



Changing Entertainment. Again.

# HDTV User's Guide

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[rca.com](http://rca.com)

# Important Information

## WARNING

To reduce the risk of fire or electric shock, do not expose this product to rain or moisture.

## CAUTION

RISK OF ELECTRIC SHOCK  
DO NOT OPEN



This symbol indicates that this product incorporates double insulation between hazardous mains voltage and user accessible parts. When servicing use only identical replacement parts.

Caution: To reduce the risk of electric shock, do not remove cover (or back). No user serviceable parts inside. Refer servicing to qualified service personnel.



This symbol indicates "dangerous voltage" inside the product that presents a risk of electric shock or personal injury.



This symbol indicates important instructions accompanying the product.

The apparatus shall not be exposed to dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on the apparatus.

Refer to the identification/rating label located on the back panel of your product for its proper operating voltage.

FCC Regulations state that unauthorized changes or modifications to this equipment may void the user's authority to operate it.

**Caution: Using video games or any external accessory with fixed images for extended periods of time can cause them to be permanently imprinted on the picture tube (or projection TV picture tubes). ALSO, some network/program logos, phone numbers, black borders (sides, top and bottom), etc. may cause similar damage. This damage is not covered by your warranty.**

**Cable TV Installer:** This reminder is provided to call your attention to Article 820-40 of the National Electrical Code (Section 54 of the Canadian Electrical Code, Part 1) which provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building as close to the point of cable entry as practical.

**Warning:** Do not use the Freeze feature for an extended period of time. This can cause the image to be permanently imprinted on the picture tube. Such damage is not covered by your warranty. Press any button to unfreeze the picture at any time.

## Product Registration

Please fill out the product registration card (packed separately) and return it immediately. For US customers: Your RCA Consumer Electronics product may also be registered at [www.rca.com/productregistration](http://www.rca.com/productregistration). Registering this product allows us to contact you if needed.

## Product Information

Keep your sales receipt to obtain warranty parts and service and for proof of purchase. Attach it here and record the serial and model numbers in case you need them. These numbers are located on the product.

Model No. \_\_\_\_\_

Serial No. \_\_\_\_\_

Purchase Date: \_\_\_\_\_

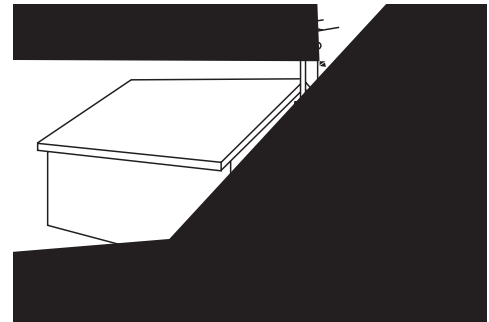
Dealer/Address/Phone: \_\_\_\_\_

## IMPORTANT SAFETY INSTRUCTIONS

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
13. Unplug this apparatus during lightning storms or when unused for long periods of time. Even if the power indicator is off, the apparatus is still not fully disconnected from the power source. To disconnect the apparatus completely from the power source, take its power plug out of the wall outlet or power strip. The power plug must be easily accessible.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.



If an outside antenna is connected to the TV receiver, be sure the antenna system is grounded so as to provide some protection against voltage surges and built up static charges. In the U.S. Section 810-21 of the National Electrical Code and in Canada, Part 1 of the Canadian Electrical Code provides information with respect to proper grounding of the antenna system. See the figure on the right for details.



# Introduction

## Thank you for choosing RCA

Congratulations on purchasing this RCA High Definition Television (HDTV). Your purchase decision represents an investment in a new generation of technology—HDTV. Even though this is a technologically advanced HDTV, it is the most user-friendly of its kind—with on-screen instructions that guide you through all of the TV's features.

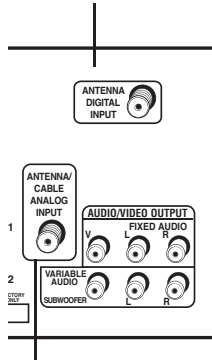
### The best of both worlds

Your HDTV has two tuners: one for regular, analog television and one for off-air digital television (ATSC). On your HDTV's back panel you'll see two inputs—one for cable TV or regular, off-air programming and one for off-air digital television.

While you're watching TV, you can switch from one tuner to the other with the ANT•CAB button on your remote.

There are many off-air antennas you can use to receive off-air digital television. Find out which antenna will work best in your environment and where you should put your antenna for the best reception. For more information on antenna reception in different parts of the U.S., go to [www.antennaweb.org](http://www.antennaweb.org).

Connect the off-air antenna for digital television to this input jack.



Connect cable TV or your off-air antenna for regular, analog TV to this input jack.

### What makes HDTV better

With your new High-Definition Television, you can embark on the next generation of TV viewing—HDTV. There are many technological advancements that make HDTV better than analog TV, but there are basically three things about HDTV that bring you a superior viewing experience: (1) resolution, (2) aspect ratio, and (3) digital signal and sound.

### Resolution (it's math...that works for you)

The crisp, lifelike picture that people rave about when experiencing true HDTV is due to the resolution this technology provides. The resolution is measured by calculating the number of active lines of pixels. A pixel (which stands for picture element) is a small dot. The picture you see on your TV is composed of these dots.

# Introduction

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A regular, analog television only has a resolution of about 200,000 pixels (480 vertical pixels x 440 horizontal pixels = 211,200 pixels). The HDTV format is capable of more than 2 million pixels (1,920 x 1,080 = 2,073,600).

More pixels equal more detail. In summary, HDTV is capable of resolution that is up to 10 times the resolution of the picture on a regular, analog TV!

Feature	Analog (NTSC)	HD Digital (ATSC)



## Other Key Features of owning an RCA HDTV

There are other HDTVs on the market. But your RCA HDTV has been designed with features that will enhance your TV viewing experience, and features that provide flexibility to build on the digital revolution that is taking place. A summary of your TV's most unique features follows. Go to Chapter 3 for more details on these and additional features.

### TruScan Digital Reality™ Feature

With the *Film Mode* option turned on, the intelligent signal processing of the TruScan Digital Reality feature recognizes incoming video signals and progressively converts them to achieve optimum digital picture performance. It also recognizes when original film sources have been modified and can automatically convert the analog frame rate back to its original format to bring out the detail—a process commonly referred to as reverse 3:2 pulldown.

### DVI-HDTV Input

Lets you connect a component with a DVI (Digital Visual Interface) output. DVI provides an uncompressed, digital video interface developed for high-bandwidth digital connection. It supports the overlay of high-resolution graphics needed by some electronic program guide navigation and other interactive services. DVI, when combined with HDCP (High bandwidth Digital Content Protection) technology, creates a protected digital connection. The DVI-HDTV connection is designed to display either progressive scan (480p or 720p) or HDTV (1080i) signals at a bandwidth of up to 1.78 Gigabits per second.

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## Connections & Setup

### Chapter Overview:

- Things to Consider Before You Connect
- Choose Your Connection
- Explanation of Jacks
- Connection Instructions
- Front Panel Buttons and Jacks
- Plug in the TV
- Put Batteries in the Remote
- How to Use the Remote Control to Complete the Initial Setup
- Turn on the TV
- Complete the Initial Setup

Changing Entertainment. Again.



# Connections & Setup

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## Things to Consider Before You Connect

### Protect Against Power Surges

- Connect all components before you plug any of their power cords into the wall outlet.
- Turn off the TV and/or component before you connect or disconnect any cables.
- Make sure all antennas and cables are properly grounded. Refer to the Important Safety Instructions on page 1.

### Protect Components from Overheating

- Don't block ventilation holes on any of the components. Arrange the components so that air can circulate freely.
- Don't stack components.
- If you place components in a stand, make sure you allow adequate ventilation.
- If you connect an audio receiver or amplifier, place it on the top shelf so the heated air from it won't flow around other components.

### Position Cables Properly to Avoid Audio Interference

- Insert each cable firmly into the designated jack.
- If you place components above the TV, route all cables down the side of the back of the TV instead of straight down the middle of the TV.
- If your antenna uses 300-ohm twin lead cables, do not coil the cables. Also, keep the twin lead cables away from audio/video cables.

### Important Stand and Base Safety Information

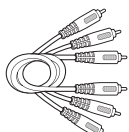
Choose the location for your TV carefully. Place the TV on a stand or base that is of adequate size and strength to prevent the TV from being accidentally tipped over, pushed off, or pulled off. This could cause personal injury and/or damage the TV. Refer to the Important Safety Instructions on page 1.

### Use Indirect Light

Don't place the TV where sunlight or room lighting will be directed toward the screen. Use soft or indirect lighting.

### Cables Needed to Connect Components to Your TV

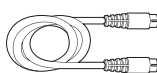
The pictures below show the cables needed for the connections represented in this book. The next two pages explain the inputs and outputs your HDTV offers for connecting components.



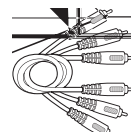
Audio/Video cables



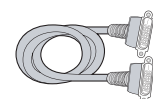
Coaxial cable



S-Video cable



Component Video (Y•Pb•Pr) cables



DVI-HDTV Cable




## Choose Your Connection

There are several connection options available for you. Proceed to the appropriate section for the connection you wish to use.

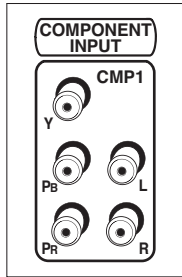
**Note for US:** A qualified service representative who will visit your home to assist you in the installation. For details about this service, visit [www.sony.com](#).

Choose the connection that best suits your needs. For more information, see the section on the connection you wish to use.

A qualified service representative will visit your home to assist you in the installation. For details about this service, visit [www.sony.com](#).

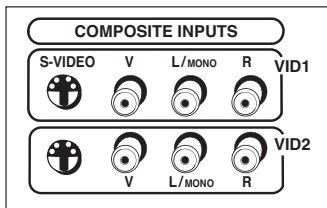
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	Allite TV + VCR pages 14-15
<b>DVI Connection</b>  TV + DVI component	TV + DVI component page 16
<b>Audio Connection</b>  TV + A/V receiver	TV + A/V receiver page 16





**COMPONENT INPUTS** Lets you connect a component video source, such as a DVD player.

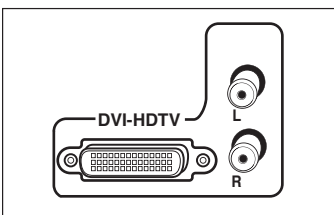
- **CMP1 Y Pb Pr (Component Video)** Provides optimum picture quality because the video is separated into three signals. Use three video-grade cables for the connection. When using CMP1 Y Pb Pr, make sure to connect left and right audio cables to the CMP1 L and R Audio Input jacks.
- **CMP1 L (Audio)** Provides left audio connection. The left audio connector is usually white.
- **CMP1 R (Audio)** Provides right audio connection. The right audio connector is usually red.
- **CMP2 Y Pb Pr, and L and R Audio** Allows you to connect a second component video source. Their description is the same as CMP1 above. When using CMP2 Y Pb Pr, make sure you connect the left and right audio cables to the CMP2 Audio jacks.



**COMPOSITE INPUTS** Lets you connect another component such as a VCR or DVD player. Its AUDIO jacks are the same as described for CMP1 above.

- **VID1 S-VIDEO** Provides better picture quality than the video jacks (VID1 and 2 Video) because the color part of the picture is separated from the black and white part of the picture. When using VID1 S-VIDEO, make sure to connect left and right audio cables to the VID1 L/MONO and R Audio Input jacks.
- **VID1 V (Video)** Provides composite video connection. The video connector is usually yellow.
- **VID2 S-VIDEO, V and L/MONO and R Audio** Allows you to connect a component such as a VCR or DVD player. Their description is the same as VID1 above.

**Note:** For each VID jack group (VID1 and VID2), you may connect either an S-Video or Video cable. Do not connect both at the same time in either of the VID jack groups.



**DVI-HDTV Input** Lets you connect a component with a DVI output.

**Important:** The DVI-HDTV input is not intended for use with a computer.

- **DVI (Digital Visual Interface)** Provides an uncompressed, digital video interface developed for high-bandwidth digital connection. It supports the overlay of high-resolution graphics needed by some electronic program guide navigation and other interactive services. DVI, when combined with HDCP (High bandwidth Digital Content Protection) technology, creates a protected digital connection. The DVI-HDTV connection is designed to display either progressive scan (480p) or HDTV (1080i) signals at a bandwidth of up to 1.78 Gigabits per second.
- **L (Audio)** Provides left audio connection when using the DVI jack. The left audio connector is usually white.
- **R (Audio)** Provides right audio connection when using the DVI jack. The right audio connector is usually red.

**Note:** Remember to connect the left and right audio cables because the DVI cable carries only the picture signal, not the sound.

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## TV + DVD + VCR

### 1. Connect your DVD Player to your TV.

- A. Connect the audio (white and red) cables to the CMP1 L and R audio input jacks on the back of the TV and to the audio output jacks on the DVD player.
- B. Connect three video grade cables to the CMP1 Y Pb Pr jacks on the back of the TV and to the Y Pb Pr jacks on the DVD player.

