

FD Trinitron  
**WEGA**

**KD-34XBR960**

**Operating Instructions**

**COMPLETED**



## WARNING

To reduce the risk of fire or shock hazard, do not expose the TV to rain or moisture.



This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

## CAUTION

TO PREVENT ELECTRIC SHOCK, MATCH WIDE BLADE OF PLUG TO WIDE SLOT, FULLY INSERT.

## CAUTION

When using TV games, computers, and similar products with your TV, keep the brightness and contrast functions at low settings. If a fixed (non-moving) pattern is left on the screen for long periods of time at a high brightness or contrast setting, the image can be permanently imprinted onto the screen. Continuously watching the same program can cause the imprint of station logos onto the TV screen. These types of imprints are not covered by your warranty because they are the result of misuse.

## Warning

The CRT in this product employs a protective film on the face. This film must not be removed as it serves a safety function and removal will increase the risk of serious injury.

## Note on Caption Vision

This television receiver provides display of television closed captioning in accordance with §15.119 of the FCC rules.

## Note on Cleaning the TV

Clean the TV with a soft, dry cloth. Never use strong solvents such as thinner or benzene, which might damage the finish of the cabinet.

## Note to CATV System Installer

This reminder is provided to call the CATV system installer's attention to Article 820-40 of the National Electrical Code (NEC) that 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.

Use of this television receiver for other than private viewing of programs broadcast on UHF or VHF or transmitted by cable companies for the use of the general public may require authorization from the broadcaster/cable company and/or program owner.

## NOTIFICATION

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 with 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 antennas.
- 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.

You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.

## Installing

- To prevent internal heat buildup, do not block the ventilation openings.
- Do not install the TV in a hot or humid place, or in a place subject to excessive dust or mechanical vibration.
- The AC power cord is attached to the rear of the TV with hooks. Do not attempt to remove the cord from these hooks. Doing so could cause damage to the TV.

## Owner's Record

The model and serial numbers are provided on the front of this instruction manual and at the rear of the TV. Refer to them whenever you call upon your Sony dealer regarding this product.

## Note

This digital television is capable of receiving analog basic, digital basic and digital premium cable television programming by direct connection to a cable system providing such programming. A security card provided by your cable operator is required to view encrypted digital programming. Certain advanced and interactive digital cable services such as video-on-demand, a cable operator's enhanced program guide and data-enhanced television services may require the use of a set-top box. For more information call your local cable operator.

This television also includes a QAM demodulator which should allow you to receive unscrambled digital cable television programming via subscription service to a cable service provider. Availability of digital cable television programming in your area depends on the type of programming and signal provided by your cable service provider.

# IMPORTANT SAFEGUARDS

For your protection, please read these instructions completely, and keep this manual for future reference.

Carefully observe and comply with all warnings, cautions and instructions placed on the set, or described in the operating instructions or service manual.

## WARNING

To guard against injury, the following basic safety precautions should be observed in the installation, use, and servicing of the set.

## Use

### Power Sources

This set should be operated only from the type of power source indicated on the serial/model plate. If you are not sure of the type of electrical power supplied to your home, consult your dealer or local power company. For those sets designed to operate from battery power, refer to the operating instructions.



### Grounding or Polarization

This set is equipped with a polarized AC power cord plug (a plug having one blade wider than the other), or with a three-wire grounding type plug (a plug having a third pin for grounding). Follow the instructions below:

#### For the set with a polarized AC power cord plug

This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to have a suitable outlet installed. Do not defeat the safety purpose of the polarized plug by forcing it in.



#### Alternate Warning

#### For the set with a three-wire grounding type AC plug

This plug will only fit into a grounding-type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to have a suitable outlet installed.



Do not defeat the safety purpose of the grounding plug.

### Overloading

Do not overload wall outlets, extension cords or convenience receptacles beyond their capacity, since this can result in fire or electric shock.



Always turn the set off when it is not to be used. When the set is left unattended and unused for long periods of time, unplug it from the wall outlet as a precaution against the possibility of an internal malfunction that could create a fire hazard.



Do not disconnect the antenna or the power cord during a heavy storm. Lightning may strike while you are holding the cable or cord, causing serious injury. Turn off your TV and wait for the weather to improve.

### Memory Stick

To protect small children from injury from Memory Stick Media, remove all Memory Stick media from the TV's Memory Stick slot and store it in a safe location when it is not in use.

