4 above.)

Press the **EXIT** button to exit.

◄ Different channels and fields display different information: Field 2 carries additional information that supplements the information in Field 1. (For example, Channel 1 may have subtitles in English, while Channel 2 has subtitles in Spanish.)

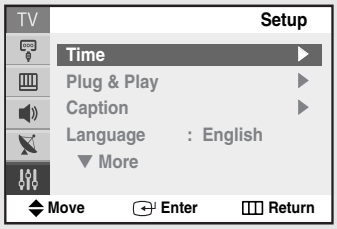
Viewing the Demonstration

To become familiar with the various menus provided by your television, you can view the in built demonstration.

1

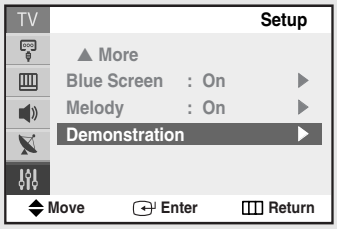
Press the **MENU** button to display the menu.

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



2

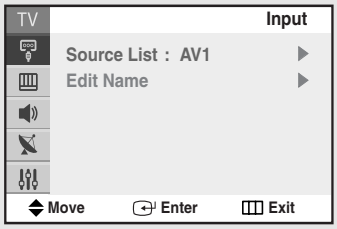
Press the ▲ or ▼ button to select "Demonstration", then press the **ENTER** button.



3

Each of the menu options is displayed in turn. When you wish to stop the demonstration, press any button on the remote control.

Press the **EXIT** button to exit.



Chapter Five

TROUBLESHOOTING

If the TV seems to have a problem, first try this list of possible problems and solutions. If none of these troubleshooting tips apply, then call your nearest service center.

Identifying Problems

Problem	Possible Solution
Poor picture	Try another channel. Adjust the antenna. Check all wire connections.
Poor sound quality.	Try another channel. Adjust the antenna.
No picture or sound.	Try another channel. Press the TV/VIDEO button. Make sure the TV is plugged in. Check the antenna connections.
No color, wrong colors or tints.	Make sure the program is broadcast in color. Adjust the picture settings. If the set is moved or turned in a different direction, the power should be OFF for at least 30 minutes.
Picture rolls vertically.	Adjust the antenna. Check all wire connections.
The TV operates erratically	Unplug the TV for 30 seconds, then try operating it again.
The TV won't turn on.	Make sure the wall outlet is working.

Appendix

Cleaning and Maintaining Your TV

With proper care, your TV unit will give you many years of service. Please follow these guidelines to get the maximum performance from your TV.

Placement

- Do not place 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, dry cloth. Never use water, cleaning fluids, wax, or chemicals.
- Do not put heavy objects on top of the cabinet.

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	CT29M16MQU	CT25M20MQU	CT29M20MQU	CT21T20MQU
Voltage	AC100-240 V	AC100-240 V	AC100-240 V	AC100-240 V
Frequency of Operation	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz
Power Consumption	150 Watts	130 Watts	150 Watts	120 Watts
Dimensions (mm/inches)	766 X 558 X 586/ 30.16 X 21.97 X 23.07	656 X 472 X 511/ 25.83 X 18.58 X 20.12	730 X 485 X575/ 28.74 X 19.09 X 22.63	658 X 487 X 472/ 25.91 X 19.17 X 18.58
Weight (Kg/ lbs)	41/ 90.39	29.5/65.04	40/88.19	25.5/56.22
Viewing screen size	676 mm	590 mm	676 mm	508 mm

AA68-03677A-01