**Notes:**

*If your DVD player does not have Y Pb Pr jacks, but does have an S-Video jack, connect the player to the VID1 S-VIDEO jack on the TV using an S-Video cable.*

*If your DVD player does not have an S-Video jack, connect the player to the VID1 V (Video) jack on the back of the TV using a video cable.*

**Important:** *If you use the VID1 S-VIDEO or V (Video) jack to connect your TV to the DVD player, you must connect the audio cables to the VID1 L/MONO and R jacks on the TV.*

### 2. Connect your VCR to your TV.

- A. Connect a coaxial cable to the VCR's antenna output jack and to the ANTENNA/CABLE ANALOG INPUT jack on the TV.
- B. Connect the audio (white and red) cables to the VID2 L/MONO and R audio input jacks on the back of the TV and to the audio output jacks on the VCR.
- C. Connect the video cable to the VID2 V (Video) jack on the back of the TV and to the video output jack on the VCR.

### 3. Make sure cable or antenna is connected to your VCR.

Connect the coaxial cable from your cable outlet or antenna to the antenna input jack on the VCR.

### 4. Connect the coaxial cable from an off-air antenna to the ANTENNA DIGITAL INPUT jack.

**Note:** *Do not connect a digital cable signal to this input.*

**Go to page 18**





## TV + Satellite Receiver + VCR

### 1. Connect your VCR to your TV.

- A. Connect a coaxial cable to the VCR's antenna output jack and to the ANTENNA/CABLE ANALOG INPUT jack on the TV.
- B. Connect the audio (white and red) cables to the VID2 L/MONO and R audio jacks on the back of the TV and to the Audio Output jacks on the VCR.
- C. Connect the video cable to the VID2 V (Video) jack on the back of the TV and to the video output jack on the VCR.

### 2. Make sure cable or antenna is connected to your VCR.

Connect the coaxial cable from your cable outlet or antenna to the antenna input jack on the VCR.

### 3. Connect your Satellite Receiver to your TV.

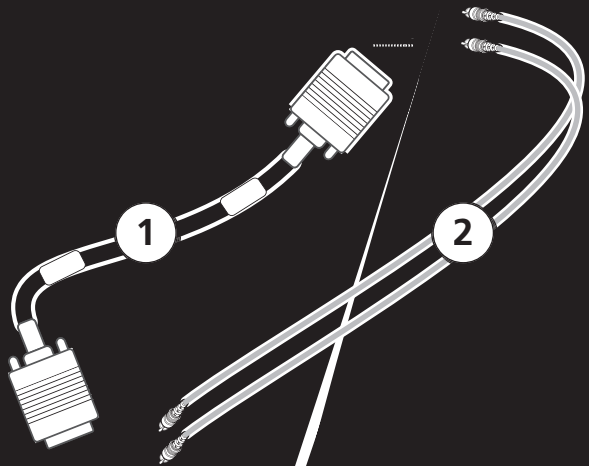
*Note: Use the best connection offered by your satellite receiver—if your satellite receiver has component video jacks, connect those*

- A. Connect the audio (white and red) cables to the VID1 L/MONO and R audio jacks on the back of the TV and to the audio output jacks on the satellite receiver.
- B. Connect the video cable to the VID1 V (Video) jack on the back of the TV and to the video output jack on the satellite receiver.
- C. If your satellite receiver has an S-Video jack, connect an S-Video cable (instead of the video cable in step B) to the S-VIDEO jack on the TV and to the S-VIDEO output jack on the satellite receiver.

### 4. Connect the coaxial cable from an off-air antenna to the ANTENNA DIGITAL INPUT jack.

*Note: Do not connect a digital cable signal to this input.*

**Go to page 18**



put

remote control.

**PHONES** Allows you to connect headphones to listen to the sound coming from the TV. To adjust volume control of the headphones, press the VOL+ or VOL- button (the volume display appears). Press the arrow up or down button (the headphone volume display appears), then press the right or left arrow button to adjust the headphone volume.

**VIDEO (in)** Receives video from another component, such as a camcorder, video game console, or VCR.

**L/MONO and R AUDIO** Receives audio from another component, such as a camcorder, video game console, or VCR.

**S-VIDEO (in)** Allows you to connect an S-Video cable from another component. Make sure you also connect audio cables from the component to the TV.

**Notes:** When you plug in headphones, the TV's internal speakers are muted. Use the VOL up or down button to control the volume. When connecting a component that uses a monaural cable, such as some camcorders, use the L/MONO input jack to get sound from both speakers.

**Notes:** The front panel illustration shows a typical front panel layout. The exact look may be different from the one on the front of your TV.

If you use the Front Button Block feature, the front panel no longer provides access to the menus. The Front Button Block feature disables all front panel buttons but not the jacks. For more information, see Chapter 3.

## Front Panel Buttons

If you cannot locate your remote, you can use the front panel buttons of your TV to operate many of the TV's features.

**MENU/OK** Brings up the Main menu. In the menu system, it selects highlighted items.

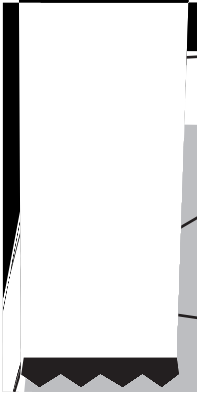
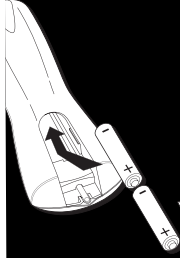
**CH ▲** Scans down through the current channel list. In the menu system, acts like down arrow button on the remote control and adjusts menu controls.

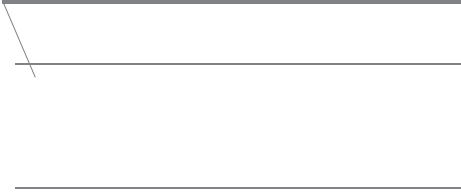
**CH ▼** Scans up through the channel list. In the menu system, acts like up arrow button on the remote control and adjusts menu controls.

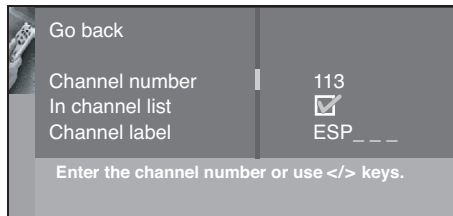
**VOL ◀** Decreases the volume. In the menu system, acts like left arrow button on the remote control and adjusts menu controls.

**VOL ▶** Increases the volume. In the menu system, acts like right arrow button on the remote control and adjusts menu controls.

**POWER** Turns the TV on and off.







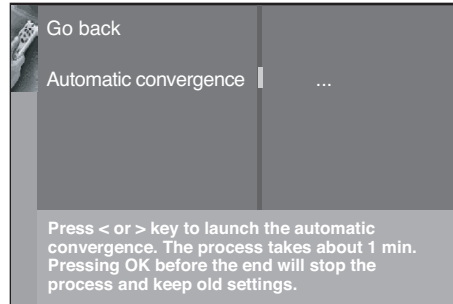
## Changing Lists and Labels

The List & Labels part of the setup lets you edit your channel list and choose or create a personal six-character label for each channel.

**Note:** *Changing List and Labels can be time consuming. You can change these at a later time by accessing the Setup menu.*

1. Press the left or right arrow button to scroll through the channels and choose the one you want to edit.

**Note:** *Labels for digital channels cannot be changed—they come from the signal sent by the broadcaster. If you're on a digital channel and you want to switch to an analog channel, press the ANT•CAB button on your remote.*
2. Press the down arrow to highlight the *In channel list* option. Press the left or right arrow button to add (the box is checked) or remove (the box is unchecked) the channel from the list.
3. Press the down arrow to highlight the *Channel label* option. Press the left or right arrow button to scroll through the available list of 25 most common labels. The last option in the list allows you to create your own six-character label for the channel (the first letter of the label is highlighted).
4. Press the 1 or 2 number button to change the first letter of the label.
5. Press the right arrow to highlight the second letter, then press the 1 or 2 number button to change the second letter, etc...
6. When you are finished creating your label, press OK. Select *Go back* to go to the *Auto Convergence* menu.



## Automatic Convergence

Your HDTV's picture tubes might have been disturbed during delivery or after you moved the HDTV, causing the color in your HDTV to be out of alignment. The colors adjust by starting auto convergence.

**IMPORTANT:** *Auto convergence works best once the HDTV has warmed up for at least an hour. If you've just unpacked your HDTV, it's a good idea to repeat the Auto convergence function when the HDTV's been running for at least an hour. See page 51 for more information about Auto convergence.*

1. Press OK to begin auto convergence.
2. When the auto convergence is complete, the *Red center convergence* menu appears. The cross in the middle of the screen should be yellow. If it is not, use the arrow buttons to move the red cross to overlap the green cross. Press OK when adjustments are complete.
3. The *Blue center convergence* menu appears with a cyan cross in the middle of the screen. If it is not, use the arrow buttons to move the blue cross to overlap the green cross. Press OK (the TV tunes to the last selected/available channel in the channel list).

### Note:

*If you're using an HD source (such as a separate HDTV tuner or HDTV satellite receiver) on the CMP or DVI inputs, you should run Auto convergence separately for that input as well. Tune to the input you're using for the HD source, then go to page 51 for information on Auto convergence.*

# Using the Remote Control

## Chapter Overview:

- The Buttons on the Remote Control
- Programming the Remote to Operate Other Components
- How To Use the Remote After You've Programmed It
- Volume Punchthrough Feature
- Using the INPUT Button
- Remote Code List

Changing Entertainment. Again.





...ed, if A...  
...annel. This b...  
...es of Operation on p...  
...e current format (aspect ratio a...  
...ontrol is not available for digital...  
...TV, freezes the picture until you...  
...al TV viewing. The FREEZE featur...  
...note that when you "unfreeze" you...  
...ing that occurred during the...  
...ot work on signals from the DVI-HDT...  
...CMP2 input... (480p) or HDTV (1080i) modes. It also...  
...work on digital channels.  
...Do not use the Freeze feature for an extended period of time. This can cause...  
...the image to be permanently im... on the picture tube. Such damage is no...  
...covered by your warranty. Press and... to unfreeze the picture at any time.



# Using the Remote Control

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## Tip

The component button corresponding to the mode you're in flashes when the remote batteries are low and you press a button on the remote.

A warning banner may also appear on the screen when you press a remote button and your batteries are low.

---

## Tip

To turn off all the RCA components that are connected to the TV, press ON•OFF twice within two seconds.

This feature works with most RCA products.

---

## Note:

The DVD, VCR, AUDIO, SAT•CABLE, and AUX•HD buttons also turn on most RCA products.

---

**GO BACK** Returns you to the previous channel.

**GUIDE** Brings up the *Channel Guide* menu.

**INFO** Brings up the Channel Banner with channel and viewing information. Press again to remove the banner.

**INPUT** Press to toggle through the available input sources (VID1, VID2, FRNT, CMP1, CMP2 and DVI). Press the CH+ or CH- button to resume TV viewing.

**MENU** Brings up the Main menu.

**Note:** If you've just turned on the TV, the digital tuner takes some time to get ready (usually about 25 seconds). While the digital tuner is getting ready, you won't see the items for functions corresponding to that tuner in the menus. These items will show up once the digital tuner is ready.

**MUTE** Reduces the TV's volume to its minimum level. Press again to restore the volume. To program this button to work with an audio component, follow the instructions in the *Volume Punchthrough Feature* section on page 26.

**OK** When in the menu system, selects highlighted items. When watching TV, freezes the picture until you press any button on the remote to resume normal TV viewing. Please note that when you "unfreeze" you go back to live programming (skipping any programming that occurred during the freeze).

**ON•OFF** When in TV mode, turns the TV on and off. If in another component mode (VCR, DVD, AUDIO, SAT•CABLE, or AUX•HD) and programmed, will turn the component on and off. When pressed twice within two seconds, the ON•OFF button turns off most RCA components.

**PRESETS** Displays the Picture and Sound preset settings. Use the up and down arrow buttons to highlight either Picture or Sound settings. Use the left and right arrow buttons to change to a different Picture or Sound preset.

**REVERSE, PLAY, FORWARD, RECORD, STOP, PAUSE** If programmed, provides transport control for some remote-controllable VCRs and DVD players.

**SAT•CABLE (Satellite•Cable)** Places the remote in SAT/CABLE box mode. If Auto Tuning is enabled, turns on the TV and tunes it to the satellite or cable box Video Input Channel. This button lights when you press a valid button in SAT•CABLE mode (see *Modes of Operation* on page 26 for more details).