### Object and Liquid Entry

Never push objects of any kind into the set through the cabinet slots as they may touch dangerous voltage points or short out parts that could result in a fire or electric shock. Never spill liquid of any kind on the set.



### Attachments

Do not use attachments not recommended by the manufacturer, as they may cause hazards.



Do not place any objects, especially heavy objects, on top of the set. The object may fall from the set, causing injury.

### Cleaning

Unplug the set from the wall outlet before cleaning or polishing it. Do not use liquid cleaners or aerosol cleaners. Use a cloth lightly dampened with water for cleaning the exterior of the set.



If a snapping or popping sound from a TV set is continuous or frequent while the TV is operating, unplug the TV and consult your dealer or service technician. It is normal for some TV sets to make occasional snapping or popping sounds, particularly when being turned on or off.



### Installation

Always use two or more people to lift or move the set. The set is heavy and the bottom surface is flat. Serious injury can result from trying to move the set by yourself alone, or from unsteady handling. Install the set on a stable, level surface.

### Water and Moisture

Do not use power-line operated sets near water — for example, near a bathtub, washbowl, kitchen sink, or laundry tub, in a wet basement, or near a swimming pool, etc.



### Accessories

Do not place the set on an unstable cart, stand, tripod, bracket, table or shelf. The set may fall, causing serious injury to a child or an adult, and serious damage to the set. Use only a cart or stand recommended by the manufacturer for the specific model of TV. Any mounting of the product should follow the manufacturer's instructions, and should use a mounting accessory recommended by the manufacturer. An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.



Disconnect all cables and cords from the set before attempting to move the set.

Do not allow children or pets to climb up onto, or push against, the set. The set may fall, causing serious injury.

## Ventilation

The slots and openings in the cabinet and in the back or bottom are provided for necessary ventilation. To ensure reliable operation of the set, and to protect it from overheating, these slots and openings must never be blocked or covered.

- ❑ Never cover the slots and openings with a cloth or other materials.
- ❑ Never block the slots and openings by placing the set on a bed, sofa, rug or other similar surface.
- ❑ Never place the set in a confined space, such as a bookcase, or built-in cabinet, unless proper ventilation is provided.
- ❑ Do not place the set near or over a radiator or heat register, or where it is exposed to direct sunlight.



## Power Cord Protection

Do not allow anything to rest on or roll over the power cord, and do not place the set where the power cord is subject to wear or abuse.

## Antennas

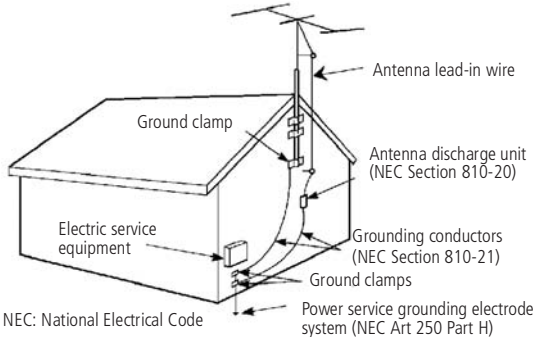
### Outdoor Antenna Grounding

If an outdoor antenna is installed, follow the precautions below. An outdoor antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can come in contact with such power lines or circuits.

WHEN INSTALLING AN OUTDOOR ANTENNA SYSTEM, EXTREME CARE SHOULD BE TAKEN TO KEEP FROM CONTACTING SUCH POWER LINES OR CIRCUITS AS CONTACT WITH THEM IS ALMOST INVARIABLY FATAL.

Be sure the antenna system is grounded so as to provide some protection against voltage surges and built-up static charges. Section 810 of the National Electrical Code (NEC) in USA and Section 54 of the Canadian Electrical Code in Canada provide information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna discharge unit, connection to grounding electrodes, and requirements for the grounding electrode.

### Antenna Grounding According to the National Electrical Code, ANSI/NFPA 70








## Lightning

For added protection for this television receiver during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna. This will prevent damage to the receiver due to lightning and power line surges.

## Service

### Damage Requiring Service

Unplug the set from the wall outlet and refer servicing to qualified service personnel under the following conditions:

- ❑ When the power cord or plug is damaged or frayed.
 
- ❑ If liquid has been spilled into the set or objects have fallen into the product.
 
- ❑ If the set has been exposed to rain or water.
 
- ❑ If the set has been subject to excessive shock by being dropped, or the cabinet has been damaged.
 
- ❑ If the set does not operate normally when following the operating instructions. Adjust only those controls that are specified in the operating instructions. Improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the set to normal operation.
 
- ❑ When the set exhibits a distinct change in performance, it indicates a need for service.

## Servicing

Do not attempt to service the set yourself since opening the cabinet may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.



## Replacement Parts

When replacement parts are required, be sure the service technician certifies in writing that he has used replacement parts specified by the manufacturer that have the same characteristics as the original parts.

Unauthorized substitutions may result in fire, electric shock or other hazards.




## Safety Check

Upon completion of any service or repairs to the set, ask the service technician to perform routine safety checks (as specified by the manufacturer) to determine that the set is in safe operating condition, and to so certify. When the set reaches the end of its useful life, improper disposal could result in a picture tube implosion. Ask a qualified service technician to dispose of the set.



## Trademark Information

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This TV incorporates High-Definition Multimedia Interface (HDMI™) technology. HDMI, the HDMI logo and

High-Definition Multimedia Interface are trademarks or registered trademarks of HDMI Licensing LLC.

CableCARD™ is a trademark of Cable Television Laboratories, Inc.

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# Contents

## **Introducing the FD Trinitron Wega**

<b>Overview</b> .....	<b>9</b>
<b>Presenting the FD Trinitron Wega</b> .....	<b>9</b>
Package Contents.....	9
Features .....	9

## **Setting Up the TV**

<b>Overview</b> .....	<b>13</b>
About the AC Power Cord.....	13
<b>TV Controls and Connectors</b> .....	<b>14</b>
Front Panel .....	14
Rear Panel .....	15
<b>Basic Connections: Connecting a Cable or Antenna</b> .....	<b>17</b>
About Using CableCARD .....	17
Cable or Antenna Only .....	18
Cable and Antenna Only .....	19
Cable Box and Cable Only .....	20
Cable Box Only.....	21
<b>Connecting Optional Equipment</b> .....	<b>22</b>
Making Video Connections.....	23
About Using S VIDEO .....	23
VCR and Cable .....	24
VCR and Cable Box .....	26
Two VCRs for Tape Editing .....	28
Satellite Receiver .....	30
Satellite Receiver and VCR .....	32
DVD Player with Component Video Connectors.....	34
DVD Player with S VIDEO and Audio Connectors .....	36
Camcorder .....	37
Audio Receiver .....	38
DVI-Equipped Device .....	39
HDMI-Equipped Device.....	40
<b>Connecting a Device with an Optical IN Connector</b> .....	<b>41</b>
<b>Using the CONTROL S Feature</b> .....	<b>42</b>
<b>Using CableCARD</b> .....	<b>43</b>
About Using CableCARD .....	43
Activating CableCARD Service .....	43
Removing the CableCARD .....	44
<b>Setting Up the Channel List</b> .....	<b>45</b>
Using Initial Setup.....	45

## Using the Remote Control

<b>Overview</b> .....	<b>47</b>
<b>Inserting Batteries</b> .....	<b>47</b>
<b>Button Descriptions</b> .....	<b>48</b>
Outside Panel .....	48
Inside Panel .....	50
<b>Programming the Remote Control</b> .....	<b>51</b>

## Using the Features

<b>Overview</b> .....	<b>53</b>
<b>Watching TV</b> .....	<b>54</b>
<b>Using the Program Guide</b> .....	<b>55</b>
Using Additional Program Guide Options.....	56
<b>Using the Scrolling Index</b> .....	<b>57</b>
Factors Affecting Scrolling Index .....	57
<b>Using Screen Mode</b> .....	<b>58</b>
Using Screen Mode with Standard Definition (480i/480p) Sources ..	58
Using Screen Mode with High-Definition (720p/1080i) Sources.....	59
<b>Using Twin View</b> .....	<b>60</b>
Displaying Twin Pictures .....	60
Factors Affecting Twin View .....	60
Activating the Picture .....	61
Changing the Picture Size.....	62
<b>Using Favorite Channels</b> .....	<b>63</b>
Using the Channel Menu.....	63
Using the Favorite Channels Guide .....	64
<b>Using the Freeze Function</b> .....	<b>65</b>
<b>Using Other Equipment with Your TV Remote Control</b> .....	<b>66</b>
All Equipment.....	66
Operating a VCR .....	66
Operating a Satellite Receiver .....	66
Operating a Cable Box.....	67
Operating a DVD Player .....	67
Operating a DVD/VCR Combination Unit .....	68