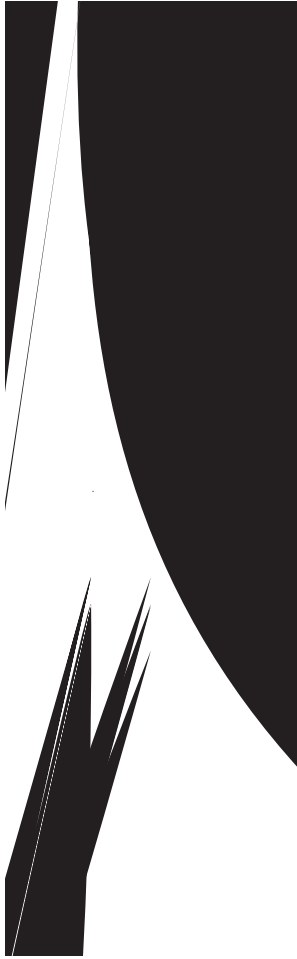
**SKIP** In TV mode, activates the commercial skip timer. This button also activates the search function on some RCA, GE, or ProScan VCRs (when the remote is in VCR mode).

**SOUND** On digital channels/inputs, toggles through the audio modes (if available for that channel). For analog channels, toggles SAP on or off. If you change channels/inputs, the default for Audio Mode or SAP is restored. Does not affect default menu settings for *SAP* or *Audio Mode*.

**TV** Places the remote in TV mode. Turns on the TV and tunes to the last-viewed TV channel or input. This button lights when you press a valid button in TV mode (see *Modes of Operation* on page 26 for more details).

**VCR** Places the remote in VCR mode. If Auto Tuning is enabled, turns on the TV and tunes to the VCR Video Input Channel. This button lights when you press a valid button in VCR mode (see *Modes of Operation* on page 26 for more details).

**VOL – or VOL +** Decreases or increases the TV's volume. To program this button to work with an audio component, follow the instructions in the *Volume Punchthrough Feature* section on page 26.



You'll use these buttons for the Auto Code Search.

**Important:** The remote may not be compatible with all models of all brands of components. It also may not operate all functions of the remote that came with your component.

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## Tip

To stop the automatic code search without programming any components, press and hold CLEAR until the component button on the remote turns off.

---

## Programming the Remote to Operate Other Components

The universal remote can be programmed to operate many brands of remote-controllable VCRs, audio components, DVD players, cable boxes, satellite receivers and other components. In addition to being programmed to operate your television, it's already programmed to operate most RCA components.

The AUX•HD button can be programmed to operate most brands of an additional remote-controllable component: satellite receiver, cable box, DVD, VCR, and an audio component. A second and third RCA TV can be programmed to any component button, except the TV button.

**Note:** The TV button can't be programmed on this remote to control any component; it controls only this TV.

## Find Out If You Need to Program the Remote

To determine whether the universal remote needs to be programmed to operate one of the components connected to your TV, such as a DVD player, do the following:

1. Turn on the component (in this example, a DVD player).
2. Point the remote at the component.
3. Press the corresponding component button (in this example, DVD).
4. Press ON•OFF to see if the DVD player responds. If the DVD player doesn't respond, you need to program the remote to operate it.

## Programming the Remote

There are two ways to program the remote control to operate other components: *Automatic Code Search* and *Direct Entry*.

### Using Automatic Code Search

**Note:** The AUX•HD button can only search VCR codes, but can be used for a non-VCR device by programming it with direct entry method. By default, the AUX•HD button is programmed for an RCA HDTV Tuner receiver.

The following instructions can be used to program the remote to operate each of your components. If you want to stop the automatic code search without programming any of your components, press the CLEAR button until the component button you're trying to program turns off.

1. Turn on the component you want to control (VCR, satellite receiver, etc.)
2. Press and hold the button you want to program. While holding the component button, press and hold ON•OFF until all of the component buttons (VCR, TV, DVD, AUDIO, AUX•HD, and SAT•CABLE) flash. Then, release both buttons.
3. Point the remote at the component, press and release PLAY, then wait five seconds or until the component button you're trying to program stops flashing.

# Using the Remote Control

At this point the remote control is searching for the correct code to program, so keep pointing it at the component. If, after five seconds, the component you want to control does not turn off, press and release PLAY again to tell the remote to search the next set of codes.

Continue pressing and releasing PLAY until the component turns off or until all of the component buttons on the remote flash 4 times in unison. If the component has not turned off by the time all the component buttons on the remote control flash 4 times in unison, then the remote cannot control that particular component.

If the component you want to control *does* turn off:

1. Press and release REVERSE, then wait two seconds. Repeat this step until the component turns back on.
2. To finish, press and hold STOP until the component button you're trying to program on the remote control turns off. This saves the code to that button.

## Important

You must continue pressing the component button while you enter the code.

Let's say you have a Zenith DVD player. To program the universal remote to operate the DVD player, you would:

Press and hold the DVD button while you enter the first code listed for Zenith in the DVD Codes column.

Release the DVD button. Press ON•OFF to see if the DVD player responds. If it doesn't, follow the same steps, but enter the second code for Zenith DVD players instead of the first.

## Using Direct Entry

1. Turn on the component to be programmed.
2. Look up the brand and code number(s) for the component on the code list at the end of this section.
3. On your remote control, press and hold the component button you want to program.
4. While pressing the component button, enter a code from the code list. If all of the component buttons flash 4 times in unison, then the code you've entered is not the right kind of code for that button (see pages 29-30 to see which buttons can be programmed to control the component you want).
5. Release the component button, point the remote at the component and then press ON•OFF to see if the component responds to the remote control commands. If it doesn't, try pressing the component button and then ON•OFF (or other buttons on the remote) again.
6. If you get no response, repeat these steps using the next code listed for your brand, until the component responds to the remote control commands.

## How to Use the Remote After You've Programmed It

Once the remote has been programmed successfully, you are ready to use it to operate your components.

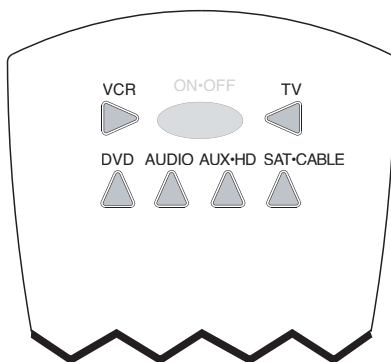
### To Operate the Component:

1. Press the appropriate component button (DVD, TV, VCR, SAT•CABLE, AUDIO, AUX•HD) to set the remote to control the component.
2. Press ON•OFF to turn the component ON or OFF.
3. Use the remote buttons that apply to that component.

**Notes:** The remote control may not be compatible with all brands and models of components.

If you keep pressing buttons and nothing happens, the remote is probably in the wrong mode. You must press the component button that matches the component you want to operate (i.e., if you want to operate the VCR, press VCR on the remote control to put the remote in VCR mode.)

Component Buttons



# Using the Remote Control

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## Note

*Some of the remote's buttons might operate differently for other components, especially when you're using another component's menu system.*

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## Modes of Operation

Because this universal remote can control several different components (DVD player, VCR, cable box, etc.) it uses operational modes triggered by the component buttons. For example, if you want the remote control to operate the TV, press the TV button to put the remote into TV mode. If you want the remote to operate the VCR, press the VCR button.

The button corresponding to the mode the remote is in lights up when you press any button that works in that mode. For example, if you're in TV mode and you press the VOL+ button, the TV button lights up. This tells you that the command to increase the volume is being sent to the TV (and not the satellite receiver, for example).

## Volume Punchthrough Feature

You may find this feature helpful if you've connected your components to an audio/video receiver (A/V receiver) or amplifier, but you want to use the TV's remote control to operate the volume for a component that is connected to the audio/video receiver. An example follows:

Let's say you've connected your DVD player to your audio/video receiver. You've also programmed your TV remote control to operate your DVD player. Since the DVD player gets its volume through the audio/video receiver, you would have to bounce back and forth between two remote controls: the A/V receiver's remote to adjust the volume and the TV's remote control to operate the DVD player.

The Volume Punchthrough feature eliminates the need for you to use two remote controls and saves a button press when you're using the TV remote to adjust the volume. In effect, you are telling the TV remote to retrieve and send volume commands from the A/V receiver whenever the TV remote is in DVD mode.

Therefore, after you've successfully set up the Volume Punchthrough feature, whenever the TV remote is in DVD mode (press the DVD button) and you want to adjust the volume, you only have to press the VOL + or VOL- buttons. Follow the instructions below to set up Volume Punchthrough.

**IMPORTANT:** *First, you must program the AUDIO button on the TV's remote control to operate your audio receiver or amplifier. Go to page 24 for instructions. If you can't program this remote to operate your audio receiver, Volume Punchthrough won't work.*

*While setting up Volume Punchthrough, it's best to point the remote away from components.*

1. Decide which mode the remote will be in when the volume from the audio receiver "punches through." The mode will be one of the component buttons (TV, DVD, SAT•CABLE, VCR, or AUX•HD).
2. Press and hold the VOL- button. Keep pressing VOL- while you press and release the component button you chose in step 1 (TV, DVD, SAT•CABLE, VCR, or AUX•HD).
3. Press and release the AUDIO button since the sound will be coming from the audio/video receiver. Release the VOL- button.
4. Now, test it by turning on your audio receiver or amplifier.
5. Turn on the component that is connected to the audio/video receiver or amplifier (a DVD player, for example).
6. Put the TV's remote in DVD mode by pressing the DVD button, and play a disc.
7. Press VOL+ or VOL-. The volume from the audio receiver should increase or decrease accordingly.

## Deleting ALL Volume Punchthrough Commands

To delete all programmed Volume Punchthrough settings and return the remote control back to the factory defaults, press and hold the VOL- button (the component button of the Volume Punchthrough lights). While holding the VOL- button, enter the code, 000, using the number buttons. All component buttons turn on for 2 seconds and then turn off. The remote returns to the factory settings.

**Note:** If an invalid button is pressed, all component buttons blink 4 times and turn off. At this point, you must start over.

## Using the INPUT Button

1. Repeatedly press the INPUT button to scroll through the available input sources until you find the input associated with the component (such as VCR or DVD player) you want to view.
2. Once you find the input source you want, stop pressing INPUT.
  - If you tune to INPUT 1 and your VCR is connected to that input, you will be able to view your VCR. To play, stop, or rewind the VCR tape using the remote that came with your TV, you must first press the VCR or AUX•HD button (whichever one is programmed to the VCR) to put the remote control in VCR mode.

There are other ways of selecting a Video Input Channel:

- Program the component (VCR, DVD, etc.) buttons on the remote control to automatically tune to the correct Video Input Channel when pressed. For more details on Auto Tuning, see Chapter 3.
- When viewing an input, press ANT•CAB, GO BACK, or INPUT to go back to viewing channels or use the number buttons to enter the channel number.
- To quickly access an input, press the INPUT button and the input number, for example, INPUT + 1 to access INPUT 1. **Note for professional installers:** This is a discrete input code.

## Remote Code List

<u>Audio Codes</u>	
Programmable for the AUDIO and AUX•HD buttons.	
<b>AUX/Dimensia/Lyra Wireless</b>	
RCA .....	4004
<b>Audio Cassette</b>	
GE .....	4006
RCA .....	4006
<b>Phono</b>	
GE .....	4005
RCA .....	4005
<b>Receiver/Tuner/AMP</b>	
Aiwa .....	4008, 4009, 4010, 4011, 4012, 4021
Denon .....	4027
GE .....	4003
Harman Kardon .....	4020
JBL .....	4020
JVC .....	4013
Kenwood .....	4014
Onkyo .....	4022
Optimus .....	4028
Panasonic .....	4023, 4024
RCA .....	4003, 4015, 4029, 4030
Sherwood .....	4026
Sony .....	4016, 4017, 4025
Technics .....	4023, 4024
Yamaha .....	4018, 4019

<u>Cable Box Codes</u>	
Programmable for SAT•CABLE and AUX•HD buttons.	
ABC .....	5002, 5003, 5004, 5006, 5045
Archer .....	5008, 5009
Cableview .....	5007
Contec .....	5015
Eastern .....	5016
GE .....	5002, 5003
Gemini .....	5017, 5018
General Instruments .....	5003
Hamlin .....	5019, 5020, 5021, 5026, 5033
Hitachi .....	5003
Jerrold .....	5003, 5017, 5022, 5023, 5039, 5045
Magnavox .....	5024
Memorex .....	5026
Movie Time .....	5025
NEC .....	5005
NSC .....	5025
Oak .....	5015, 5027
Panasonic .....	5041, 5044
Philips .....	5011, 5012, 5013, 5014, 5018, 5024, 5028, 5029, 5030
Pioneer .....	5031, 5032
Proscan .....	5002, 5003
RCA .....	5007, 5040, 5042, 5044
Realistic .....	5009
Samsung .....	5032
Scientific Atlanta .....	5006, 5034, 5035, 5036
Signature .....	5003

Sprucer .....	5044
Standard Component .....	5037, 5038
Starcom .....	5017, 5045
Stargate .....	5017
Tocom .....	5004, 5022
United Cable .....	5045
Universal .....	5008, 5009, 5010
View Star .....	5015, 5024, 5025
Zenith .....	5043

<u>HD Receiver Code</u>	
Programmable for AUX•HD button.	
RCA .....	7000

<u>TV Codes</u>	
Programmable for DVD, VCR, SAT•CABLE, AUX•HD, and AUDIO buttons.	
TV2 .....	1222
TV3 .....	1223

# Using the Remote Control

## DVD codes

Programmable for DVD and AUX•HD buttons.