## Using the Memory Stick Viewer

<b>About Memory Stick</b> .....	<b>69</b>
Features .....	69
Memory Stick Compatibility.....	70
Memory Stick Functionality.....	70
File Compatibility.....	71
Trademark Information .....	71
<b>Inserting and Removing a Memory Stick</b> .....	<b>72</b>
Inserting a Memory Stick .....	72
Removing a Memory Stick .....	73
<b>Using the Memory Stick Index</b> .....	<b>74</b>
Using the Memory Stick Index .....	75
<b>Viewing Photos</b> .....	<b>76</b>
Photo Controls .....	76
Photo Menu Bar Options .....	77
Using Zoom and Pan .....	78
Using Rotate.....	78

<b>Playing Movies</b> .....	<b>79</b>
Movie Controls .....	79
Movie Menu	
Bar Options .....	80
<b>Memory Stick Index Menu Bar Options</b> .....	<b>81</b>
Slide Show Menu Options .....	81
Contents Menu Options .....	82
Memory Stick Menu .....	82
<b>Notes on Using Memory Stick Media</b> .....	<b>83</b>
About DCF File Names .....	83
Memory Stick Precautions .....	84

## Using i.LINK

<b>About i.LINK</b> .....	<b>85</b>
Using i.LINK Cables .....	85
Connecting i.LINK Devices .....	86
<b>Selecting an i.LINK Device</b> .....	<b>88</b>
<b>Using the i.LINK Control Panel</b> .....	<b>89</b>
Notes About Controlling i.LINK Devices .....	90
<b>i.LINK Setup</b> .....	<b>91</b>
Notes on i.LINK .....	91

## Using the Menus

<b>Overview</b> .....	<b>93</b>
<b>Navigating Through Menus</b> .....	<b>93</b>
<b>Using the Video Menu</b> .....	<b>94</b>
<b>Using the Audio Menu</b> .....	<b>97</b>
<b>Using the Screen Menu</b> .....	<b>99</b>
<b>Using the Channel Menu</b> .....	<b>100</b>
<b>Using the Parent Menu</b> .....	<b>102</b>
<b>Using the Setup Menu</b> .....	<b>105</b>
<b>Using the Applications Menu</b> .....	<b>108</b>

## Other Information

<b>Overview</b> .....	<b>111</b>
<b>Glossary</b> .....	<b>112</b>
<b>Contacting Sony</b> .....	<b>113</b>
<b>Troubleshooting</b> .....	<b>113</b>
Twin View .....	113
Remote Control .....	114
CableCARD .....	114
Channels .....	115
Memory Stick .....	116
Audio .....	117
Video .....	118
General .....	118
<b>Specifications</b> .....	<b>120</b>
<b>Optional Accessories</b> .....	<b>121</b>
<b>Index</b> .....	<b>123</b>





# Introducing the *FD Trinitron Wega*

## Overview

This chapter describes the contents of the package in which the TV is shipped and provides an overview of the features of your Wega TV.

## Presenting the *FD Trinitron Wega*

The FD Trinitron Wega (pronounced VAY-GAH) is characterized by outstanding contrast, uncompromising accuracy, and corner-to-corner detail.

You will recognize the superiority of Wega technology almost immediately. The first thing you will probably notice is minimal glare from the flat picture tube. This flat-screen technology improves picture detail without distortion, unlike conventional curved screens. The FD Trinitron delivers outstanding image detail not only at the screen center, but also at the corners — so you can enjoy a bright, clear picture from any location in a room.

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## Package Contents

Along with your new Trinitron TV, the packing box contains a remote control and two AA (R6) batteries. These items are all you need to set up and use the TV.

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## Features

Some of the features that you will enjoy with your new TV include:

- ❑ **Built-in Digital Television Receiver:** You can watch digital television programs and enjoy the improved audio/video quality offered by these programs. With high-definition signal reception, you can watch TV signals broadcast in HDTV for the clearest possible broadcast picture.