<b>DVD</b>	
Aiwa	3010, 3021
Apex	3023, 3024
Broksonic	3027, 3075
Daewoo	3028
Denon	3029, 3030, 3031
Emerson	3032, 3033, 3076
Funai	3033
GE	3000, 3034, 3035
Go Video	3077
Hitachi	3009, 3067, 3068, 3069, 3070
JVC	3003, 3011, 3078
Kenwood	3071
Konka	3012, 3013
Koss	3085
Lasonic	3087
Magnavox	3004, 3036
Memorex	3037
Mintek	3038
Mitsubishi	3005
NAD	3032
Norcent	3039, 3040
Onkyo	3041
Oritron	3047
Panasonic	3014, 3042
Philips	3004, 3020
Pioneer	3006, 3043, 3044, 3045
Proscan	3000, 3046
Qwestar	3047
RCA	3000, 3002, 3048, 3079, 3086
Samsung	3072, 3073, 3074, 3080, 3081,
Sansui	3049
Sanyo	3015, 3082
Sharp	3050, 3052, 3053
Sony	3007, 3016, 3017, 3054, 3055, 3056, 3083
Sylvania	3033
Teac	3057
Technics	3058
Toshiba	3008, 3018, 3059, 3060, 3061
Yamaha	3062, 3063, 3064
Zenith	3019, 3065, 3084

## Portable DVD

Aiwa	3022
Audiovox	3025, 3026
Panasonic	3030
RCA	3066
Sharp	3051

## DVD/VCR Combo Codes

DVD and AUX•HD buttons can use DVD codes; VCR and AUX•HD buttons can use VCR codes

	<b>DVD</b>	<b>VCR</b>
Broksonic	3075	2075
Emerson	3076	2076
Go Video	3077	2077
JVC	3078	2078
RCA	3079	2079
Samsung	3080, 3081	2080, 2081
Sanyo	3082	2082
Sony	3083	2083
Zenith	3084	2084

## PVR Codes

Programmable for the VCR and AUX•HD buttons.

<b>PVR</b>	
Replay	2086
Phillips Tivo	2085

## Home Theatre in a Box

### (DVD Receiver) Codes

AUDIO and AUX•HD buttons can use Audio codes; DVD and AUX•HD buttons can use DVD codes

	<b>Audio</b>	<b>DVD</b>
JBL	4031	3088
JVC	4032	3089
Koss	4033	3090
Onkyo	4034	3091
Panasonic	4035	3092
Pioneer	4036	3093
RCA	4037	3094
Venturer	4038	3095

## Satellite Receiver Codes

Programmable for SAT•CABLE and AUX•HD buttons.

Alphastar	5064
Chapparral	5046, 5047
Dishnet	5063
Drake	5048, 5049
Echostar	5070
GE	5000, 5001, 5072
General Instruments	5050, 5051, 5052
Hitachi	5066, 5067
Hughes	5062, 5071
JVC	5065
Panasonic	5060
Philips	5068
Primestar	5061
Proscan	5000, 5001, 5072
RCA	5000, 5001, 5072
Realistic	5053
Sony	5058
STS1	5054
STS3	5055
STS4	5056
Toshiba	5057, 5059
Uniden	5069

## VCR Codes

Programmable for VCR and AUX•HD buttons.

Admiral	2068
Aiko	2023
Aiwa	2022
Akai	2002, 2003, 2004, 2057, 2058, 2059
Audiovox	2010
Bell & Howell	2007
Broksonic	2008, 2021, 2075
Calix	2010
Canon	2017, 2018
Capehart	2016, 2056
Carver	2037
CCE	2023, 2036
Citizen	2009, 2010, 2011, 2012, 2013, 2014, 2015, 2023
Colortyme	2005
Craig	2009, 2010, 2019, 2036
Curtis-Mathes	2005, 2009, 2012,
	2014, 2017, 2018, 2020, 2060, 2072
Daewoo	2011, 2013, 2015, 2021, 2022, 2023, 2056
Daytron	2056
Dimensia	2072
Electrohome	2010, 2024
Emerson	2002, 2008, 2010, 2011, 2017, 2020,
	2021, 2022, 2024, 2025, 2026, 2027,
	2028, 2039, 2059, 2061, 2067, 2069, 2076
Fisher	2007, 2019, 2029, 2030
Fuji	2003, 2017, 2062
Funai	2022
Garrard	2022
GE	2000, 2001, 2009, 2017, 2018, 2060,
	2063, 2072
Gradiente	2022
Harman Kardon	2005
Harwood	2036
Hitachi	2033, 2034, 2035, 2053, 2057, 2063
JC Penney	2005, 2006, 2007, 2008, 2009, 2010,
	2017, 2018, 2030, 2033, 2034, 2036, 2037, 2053
Jensen	2033, 2034, 2057

JVC	2005, 2006, 2007, 2014, 2057, 2064, 2078
Kenwood	2005, 2006, 2007, 2012, 2014, 2057,
	2064
KLH	2036
Kodak	2010, 2017
LG	2010
Logik	2036
LXI	2010
Magnavox	2017, 2018, 2037, 2038, 2052, 2054,
	2065
Marantz	2005, 2006, 2007, 2012, 2014, 2017, 2037
Matsushita	2017
Memorex	2007, 2009, 2010, 2017, 2019, 2022,
	2052, 2068
MGA	2024, 2039, 2059
Minolta	2033, 2034, 2053
Mitsubishi	2024, 2033, 2034, 2039,
	2040, 2041, 2059, 2064
Montgomery Ward	2068
Motorola	2017, 2068
MTC	2009
Multitech	2009, 2012, 2022, 2031, 2036
NEC	2005, 2006, 2007, 2012, 2014, 2057, 2064
Nikko	2010
Noblex	2009
Olympus	2017
Optimus	2010, 2068
Optonica	2047
Panasonic	2017, 2018, 2055, 2066
Pentax	2012, 2033, 2034, 2053, 2063
Pentax Research	2014
Philco	2017, 2018, 2037, 2038
Philips	2017, 2037, 2047, 2065
Pioneer	2006, 2033, 2042, 2064
Portland	2012, 2013, 2015, 2056
Proscan	2000, 2001, 2072
Quasar	2017, 2018, 2066
RCA	2000, 2001, 2002, 2009, 2017,
	2033, 2034, 2043, 2044, 2045, 2053,
	2060, 2063, 2066, 2070, 2072, 2073, 2079
Radio Shack	2010, 2047, 2068
Radioshack/Realistic	2007, 2009, 2010, 2017,
	2018, 2019, 2022, 2024, 2029, 2047
Realistic	2007, 2009, 2010, 2011, 2017,
	2018, 2019, 2022, 2024, 2029, 2047, 2068
Radix	2010
Ricoh	2071
Runco	2052
Samsung	2004, 2009, 2011, 2027, 2031, 2058,
	2080, 2081
Sansui	2006, 2046, 2057, 2064
Sanyo	2007, 2009, 2019, 2082
Scott	2008, 2011, 2021, 2026, 2028, 2039, 2061
Sears	2007, 2010, 2017, 2019,
	2029, 2030, 2033, 2034, 2053
Sharp	2013, 2024, 2047, 2048, 2068
Shintom	2003, 2034, 2036, 2049
Signature	2068
Singer	2017, 2036, 2071
Sony	2003, 2049, 2050, 2062, 2083
STS	2017, 2053
Sylvania	2017, 2018, 2022, 2037, 2038, 2039, 2065
Symphonic	2022
Tandy	2007
Tashiko	2010
Tatung	2057
TEAC	2022, 2057
Technics	2017, 2055
Teknika	2010, 2017, 2022, 2051
Toshiba	2011, 2029, 2030, 2033, 2039, 2059
Totevision	2009, 2010
Unitech	2009
Vector Research	2005, 2006, 2011, 2012
Video Concepts	2005, 2006, 2011, 2012, 2059
Wards	2009, 2010, 2011, 2017, 2019, 2022, 2024,
	2033, 2034, 2036, 2047, 2053, 2061, 2068, 2070
XR-1000	2017, 2022, 2036
Yamaha	2005, 2006, 2007, 2014, 2057
Zenith	2003, 2049, 2052, 2062, 2071, 2084

# Using the TV's Features

## Chapter Overview:

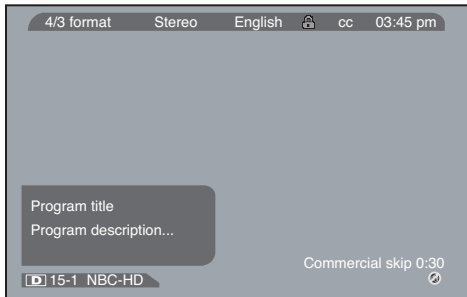
- Channel Banner
- Digital and Analog Tuners
- Autotuning
- Parental Controls and V-Chip

Changing Entertainment. Again.

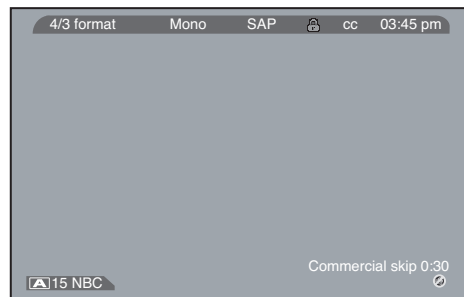


## Channel Banner

There are several indicators that might appear when you press the TV or INFO button on the remote. What you see depends on the tuner you're watching (digital or analog) and the information available for the current program. This display is called the Channel Banner. The list at the bottom of this page describes the items on the Channel Banner screen (left to right and top to bottom).



Sample channel banner on the digital tuner.



Sample channel banner on the analog tuner.

**4/3 format** Current screen format.

**Mono (or Stereo)** *Mono* appears when the current channel is broadcasting in mono. *Stereo* appears when the current channel is broadcasting in stereo.

**English** (Digital tuner only) The current audio language.

**SAP** (Analog tuner only) The current channel is broadcasting SAP (Second Audio Program) information.

 Parental Controls are locked.

**CC** On the digital tuner, shows that Closed Captioning is turned on. On the analog tuner, shows that Closed Captioning is available on the current channel.

**03:45 pm** Current time.

**Program title** (Digital tuner only) The title of the current program (if this information is available).

**Program description** (Digital tuner only) A brief description of the current program (if this information is available).

**D** Shows that you're currently viewing a channel on the digital tuner.

**A** Shows that you're currently viewing a channel on the analog tuner.

**15 NBC-HD** Current channel and subchannel (subchannels are available on the digital tuner only), plus the channel label.

**Note:** Channel labels for digital channels are part of the signal sent by the broadcaster, so you cannot change them. Channel labels for analog channels do not always come from the broadcaster, so you can create them and change them as you like.

**Commercial skip 0:30** Shows the time remaining on the commercial skip (SKIP) timer.

 Sound is muted.



Tip:

## Digital and Analog Tuners

Your TV has two tuners: one for regular, analog TV channels and one for digital channels. You can switch between the two by pressing the ANT•CAB button on your remote control when the remote is in TV mode.

### Digital Channels

Digital channels can be made up of primary channels and subchannels. Subchannels (sometimes called minor channels) are channels associated with the Primary channel (sometimes called the major channel). A primary channel may have just one subchannel or multiple subchannels.

### Direct Tuning to a Channel on the Digital Tuner

1. Make sure the remote is in TV mode by pressing TV on the remote control.
2. Press ANT•CAB until a "D" icon appears next to the channel number.
3. Enter the primary channel number. This number appears first. Press OK or wait a few seconds. If you don't enter a subchannel, the TV tunes to the lowest digital subchannel.
3. If the primary channel number has fewer than two digits, and you want to enter subchannel numbers, press the right arrow button to enter the subchannel.
4. Enter the number of the subchannel. This number appears to the right of the primary channel number.
5. Press OK to tune to the channel or wait a few seconds and the TV tunes to the channel.

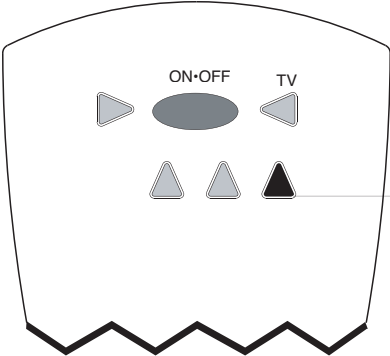
Primary Channel

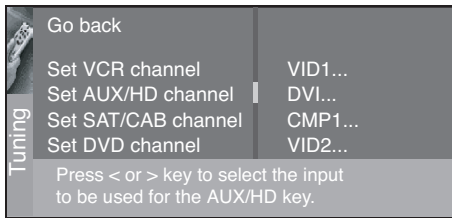
Subchannel (if necessary)

**Note:** Once you've run the auto channel search on a tuner, you can just use the channel up and down buttons on the remote control to change channels when the remote's in TV mode.

# Using the TV's Features

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5. Press the right arrow button to select the choice that matches the way you have the component connected to this TV, and press OK.

You can select from the following inputs or channels:

**N/A** Choose this if you don't have this particular component connected to the TV, or if you don't want the TV to automatically tune to the correct channel/input when you're using this component.