- ❑ **CableCARD slot:** Provides cable subscribers with access to digitally encrypted cable channels — without the need for a set-top box — that will enable you to receive not only standard definition but also high definition television. The CableCARD, which is provided by your cable TV company, is inserted into the TV's rear panel CableCARD slot. After the service is activated with your cable TV company, the card replaces the need for a separate set-top box. (Check with your cable TV company about CableCARD service details, limitations, pricing, and availability. For more information about CableCARD in this manual, see pages 17 and 43.)
- ❑ **Wide Screen Mode:** Watch conventional 4:3 aspect ratio broadcasts in wide screen (16:9) mode.
- ❑ **Super Fine Pitch CRT:** Created especially for displaying high resolution pictures, the new Super Fine Pitch CRT — along with a new electron gun and high intensity luminescent phosphor — improves image resolution, providing the highest picture quality reproduction from corner to corner.
- ❑ **DRC<sup>®</sup> (Digital Reality Creation) Multifunction V1:** Unlike conventional line doublers, the DRC Multifunction feature replaces the signal's NTSC waveform with the near-HD equivalent, while doubling the number of vertical and horizontal lines. This results in four times the density for quality sources, such as DVD, satellite, and digital camcorders. The Video Menu allows you to select interlaced, progressive, or CineMotion™ output. The DRC Palette option lets you customize the level of detail (Reality) and smoothness (Clarity) to create up to three custom palettes.
- ❑ **Scrolling Index:** Lets you select programs from a series of preview windows that scroll along the right side of the screen.
- ❑ **Twin View™:** Using the Multi-Image Driver (MIDX), Twin View allows you to watch two programs side by side, with the ability to zoom in one picture. You can watch pictures from two different sources (1080i, 720p, 480p, and 480i) simultaneously. (Only the left Twin View window can display 1080i, 720p, and 480p sources.)
- ❑ **Favorite Channels:** Allows you to preview and select from 16 of your favorite channels.
- ❑ **ClearEdge VM™ Velocity Modulation:** Sharpens picture definition by enhancing vertical lines.
- ❑ **Steady Sound<sup>®</sup>:** Equalizes volume levels so there is consistent output between programs and commercials.
- ❑ **Memory Stick<sup>®</sup> Viewer:** Lets you watch digital photo (JPEG) and movie (MPEG1) files that are stored on Memory Stick media.

- ❑ **Component Video Inputs:** Offers the best video quality for DVD (480p, 480i), and digital set-top box (HD1080i, 720p) connections.
- ❑ **HD Detailer™:** Wideband video amplifier has a high bandwidth frequency rating, which allows it to send more video information to the screen, resulting in finer picture quality, especially for HD sources.
- ❑ **CineMotion™:** Reverse 3-2 pulldown processing provides optimal picture quality for film-based sources (media originally shot in 24 frames-per-second format).
- ❑ **Parental Control:** V-Chip technology allows parents to block unsuitable programming from younger viewers.
- ❑ **HDMI (High-Definition Multimedia Interface):** Provides an uncompressed, all-digital audio/video interface between this TV and any HDMI-equipped audio/video component, such as a set-top box, DVD player, and A/V receiver. HDMI supports enhanced, or high-definition video, plus two-channel digital audio.
- ❑ **i.LINK:** Provides a secure digital interface to other digital home entertainment devices. i.LINK allows for the secure transfer of copyright-protected high-definition content between these devices and your digital television.



# Setting Up the TV


## Overview

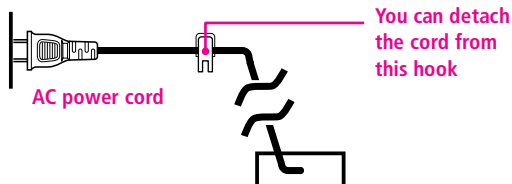
This chapter includes illustrated instructions for setting up your TV.