**Channel 3 or 4** Component is connected to the CABLE/ANTENNA jack on the back of the TV, and you want the TV to tune to channel 3 when you press the corresponding button on the remote. Reminder: make sure the component's Channel 3/4 switch is set to channel 3.

**VID1 or VID2 (Video Input)** Component is connected to a VIDEO or S-Video jack on the back of the TV and you want the TV to tune to a VID input channel when you press the corresponding component button.

**FRNT (Front Video Input)** Component is connected to the VIDEO jack on the front of the TV and you want the TV to tune to the front VID input channel (FRNT) when you press the corresponding component button.

**CMP1 (Component Video Input 1)** Compatible component video source, such as a DVD player or digital TV converter box, is connected to the first set of three COMPONENT VIDEO INPUT jacks (Y,PB,PR) on the back of the TV and you want the TV to tune to the first component video input channel (CMP1) when you press the corresponding component button.

**CMP2 (Component Video Input 2)** Compatible component video source, such as a DVD player or digital TV converter box, is connected to the second set of three COMPONENT VIDEO INPUT jacks (Y,PB,PR) on the back of the TV and you want the TV to tune to the second component video input channel (CMP2) when you press the corresponding component button.

**DVI** Component is connected to the DVI-HDTV jack on the back of the TV and you want the TV to tune to the DVI input channel when you press the corresponding component button.

# Using the TV's Features

## Parental Controls and V-Chip

The choices in the *US V-CHIP* and *Canada V-CHIP* menus involve software inside your TV (referred to as V-Chip) which allows you to block TV programs and movies based on violence, sex, or other content you may believe children should not view.

Once you block programs, you can unblock programs by entering a password.

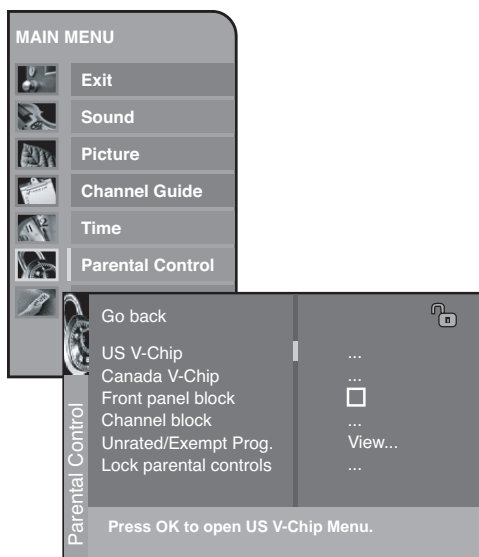
By default, the software inside your TV is turned “off.” For instructions to turn on V-Chip, go to page 40.

**Note:** Parental Control settings are not available for the DVI, CMP1, or CMP2 inputs.

## How V-Chip Works for USA and Canada

V-Chip reads the program's age-based rating (TV-MA, TV-14, etc.) and content themes [(Violence (V), Adult Language (L), etc.)]. If you have blocked the rating and/or content themes that the program contains, you will receive the message *This channel has not been approved for viewing. Change channel or press OK to enter password and temporarily deactivate the Parental Control.*

Broadcasters are not required to provide content themes, so programs received with no content themes will only be blocked if you block their age-based rating. You can also block out programs that have been given an Exempt rating, and programs that are considered unrated. The next several pages have tables showing the TV age-based ratings and content themes for the US and Canada.



## US V-Chip TV Rating Limit

The V-Chip TV Rating Limit lets you decide which TV programs can and cannot be viewed.

To set TV programming limits:

1. Choose *Parental Control* from the MAIN MENU. If Parental Controls have previously been locked, you must enter your password.
2. Highlight and select *US V-Chip*. Then select *V-Chip TV Rating*.
3. Once you get to the *V-Chip TV rating limit* screen, use the arrow buttons and OK on your remote to change the status of a TV program rating or content theme from *View* to *Block*.
4. For TV rating limits to take effect, lock Parental Controls by accessing the *Lock parental controls* menu.

The following sections give you more details about how to change the status of TV program limits.

**Note:** If you forget your password, follow step one above to get to the password entry screen. Then press the VOL+ and CH+ buttons on the TV's front panel at the same time for at least 8 seconds. You will receive an on-screen message that Parental Controls have been unlocked once you've successfully reset the password.

## The V-Chip Rating Screen

The following is an example of where items are located within the Rating Limit screen.

**Rating Status Field**  
Lets you select whether the status of the age-based rating limit to the left is View or Block.

**Rating Field**  
Lets you select from a list of age-based ratings you can block or view.

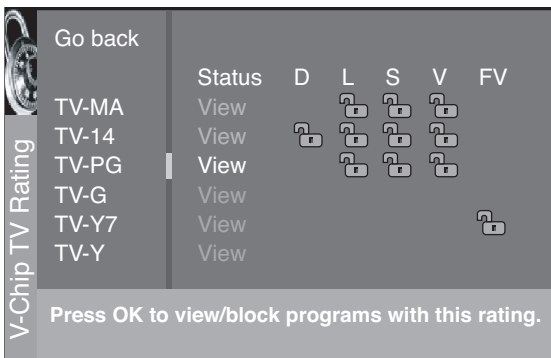
**Content Themes**  
Lists the content themes you can block or view.

**Content Status Fields**  
Lets you select which content themes to view for the selected rating, and whether the status of the content theme is currently unlocked (🔓) or locked (🔒).

**Rating Settings Area**  
Lets you see the current block/view state of age-based ratings and associated content. The View (🔓) settings are coded in green, and the Block (🔒) settings are coded in red.

Age-Based Rating	USA Description and Content Themes for Age-Based Ratings
TV-MA	<b>Mature Audience Only.</b> Specifically designed to be viewed by adults and may be unsuitable for children under 17. It contains one or more of the following content themes: crude indecent language (L), explicit sexual activity (S), or graphic violence (V).
TV-14	<b>Parents Strongly Cautioned.</b> Contains some material that many parents would find unsuitable for children under 14. Parents are strongly urged to exercise greater care in monitoring this program and are cautioned against letting children under the age of 14 watch unattended. This program contains one or more of the following content themes: intensely suggestive dialogue (D), strong coarse language (L), intense sexual situations (S), or intense violence (V).
TV-PG	<b>Parental Guidance Suggested.</b> Contains material that parents may find unsuitable for younger children. Many parents may want to watch it with their younger children. The program contains one or more of the following content themes: some suggestive dialogue (D), infrequent coarse language (L), some sexual situations (S), or moderate violence (V).
TV-G	<b>General Audience.</b> Most parents would find this program suitable for all ages. It contains little or no sexual dialogue (D) or situations (S), no strong language (L), and little or no violence (V).
TV-Y7	<b>Directed to Children 7 years and older.</b> Designed for children ages 7 and above. It may be more appropriate for children who have acquired the developmental skills needed to distinguish between make-believe and reality. Themes and elements in this program may include mild fantasy violence (FV) or comedic violence, or may frighten children under the age of 7.
TV-Y	<b>All Children.</b> Themes and elements in this program are designed for a young audience, including children from ages 2-6. It is not expected to frighten younger children.

# Using the TV's Features



## Blocking Age-Based Ratings

You can automatically block all program ratings above a specified age-based rating level. To block programs with higher ratings:

1. Press the up or down arrow button to scroll to the rating corresponding with the lowest rating you do not want the child to watch.
2. Press the OK button to toggle between *View* and *Block*. The status for the rating listed to the left and all higher ratings automatically changes to *Block* (and ).
3. Use the up/down arrow buttons to highlight *Go back* and press OK.
4. Select *Lock Parental Controls* from the *Parental Control* menu for rating limits to take effect.

Hierarchy of Age-Based Ratings	
TV-MA	<i>Mature Audience Only</i>
TV-14	<i>Parents Strongly Cautioned</i>
TV-PG	<i>Parental Guidance Suggested</i>
TV-G	<i>General Audience</i>
TV-Y7	<i>Directed to Children 7 years and older</i>
TV-Y	<i>All Children</i>

## Viewing Age-Based Ratings

After you block age-based ratings, you can change some of the ratings back to *View*.

1. Use the up/down arrows to select the rating with a status of *Block*.
2. Press OK to select *View*.

Content Themes	
D	<i>Sexually explicit dialogue</i>
L	<i>Adult language</i>
S	<i>Sexual situations</i>
V	<i>Violence</i>
FV	<i>Fantasy Violence</i>

## Blocking Specific Content Themes

You can block programs based on their content. (Content is represented by the D, L, S, V and FV on your screen.) When you block a content theme for a particular rating, you automatically block that content theme for higher rated programs as well.

To block program content:

1. Determine the content themes you want to block.
2. Press the down arrow button to scroll to the rating whose content theme you want to change.
3. Press the right arrow button to move the yellow highlight to a particular content theme status.
4. Press the OK button to change its status to . (In the example to the left, you block the language (L) corresponding with TV-14. The language for TV-MA is blocked as well.)

**Notes:** Broadcasters are not required to provide content themes or age-based ratings.

You must remember to lock Parental Controls for rating limits to take effect.

### Tip

To change all V-Chip movie or TV ratings to *View*, press the 0 number button.

## Viewing Specific Content Themes

If you block specific content themes, you have the option of going back and changing some of the them back to (V) View:

1. Determine the content themes you want to change to (V) View.
2. Press the down arrow button to scroll to the rating whose content theme you want to change, such as (L) under language (L) corresponding with TV-14.
3. Press the right arrow button to move the yellow highlight to a particular content theme status.
4. Press the OK button to change the status back to (V). Your child would then be able to watch programs with the TV-14 adult language content, but not programs with TV-MA language content.

**Note:** Only the content theme status corresponding to TV-14 (L) language changes to (V) View. Higher rated content themes, such as that for TV-MA language, do not change.

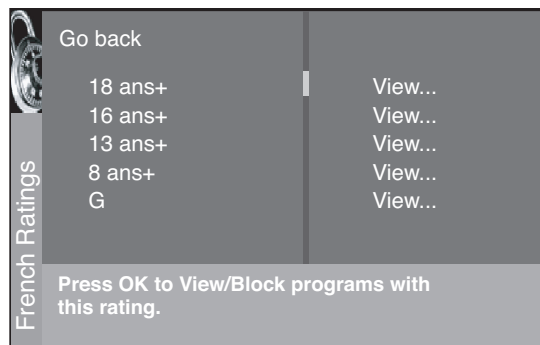
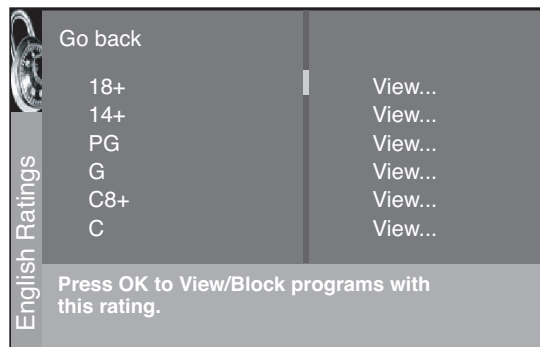
## Canada V-Chip Ratings

Canadian TV V-Chip supports two different Canadian rating systems: English and French.

Rating	Canadian English V-Chip Rating System
18+	<b>Adults.</b> Programming intended for adults 18 and older. It may contain elements of violence, language, and sexual content which could make it unsuitable for viewers under 18. Violence Guidelines: May contain violence integral to the development of the plot, character or theme, intended for adult audiences. Other Content Guidelines: May contain graphic language and explicit portrayals of nudity and/or sex.
14+	<b>Viewers 14 and over.</b> Programming contains themes or content which may not be suitable for viewers under the age of 14. Parents are strongly cautioned to exercise discretion in permitting viewing by pre-teens and early teens. Violence Guidelines: May contain intense scenes of violence. Could deal with mature themes and societal issues in a realistic fashion. Other Content Guidelines: May contain scenes of nudity and/or sexual activity. There could be frequent use of profanity.
PG	<b>Parental Guidance.</b> Programming intended for a general audience but which may not be suitable for younger children (under the age of 8). Parents may consider some content inappropriate for unsupervised viewing by children aged 8-13. Violence Guidelines: Depictions of conflict and/or aggression will be limited and moderate; may include physical, fantasy, or supernatural violence. Other Content Guidelines: May contain infrequent mild profanity, or mildly suggestive language. Could also contain brief scenes of nudity.
G	<b>General Audience.</b> Programming considered acceptable for all ages groups. While not designed specifically for children, it is understood younger viewers may be part of the audience. Violence Guidelines: Will contain very little violence, either physical or verbal or emotional. Will be sensitive to themes which could frighten a younger child, will not depict realistic scenes of violence which minimize or gloss over the effects of violent acts. Other Content Guidelines: There may be some inoffensive slang, no profanity and no nudity.
C8+	<b>Children 8 and older.</b> Programming generally considered acceptable for children 8 years and over to watch on their own. Violence Guidelines: Violence will not be portrayed as the preferred, acceptable, or only way to resolve conflict or encourage children to imitate dangerous acts which they may see on television. Any realistic depictions of violence will be infrequent, discreet, of low intensity and will show the consequences of the acts. Other Content Guidelines: There will be no profanity, nudity or sexual content.
C	<b>Children.</b> Programming intended for children under age 8. Violence Guidelines: Careful attention is paid to themes which could threaten children's sense of security and well being. There will be no realistic scenes of violence. Depictions of aggressive behavior will be infrequent and limited to portrayals that are clearly imaginary, comedic or unrealistic in nature. Other Content Guidelines: There will be no offensive language, nudity or sexual content.

# Using the TV's Features

Rating	Canadian French V-Chip Rating System
<b>18 ans +</b>	<b>Adults.</b> Programming is for adults only. This program contains sustained violence or extremely violent scenes.
<b>16 ans +</b>	<b>Viewers 16 and over.</b> Programming is not suitable for those under age 16. This program contains frequent scenes of violence or intensely violent scenes.
<b>13 ans +</b>	<b>Viewers 13 and over.</b> Programming may not be suitable for children under the age of 13. This program either contains several violent scenes or one or more scenes that are violent enough to affect them. Viewing in the company of an adult is therefore strongly recommended for children under the age of 13.
<b>8 ans +</b>	<b>Viewers 8 and over.</b> Not recommended for young children. This program is suitable for most audiences, but it contains mild or occasional violence that could upset young children. Viewing in the company of an adult is therefore recommended for young children (under the age of 8) who do not distinguish between reality and imagination. Programming generally considered acceptable for children 8 years and over to watch on their own. Violence Guidelines: Violence will not be portrayed as the preferred, acceptable, or only way to resolve conflict or encourage children to imitate dangerous acts which they may see on television. Any realistic depictions of violence will be infrequent, discreet, of low intensity and will show the consequences of the acts. Other Content Guidelines: There will be no profanity, nudity or sexual content.
<b>G</b>	<b>General Audience.</b> This program is suitable for audiences of all ages. It contains no violence, or any violence that it does contain is either minimal or is presented in a humorous manner, as a caricature, or in an unrealistic way.



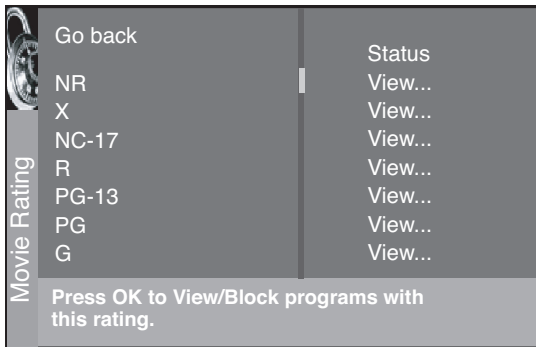
## Blocking Canadian V-Chip Ratings

If you receive Canadian programs you can block Canadian English and French V-Chip by ratings only. When you block a particular rating, you automatically block the higher rated programs as well.

To block Canadian English and French program ratings:

1. Select *Canada V-Chip* from the *Parental Control* menu.
2. Highlight *English ratings* or *French ratings* and press OK.
3. Determine the rating you want to block.
4. Press the down arrow button to scroll to the rating you want to change.
5. Press the OK button to change its status to block (the lock icon appears and all ratings above the one you selected change to lock).





## V-Chip Movie Rating Limit

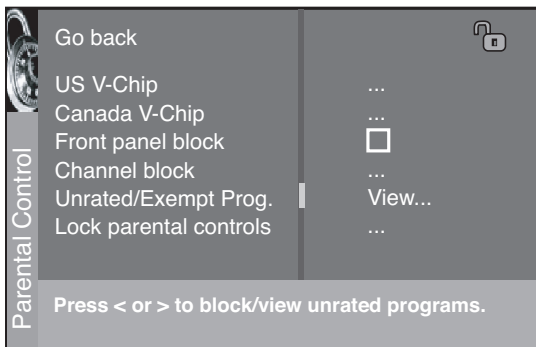
Set movie rating limits by blocking movies rated above a specified level.

To access the Movie Rating Limit menu:

1. Press **MENU** on the remote control (the TV's *MAIN MENU* appears).
2. Select *Parental Control*.
3. Select *US V-Chip*.
4. Select *V-Chip movie rating*.

## Blocking Movie Ratings

Once you are in the Movie Ratings menu, follow the same steps described for blocking TV ratings.



## Blocking Unrated/Exempt Programs

The *Unrated/Exempt Prog.* option lets you decide if programs that the V-Chip recognizes as unrated can be viewed. Unrated TV programs may include news, sports, political, religious, local and weather programs, emergency bulletins, public announcements, and programs without ratings. The Exempt option applies to both USA and Canadian unrated programs and Canadian programs rated *E*.

*View* All unrated programs are available.

*Block* All unrated programs are not available.

**Note:** You must remember to activate V-Chip for rating limits to take effect.

Press the down arrow to highlight *Unrated/Exempt Prog.* Then press the right arrow to toggle between *View* and *Block*.

## Lock/Unlock Parental Controls

Selecting this option lets you lock and unlock parental controls settings using a password.

**If you do not lock parental controls, none of the settings for V-Chip, Channel Block, or Front Panel Block will take effect.**

If you forget your password, press the MENU button, then select *Parental Control* (the password entry screen appears). Simultaneously press and hold CH+ and VOL+ on the front panel for 8 seconds. Parental Controls unlock and the *Parental Control* menu appears. You can enter a new password by locking the Parental Controls again.

## Front Panel Block

Selecting this option lets you block (disable) or unblock (enable) the TV's front panel. The remote still tunes to any channel. When using this as a Parental Control method, remove access to any remote that is capable of operating the television while you have the front panel blocked.

Don't forget to lock parental controls after you change the status. If you don't, the front panel block will not take effect.

# Using the TV's Menu System

## Chapter Overview:

- Sound Menu
- Picture Menu
- Channel Guide Menu
- Time Menu
- Parental Control Menu
- Setup Menu

Changing Entertainment. Again.



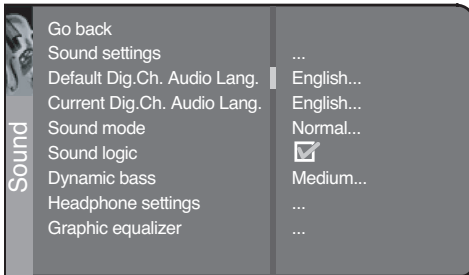
## Sound Menu

The Sound menu lets you adjust audio output. To access the Sound menu, press the **MENU** on the remote, and then select *Sound* from the menu.

Depending on the kind of signal you're watching, the Sound menu shows different items available for you to adjust.

- If you're watching the normal antenna input or any of the video inputs, you'll see the Sound menu items shown in the first menu on the left.
- If you're watching the ATSC digital input, you'll see the Sound menu

# Using the TV's Menu System



The Sound menu for the digital (ATSC) tuner

**Current Dig.Ch. Audio Lang.** (available for the digital tuner only) Press the right arrow to choose from the audio languages available for the program you're watching. The language you choose becomes your preferred audio language for all channels on the digital tuner until you turn the TV off. If the language you choose here is not being broadcast with a program, then the TV will play the default audio for the program (usually English in the U.S.).

**Sound Mode** Press the right arrow button to scroll through the available audio modes, which provide special processing through your speakers (depending on the setting you chose as your *Sound type*).

**Normal** Does not give any special processing, simply provides the mono or stereo sound provided by the signal you're watching.

**Wide** Available only for mono signals. "Widens" sound from mono broadcasts and mono components connected to your TV for a fuller, more spacious sound.

**Magic** Available only for stereo signals. Gives a surround effect with more bass.

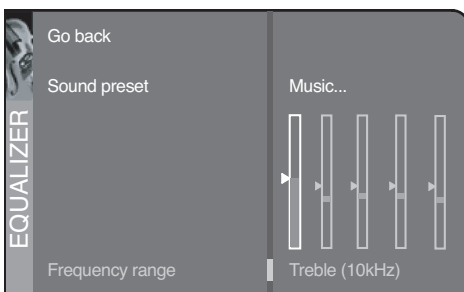
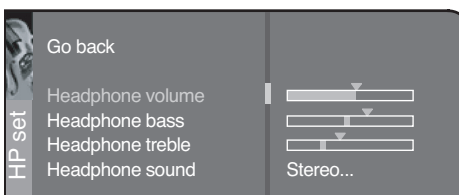
**Second Audio Program (SAP)** Plays the program's audio in a second language, if one is available. The letters "SAP" appear in the channel banner when you tune to a program that is broadcast with SAP information. SAP audio is broadcast in mono. SAP is also used to broadcast a program's audio with descriptions of the video for the visually impaired.

**Note:** SAP is only offered on analog channels.

**Sound logic** Reduces the annoying blasts in volume during commercial breaks, and also amplifies softer sounds in program material. Eliminates the need to constantly adjust the volume.

**Dynamic bass** Enhances your TV's low-frequency response. The options are *Off*, *Medium* and *High*.

**Headphone settings** Displays a choice list of available settings you can adjust: *Volume*, *Bass* and *Treble*. The *Headphone sound* option allows you to choose stereo, mono or automatic. These descriptions are the same as for *Sound Type* (see the previous page).

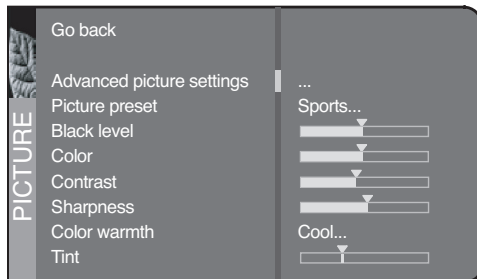


**Graphic equalizer** Allows you to choose a specific preset through the Sound Preset option. Press the right arrow to cycle through the options: *Standard*, *Movie*, *Voice*, *Music*, *Flat*, *Videogame*, *Video camera* and *Personal*.

**The Frequency range** displays the different treble and bass bands set for each Sound Preset option. You can choose a band and make adjustments. When you make adjustments, the Sound Preset option automatically changes to *Personal*. Press the left or right arrow button to select the frequency (Bass 100Hz, Mid Bass 500Hz, Medium 1.5kHz, Mid Treble 5kHz, Treble 10kHz) you want to adjust. Then use the up or down arrow button to adjust the level.

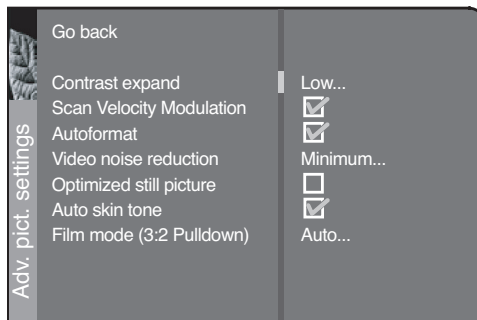
To view the frequency range of another *Sound Preset* option, press the right or left arrow until no band is selected and *Frequency range* is highlighted. Then press the up arrow to highlight *Sound Preset*.

# Using the TV's Menu System



## Picture Menu

The *Picture* menu contains menus and controls to configure the following video settings: *Advanced picture settings*, *Picture presets*, *Black level*, *Color*, *Contrast*, *Sharpness*, *Color Warmth*, and *Tint*. The *Picture* menu options apply to the video for the main TV and video input selections.



### Advanced picture settings

**Contrast expand** You can adjust the contrast of the picture to suit the light of the room. Press the right arrow button to choose which of the following best describes the lighting in the room: *Low*, *Medium* or *High*.

**Scan Velocity Modulation** Improves the sharpness of the picture by changing the speed of the cathode-ray tube's electron beam when it transitions between dark and light areas of the screen. Choose to have it on (box checked) or off (box unchecked), depending on your preference.

**Autoformat** When enabled (box checked) the TV automatically detects the screen format of the incoming signal for analog channels and inputs. The Autoformat feature is not available for digital channels.

**Video noise reduction** Reduce picture "static" or any type of interference. This feature is especially useful for providing a clearer picture in weak analog signal conditions. Press the right arrow button to choose between: *Off* for no noise reduction; *Minimum* for a softer, smoother picture that retains picture sharpness and detail; *Medium* for a slightly softer picture than the *Minimum* setting; *Maximum* for an even softer, smoother picture than the other settings (the picture detail is somewhat decreased).

**Optimized still picture** When enabled (box checked), enhances the picture specifically for still frames (for example, if you're watching a slideshow on your HDTV, or if you've paused a frame of a DVD).

**Auto Skin Tone** When enabled (box checked), minimizes the flesh tone variations of the TV picture.

**Film mode (3:2 Pulldown)** Automatically detects video sources that were originally recorded on film (like most movies) and subsequently converted to a different format (for TV broadcast, for example). Film mode processes the converted signal so that it looks as close as possible to the original. Another name for this process is reverse 3:2 pulldown.

**Note:** *Film mode is not available for digital channels.*

**Advanced** (recommended) enables the feature only when the TV detects that movie playback quality could be improved. *Advanced* is the default setting.

The *On* setting should only be used in rare circumstances when the TV is used solely with film-based sources (like DVDs on a non-progressive-scan player).