<i>Topic</i>	<i>Page(s)</i>
TV Controls and Connectors	14-16
Basic Connections: Connecting a Cable or Antenna	17-21
Connecting Optional Equipment	
VCR and Cable	24
VCR and Cable Box	26
Two VCRs for Tape Editing	28
Satellite Receiver	30
Satellite Receiver and VCR	32
DVD Player with Component Video Connectors	34
DVD Player with S VIDEO and Audio Connectors	36
Camcorder	37
Audio Receiver	38
DVI-Equipped Device	39
HDMI-Equipped Device	40
Connecting a Device with an Optical IN Connector	41
Using the CONTROL S Feature	42
Using CableCARD	43
Setting Up the Channel List	45

## About the AC Power Cord

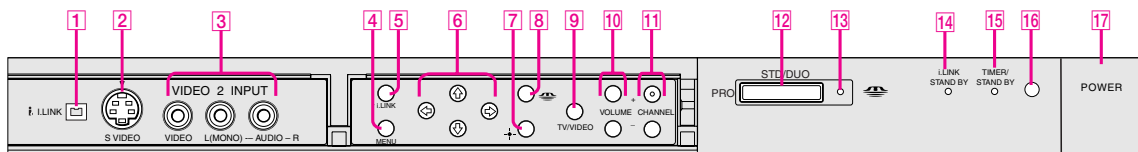
The AC power cord is attached to the rear of the TV with a hook. Use caution when removing the AC plug from its holder. Gently slide the plug upward to remove it from the hook. Once removed, the AC power plug should automatically disengage from its stored location.

 **Do not plug in the AC power cord until you have made all other connections.**



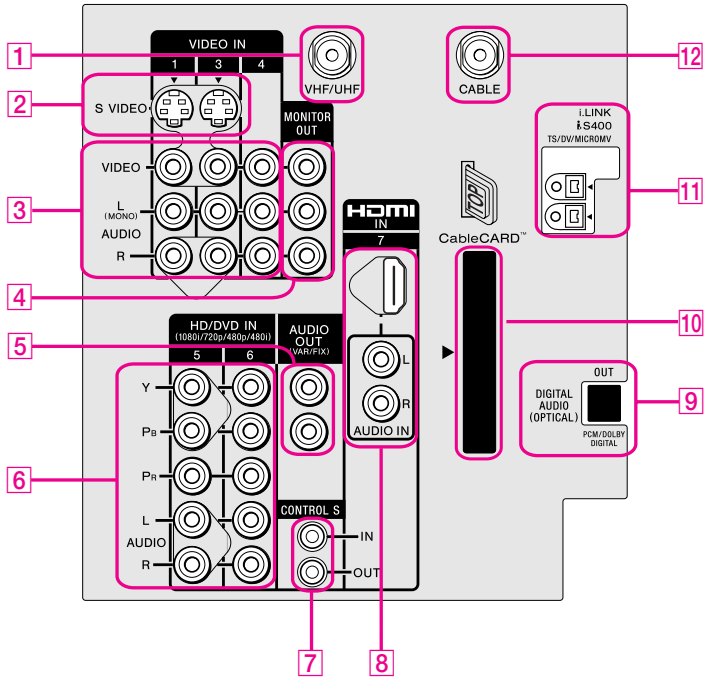
# TV Controls and Connectors

## Front Panel



Item	Description
1 i.LINK	Connects to the i.LINK jack on your i.LINK-compatible portable device. Provides a secure digital connection between your TV and your i.LINK-compatible portable device, such as a digital video camcorder.
2 S VIDEO VIDEO 2 INPUT	Connects to the S VIDEO OUT jack on your camcorder or other video equipment that has S VIDEO. Provides better picture quality than composite video (3).
3 VIDEO/L(MONO)-AUDIO-R VIDEO 2 INPUT	Connects to the composite A/V output jacks on your camcorder or other video equipment.
4 MENU	Press to display the Menu. Press again to exit from the Menu. For details, see “Using the Menus” on page 93.
5 i.LINK	Press to display the i.LINK Control Panel. For details, see page 89.
6 ↑ ↓ ← →	Press ↑ ↓ ← → to move the TV’s on-screen cursor.
7 +	Press to select an item in the TV’s Menu.
8	Press to display the Memory Stick Menu. For details, see “Using the Memory Stick Viewer” on page 69.
9 TV/VIDEO	Press repeatedly to cycle through the video equipment connected to the TV’s video inputs.
10 -VOLUME +	Press to adjust the volume.
11 -CHANNEL+	Press to scan through channels. To scan quickly through channels, press and hold down either CHANNEL button.
12 PRO STD/DUO	Memory Stick insertion slot. For details, see “Inserting and Removing a Memory Stick” on page 72.
13 Memory Stick LED	When lit, indicates that the Memory Stick is being read. (Do not remove the Memory Stick when the indicator is lit.)
14 i.LINK STAND BY LED	When lit in orange, indicates that i.LINK Standby is on. For details, see page 106.
15 TIMER/STAND BY LED	Blinks when the TV is turned on, then shuts off when the picture is displayed. If the LED blinks continuously, this may indicate the TV needs service (see “Contacting Sony” on page 113). When lit, indicates one of the timers is set. When the timer is set, this LED will remain lit even if the TV is turned off. For details, see page 108.
16 Infrared Receiver (IR)	Receives IR signals from the TV’s remote control.
17 POWER	Press to turn on and off the TV.