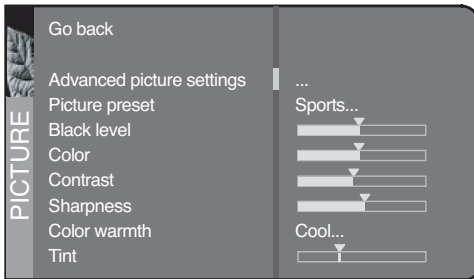
The *Off* setting turns off film mode upconversion. Try using this setting if you think the reverse 3:2 pulldown is causing distortions in your picture.

**Note:** *Autoformat and Video noise reduction are available for the CMP1 and CMP2 inputs only if the signal is 480i.*

### Tip:

*If the picture is switching screen formats abruptly during normal TV viewing, switch the Autoformat feature off.*

# Using the TV's Menu System



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## Tip:

You can select a different picture preset (or set up a different personal preset) for each input. Each ANTENNA jack counts as a single input.

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**Picture preset** Displays a choice list that lets you select one of the preset picture settings: *Vibrant*, *Cinematic*, *Natural*, *Sports*, *Videogame*, *Video Camera* or *Personal*. Choose the setting that is best for your viewing environment. You can set a different picture preset for each input (including one for your regular TV channels).

**Black Level** Adjusts the brightness of the picture.

**Color** Adjusts the richness of the color.

**Contrast** Adjusts the difference between the light and dark areas of the picture.

**Sharpness** Adjusts the crispness of the edges in the picture.

**Note:** You can adjust sharpness for each channel and input. This is useful if the signal appears fuzzy.

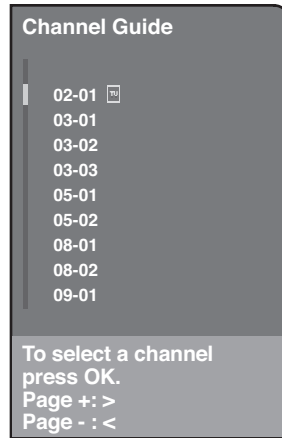
**Color Warmth** Displays a choice list that lets you set one of three automatic color adjustments: *Cool* for a more blue palette of picture colors; *Normal*; or *Warm* for a more red palette of picture colors. The warm setting corresponds to the NTSC standard of 6500 K.

**Tint** Adjusts the balance between the red and green levels.

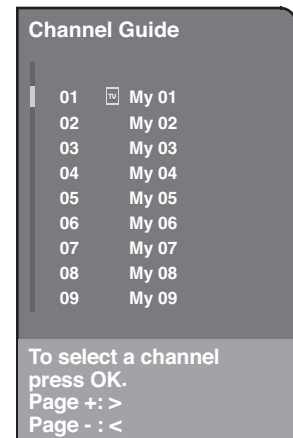
When you change any of these picture settings, the *Picture Preset* changes to *Personal*. Use the left or right arrow button to make adjustments. To return to the *Picture* menu, press the up or down arrow button.

## Channel Guide Menu

The Channel Guide lets you view the entire list of channel numbers and labels for the tuner you're on. Press the GUIDE button to bring up the Channel Guide menu. There are two different kinds of channel guides—the one you see depends on the tuner you're on.



**The Channel Guide for the digital tuner, showing channels and subchannels.**

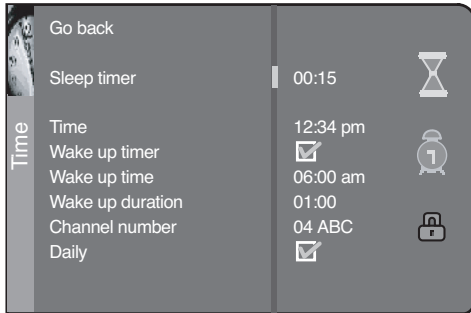


**The Channel Guide for the analog tuner.**

Channels on the digital tuner (channel 03 in the example above, for example) can have subchannels (channels 03-01 and 03-02). Each available subchannel is listed separately in the digital tuner channel guide (see page 31 for more information on digital channels).

Use the up or down arrow button in the channel guide to scroll through the list. Use the left and right arrow buttons to move through the guide by "page" (each full screen of channels in the guide is a "page"). Press OK to select and tune to the highlighted channel or subchannel. Press the CLEAR button to remove the Channel Guide from the screen without changing channels.





## Time Menu

**Sleep Timer** Lets you set the TV to turn off after a given amount of time.

**Time** Lets you enter the current time. If it is eight o'clock, for example, you must first enter the number zero, then number eight. Use the OK button to choose between AM and PM.

**Wake up timer** Lets you set the TV to turn itself on. When you turn on Wake up timer, the following options appear:

*Wake up time* Lets you set the time you want the TV to turn itself on.

*Wake up duration* Lets you set how long you want the TV to stay on when it turns on.

*Channel number* Lets you select a specific channel the TV tunes to when the wake up timer is set. To change from digital to analog channels (or vice versa), highlight *Channel number* and press the ANT•CAB button on your remote.

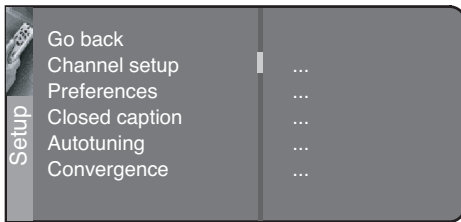
*Daily* Lets you choose if you want the wake up timer to turn on daily.

**Note:** *The Wake up timer is available only when the time has been set.*

## Parental Control Menu

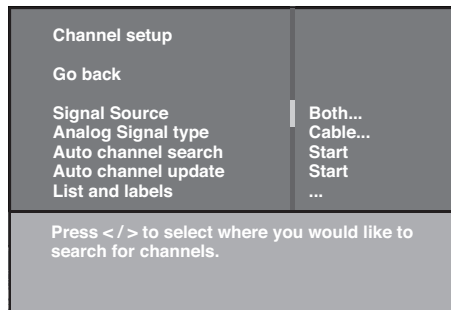
The Parental Control Menu was explained in Chapter 3. Go to page 34 for more information.

# Using the TV's Menu System



## Setup Menu

The Setup menu lets you configure the TV to fit its surroundings and your preferences. To access the *Setup* menu, press MENU on the remote, and then select *Setup* from the main menu.



### Channel setup

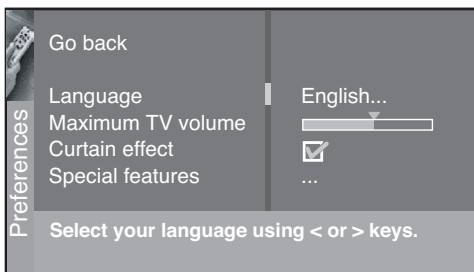
*Signal source* Allows you to set which tuner you want to search for channels. You can select *Analog tuner* or *Digital tuner* to search that tuner separately, or you can select *Both* to search both tuners.

*Analog Signal Type* (available for the analog tuner only) The analog signal type was set during the initial setup. If you change how you receive broadcasts through the antenna input, you must change the *Signal type* setting. Choose *Cable* if you are using cable or a cable box for TV signals. Choose *UHF/VHF Antenna* if you are using an off-air antenna for analog TV signals.

*Auto channel search* Searches for channels the current tuner (analog or digital) is receiving. Go to page 19 for more information.

*Auto channel update* Searches for any new channels that are not in your channel list for the current tuner and adds them to that list.

*List and labels* Edit the channels in the list or choose labels for each channel. Go to page 20 for more information.



### Preferences

*Language* Allows you select your preferred language for the menus: *English*, *Español* or *Français*.

*Maximum TV volume* Allows you to set how high volume turns up when you press the VOL+ button. Highlight *Maximum volume*, then press and hold OK to hear the maximum volume. Make sure the volume has not been muted or turned down all the way.

*Curtain effect* Reveals the picture by "opening" it from the middle of the screen when the TV is switched on. Hides the picture by "closing" it from the sides when the TV is switched off.

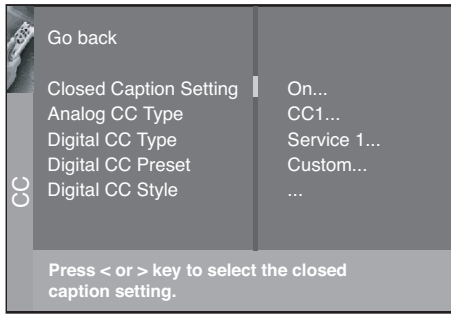
*Special features* The *Auto on* setting switches your TV on after a power outage; *Auto channel* tunes the TV to the channel you specify as the *Initial channel* when *Auto on* is enabled; *Auto volume* tunes the TV to the volume you set in *Initial volume* when *Auto on* is enabled.

### Short-term vs. Long-term Power Outages

*The Auto channel and Auto volume settings don't take effect after short-term power outages (usually less than two to three minutes). The TV will turn back on at the same volume and channel as before the power outage.*

*The Auto channel and Auto volume settings take effect after power outages of several minutes or more.*

# Using the TV's Menu System



**Closed Caption** Many programs are encoded with closed-captioning information, which lets you display the audio portion of a program as text on the TV screen. Some programs on digital channels offer digital captioning information, which gives you more options for the way the captioning is displayed on the screen.

Closed captioning is not available on all channels at all times—only for specific programs encoded with closed-captioning information. When a program is closed captioned, *CC* is displayed in the channel banner (see Chapter 3 for more information about the channel banner).

The closed caption options are:

**Closed Caption Setting** Lets you choose the way both analog and digital closed captioning information appears on the screen. The *Closed caption setting* does not effect the DVI-HDTV input.

*Off* No captioning information displayed.

*On always* Captioning information shown always, when available.

*On when mute* Displays captioning information, when available, whenever the TV's sound is muted by pressing the MUTE button. The captioning information is not displayed when the sound is not muted.

**Analog CC Type** Lets you choose your preferred type of analog closed captions.

*CC1* and *Text 1* are the primary caption and text services. The captioning or text is displayed in the same language as the program's dialog.

*CC3* and *Text 3* serve as the preferred data channels. The captioning or text is often a secondary language translation, simplified English, or displayed at a slower rate.

*CC2* and *CC4* and *Text 2* and *Text 4* are rarely available and broadcasters use them only in special conditions, such as when *CC1* and *CC3* are not available, or *Text1* and *Text3* are not available.

**Notes:** The **CC** options display information at any position on the screen. These options overlay the text on top of the picture as it is received.

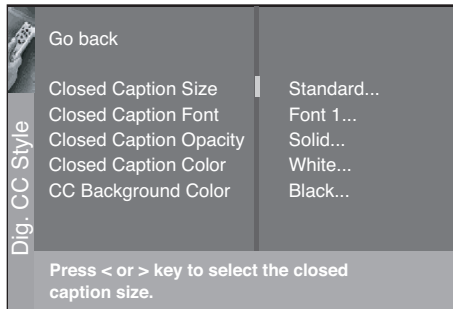
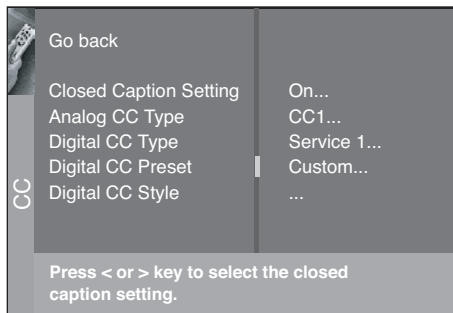
The **Text** options display information at one particular position (such as the bottom third) of the screen. You cannot see the picture underneath the text.

**Digital CC Type** Lets you select a closed caption service mode (1-6) for digital channels.

*Service 1* and *Service 2* are the primary and secondary languages, respectively.

*Service 3* and *Service 4, 5, 6* are additional caption sources that may be available.

# Using the TV's Menu System



**Digital CC Preset** Lets you choose the way the digital closed captioning appears on the screen.

**Default** Uses the settings sent by the broadcaster for the size, color, and font used for digital closed captioning, as well as for the color and opacity of the captioning's background.

**Custom** Lets you customize the size, color, and font used for digital closed captioning, as well as for the color and opacity of the captioning's background (see the *Digital CC Style* menu item below).

**Digital CC Style** If you set the *Digital CC Preset* option to *Custom*, you can customize the following digital closed-captioning settings:

**Closed caption size** Lets you set the size of the digital closed-caption text. You can choose *Standard*, *Large*, or *Small*.

**Closed caption font** Lets you select a character design for the digital closed-caption text. A font is a complete assortment of letters, numbers, punctuation marks, etc. of a given design. You can choose from eight fonts with varying character styles and spacing.

**Closed caption opacity** Lets you set the appearance of the space behind the digital closed-caption text: *Solid*, *Transparent*, *Translucent*, or *Flashing*.

**Closed caption color** Lets you choose the color of the digital closed-caption text: *White*, *Black*, *Red*, *Green*, *Blue*, *Yellow*, *Magenta*, or *Cyan*.

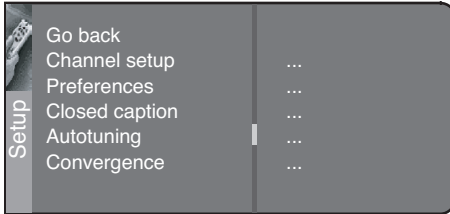
**CC background color** Lets you choose the color of the area of the screen behind the digital closed-caption text: *White*, *Black*, *Red*, *Green*, *Blue*, *Yellow*, *Magenta*, or *Cyan*.

**Note:** These captioning style options only have an effect on true digital closed captions.

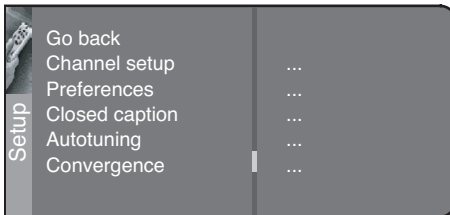
Not all captioning on digital channels is digital captioning—it depends on what the broadcaster is sending. If the closed captioning for a program is not digital, the *Digital CC Style* settings will not have an effect.

# Using the TV's Menu System

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**Autotuning** Displays a choice list that lets you set up the TV to automatically tune to the correct input channel when you press a component button (VCR, DVD, AUX•HD or SAT•CABLE) on the remote. Go to Chapter 3 for details about the Autotuning feature.



**Convergence** The *Auto convergence* feature automatically adjusts the TV's tubes (this may take several minutes, after which you can make fine adjustments to the convergence settings); *Red convergence* displays the Red convergence screen, allowing you to use the arrow buttons to align the red and green images; *Blue convergence* displays the Blue convergence screen, allowing you to use the arrow buttons to align the blue and green images.

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## Other Information

### Chapter Overview:

- Troubleshooting
- Care and Cleaning
- FCC Information
- Limited Warranty
- Accessory Information

Changing Entertainment. Again.



## Troubleshooting

Most problems you encounter with your TV can be corrected by consulting the following troubleshooting list.

*Note for U.S. customers: If you prefer, we can provide you with the name of an Authorized Service Representative who will visit your home for a fee to install your electronic entertainment system and to instruct you in its operation.*

### TV Problems

---

#### TV won't turn on

- Press the TV button.
- Make sure the TV is plugged in.
- Check the wall receptacle (or extension cord) to make sure it is "live" by plugging in something else.
- Something might be wrong with your remote control. Press the POWER button on the front of the TV. If the TV turns on, check the remote control solutions on the next page.
- The front panel controls may be locked (disabled). Use the remote control to unlock the front panel controls by selecting the *Front Panel Block* in the *Parental Control* menu and press OK to uncheck the box.
- The TV might be performing a periodic diagnostic check. Wait for a few minutes for the TV to turn on.

#### Buttons don't work

- If you're using the remote control, press the TV button first to make sure the remote is in TV mode.
- The front panel controls may be locked (disabled). Use the remote control to unlock the front panel controls by selecting the *Front Panel Block* in the *Parental Control* menu and press OK to uncheck the box.
- Unplug the TV for ten minutes and then plug it back in. Turn the TV on and try again.

#### TV turns off unexpectedly

- Sleep timer may have been activated. Go to page 47 for instructions.
- Electronic protection circuit may have been activated because of a power surge. Wait 30 seconds and then turn on again. If this happens frequently, the voltage in your house may be abnormally high or low.
- Unplug the TV. Wait ten minutes. Then, plug the TV in again.

#### TV turns on unexpectedly

- Wake up timer might have been activated. Go to page 47 for instructions.
- Auto on might have been activated. Go to page 47 for instructions.
- You might have pressed CH+, CH- or INPUT on the remote accidentally.

#### Blank screen

- If you're trying to watch TV, change channels or press the ANT•CAB button to switch tuners.
- If you're trying to watch something that's playing on a component connected to the TV (like a DVD or a VCR tape), press the TV button on the remote, then press INPUT until you get to the correct video input channel.
- If you're trying to watch a component (like your DVD player or VCR), make sure the component connected to the TV is turned on.
- If you're trying to watch a component (like your DVD player or VCR), make sure the component is connected correctly.

#### No sound, picture okay

- Maybe the sound is muted. Try pressing the volume up button to restore sound.
- If using S-Video or Y Pb Pr, remember to also connect the component's left and right audio output jacks to the TV's L and R Audio Input jacks.
- The sound settings may not be set correctly. Go to page 42 for more information.



## Sound okay, picture poor

- Check antenna connections. Make sure all of the cables are firmly connected to the jacks.
- Try adjusting sharpness function to improve weak signals. Go to page 45 for more instructions.

## Can't select certain channel

- Make sure the remote control is in TV mode. Press the TV button and enter the channel number using the number buttons.
- Channel may be blocked or not approved in the *Parental Controls* menu.
- If using a VCR, check to make sure the TV/VCR button on the VCR is in the correct mode (press the TV/VCR button on your VCR).

## Noisy stereo reception

- May be a weak station. Use *Sound* menu to choose mono sound.

## No picture, no sound but TV is on

- Maybe the cable/air function is set to the wrong position. Go to page 48 for detailed instructions.
- The channel might be blank — change channels.
- If you're watching your VCR and it's connected with coaxial cable to the CABLE/ANTENNA jack, tune the TV to channel 3 or 4 (whichever channel is selected on the 3/4 switch on the back of your VCR). Also check to make sure the TV/VCR button on the VCR is in the correct mode (press the TV/VCR button on your VCR).

## Volume buttons not adjusting volume louder

- Check to make sure volume isn't limited by the maximum volume feature. Go to page 48 for more instructions.

## Picture not moving

- You have activated the Freeze feature by pressing FREEZE or OK on the remote. Press any button to “unfreeze” the picture.

## Black box appears on the screen

- Closed-captioning might be on. Check *Closed Caption* in the *Setup* menu. Go to page 49 for more instructions.

## Freeze not working

- The freeze feature is not available for Component video (CMP1 or CMP2) or DVI inputs.

## Low battery warning appears on screen

- Place new batteries in remote.

## TV picture keeps switching between screen formats abruptly

- Switch the *Auto format* feature to *Off*. See page 44 for more information.

## Channel search finds few channels

- The cable connected to the ANTENNA/CABLE ANALOG INPUT and/or ANTENNA DIGITAL INPUT jack might be loose.
- Your off-air antenna might be getting a weak signal. Move it higher or get a bigger antenna.
- If you have cable TV, make sure that signal is connected to the ANTENNA/CABLE ANALOG INPUT—do not connect it to the ANTENNA DIGITAL INPUT.
- If you have a cable box, you can't connect it to the ANTENNA DIGITAL INPUT jack. Connect it to the ANTENNA/CABLE ANALOG INPUT or a Video Input jack.
- Select the *Both* option in the Channel Search menu, and retry the channel search.

*Continues on next page...*

# Other Information

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## ***The Remote Control Doesn't Work***

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- Something might be between the remote and the remote sensor on the component. Make sure there is a clear path.
- Maybe the remote isn't aimed directly at the component (TV or VCR) that you're trying to operate.
- Maybe remote is not in TV Mode. Press the TV button so remote will control TV.
- Maybe batteries in remote are weak, dead, or installed incorrectly. Put new batteries in the remote. (Note, if you remove the batteries, you may have to reprogram the remote to operate other components.)
- You might need to drain the remote's microprocessor: remove batteries and press the number 1 button for at least 60 seconds. Release the 1 button, replace the batteries, and (if necessary) program the remote again.

## ***Problems with V-Chip/Parental Controls***

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### **The rating limits don't work**

- You must lock the settings. Go to the *MAIN MENU* (press MENU on your remote), select *Parental Control*, select *Lock Parental Controls*.

### **I don't remember my password and I want to unlock the TV**

- If you forget your password, press MENU, then select *Parental Control* (the password entry screen appears). Simultaneously press and hold CH+ and VOL+ on the TV's front panel for 8 seconds. The Parental control menu appears on the screen, and you can re-enter a password via *Lock Parental Controls*.

### **The V-Chip won't let me watch a program even though it's not rated as violent.**

- Maybe the movie was given an NR (Not Rated) status. After you block movie ratings, you must set *NR* to *View* separately in order to view movies with an NR rating.

## Care and Cleaning

CAUTION: Turn OFF your TV before cleaning.

You can clean the TV as required, using a soft lint-free cloth. Be sure to occasionally dust the ventilation slots in the cabinet to help assure adequate ventilation.

**The TV's screen may be cleaned with a soft, lint-free cloth as well. Take care not to scratch or mar the screen. If necessary, you may use a cloth dampened with warm water. Never use strong cleaning agents, such as ammonia-based cleaners, or abrasive powder. These types of cleaners will damage the TV.**

While cleaning do not spray liquid directly on the screen, or allow liquid to run down the screen and inside the TV. Also, never place drinks or vases with water on top of the TV. This could increase the risk of fire or shock hazard or damage to the TV.

**Caution:** Using video games or any external accessory with fixed images for extended periods of time can cause them to be permanently imprinted on the picture tube (or projection TV picture tubes). ALSO, some network/program logos, phone numbers, etc. may cause similar damage. This damage is not covered by your warranty.

## FCC Information

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This Class B digital apparatus complies with Canadian ICES-003.

# Other Information

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## RCA High-Definition Television (HDTV) Limited Warranty

### What your warranty covers:

- Defects in materials or workmanship.

### For how long after your purchase:

- One year from date of purchase for labor.
- One year from date of purchase for parts.
- Two years from date of purchase for the picture tubes.

The warranty period for rental units begins with the first rental or 45 days from date of shipment to the rental firm, whichever comes first.

### What we will do:

Pay an Authorized Service Center the labor charges to repair your unit.

Pay an Authorized Service Center for the new, or at our option, refurbished replacement parts and picture tubes required to repair your unit.

### How you get service:

- Call 1-877-RCA-HDTV and have your unit's date of purchase and model/serial number ready.
- A representative will troubleshoot your problem over the phone.
- If the representative determines that you should receive service, they will provide you with the name(s) of the Authorized Service Center in your area.
- Contact the Service Center and arrange for home or pick up, repair, and return service, provided that your unit is located within the geographic territory covered by an Authorized Service Center. If not, you must take your unit to the Service Center location at your own expense, or pay for the cost the Service Center may charge to transport your unit to and from your home.
- Proof of purchase in the form of a bill of sale or receipted invoice which is evidence that the product is within the warranty period must be presented to obtain warranty service. For rental firms, proof of first rental is also required.

### What your warranty does not cover:

- Customer instruction. (Your Owner's Manual describes how to install, adjust, and operate your unit. Any additional information should be obtained from your dealer.)
- Installation and related adjustments.
- Damage resulting from non-approved installation methods.
- Signal reception problems not caused by your unit.
- Damage from misuse or neglect.
- Batteries.
- Images burnt onto the screen.
- A television that has been modified or incorporated into other products, or is used for institutional or other commercial purposes.
- A unit purchased or serviced outside the U.S.A.
- Acts of nature, such as but not limited to lightning damage.

### Product Registration:

- Please complete the online Product Registration on [www.rca.com](http://www.rca.com) or complete and mail the Product Registration Card packed with your unit. It will make it easier to contact you should it ever be necessary. The return of the card is not required for warranty coverage.

### **Limitation of Warranty:**

- **THE WARRANTY STATED ABOVE IS THE ONLY WARRANTY APPLICABLE TO THIS PRODUCT. ALL OTHER WARRANTIES, EXPRESS OR IMPLIED (INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE) ARE HEREBY DISCLAIMED. NO VERBAL OR WRITTEN INFORMATION GIVEN BY TTE TECHNOLOGY INC., ITS AGENTS OR EMPLOYEES SHALL CREATE A WARRANTY OR IN ANY WAY INCREASE THE SCOPE OF THIS WARRANTY.**
- **REPAIR OR REPLACEMENT AS PROVIDED UNDER THIS WARRANTY IS THE EXCLUSIVE REMEDY OF THE CONSUMER. TTE TECHNOLOGY INC. SHALL NOT BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OF THIS PRODUCT OR ARISING OUT OF ANY BREACH OF ANY EXPRESS OR IMPLIED WARRANTY ON THIS PRODUCT. THIS DISCLAIMER OF WARRANTIES AND LIMITED WARRANTY ARE GOVERNED BY THE LAWS OF THE STATE OF INDIANA. EXCEPT TO THE EXTENT PROHIBITED BY APPLICABLE LAW, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE ON THIS PRODUCT IS LIMITED TO THE APPLICABLE WARRANTY PERIOD SET FORTH ABOVE.**

### **How State Law relates to warranty:**

- Some states do not allow the exclusion nor limitation of incidental or consequential damages, or limitations on how long an implied warranty lasts, so the above limitations or exclusions may not apply to you.
- This warranty gives you specific legal rights, and you also may have other rights that vary from state to state.

### **If you purchased your unit outside the United States:**

- This warranty does not apply. Contact your dealer for warranty information.

**Service calls which do not involve defective materials or workmanship are not covered by this warranty. Costs of such service calls are the sole responsibility of the purchaser.**

## Other Information

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**Remote Control** This is the remote control that came packed with your TV. Replacements or spares can be ordered as needed.

267163, price: \$31.55

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**Visit the RCA website at [www.rca.com](http://www.rca.com)**

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Please do not send any products to the Indianapolis address listed in this manual or on the carton. This will only add delays in service for your product.

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