# Rear Panel





Jack	Description
<b>1</b> VHF/UHF	RF input that connects to your VHF/UHF antenna or cable box.
<b>2</b> S VIDEO IN 1/3	Connects to the S VIDEO OUT jack of your VCR or other video equipment that has S VIDEO. S VIDEO provides better picture quality than either composite video ( <b>3</b> ) or VHF/UHF ( <b>1</b> ) connections.
<b>3</b> VIDEO IN 1/3/4 VIDEO/L(MONO) -AUDIO-R	Connect to the composite A/V output jacks on your VCR or other video component. A fourth component A/V input jack (VIDEO 2) is located on the front panel of the TV. This video connection provides better picture quality than the VHF/UHF ( <b>1</b> ) connection.
<b>4</b> MONITOR OUT	Lets you record the program you are watching to a VCR. When two VCRs are connected, you can use the TV as a monitor for tape-to-tape editing (not available with digital channels or with 480i, 480p, 720p, or 1080i when the input is set to VIDEO 5, 6, or 7).
<b>5</b> AUDIO OUT (VAR/FIX)	Connects to the left and right audio input jacks of your audio or video equipment. You can use these outputs to listen to your TV's audio through your stereo system.
<b>6</b> HD/DVD IN 5/6 (1080i/720p/480p/480i)	Connect to your DVD player's or digital set-top box's component video (Y, Pb, Pr) and audio (L/R) jacks. Component video provides better picture quality than <b>1</b> , <b>2</b> , or <b>3</b> .
<b>7</b> CONTROL S IN/OUT	Allows the TV to receive (IN) and send (OUT) remote control signals to other Sony infrared-controlled audio or video equipment that has the CONTROL S function.
<b>8</b> HDMI (VIDEO 7 IN)	HDMI (High-Definition Multimedia Interface) provides an uncompressed, all-digital audio/video interface between this TV and any HDMI-equipped audio/video component, such as a set-top box, DVD player, and A/V receiver. HDMI supports enhanced, or high-definition video, plus two-channel digital audio.
<b>9</b> DIGITAL AUDIO OPTICAL OUTPUT (DOLBY DIGITAL PCM)	Connect to the optical audio input of an audio component that is Dolby* Digital and PCM compatible.
<b>10</b> CableCARD Slot	Provides cable subscribers with access to digitally encrypted cable channels — without the need for a set-top box — that will enable you to receive not only standard definition but also high definition television. The CableCARD, which is provided by your cable TV company, is inserted into this slot. After the service is activated with your cable TV company, the card replaces the need for a separate set-top box. Check with your cable TV company about CableCARD service details, limitations, pricing, and availability. For more information, see page 43.
<b>11</b> i.LINK (2 inputs)	Connects to the i.LINK jack on your i.LINK-compatible device. Provides a secure digital connection between your TV and your i.LINK-compatible device.
<b>12</b> Cable	RF input that connects to your cable signal.

\* Dolby and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.

## Basic Connections: Connecting a Cable or Antenna

The way in which you will connect your TV varies, depending on how your home receives a signal (cable, cable box, antenna) and whether or not you plan to connect a VCR.

<i>If You Are Connecting</i>	<i>See Page</i>
<b>Cable or Antenna Only</b>	18
<input type="checkbox"/> No cable box or VCR	
<b>Cable and Antenna Only</b>	19
<input type="checkbox"/> No cable box or VCR	
<b>Cable Box and Cable Only</b>	20
<input type="checkbox"/> Cable box unscrambles only some channels (usually premium channels)	
<input type="checkbox"/> No VCR	
<b>Cable Box Only</b>	21
<input type="checkbox"/> Cable box unscrambles all channels	
<input type="checkbox"/> No VCR	

### **If you are connecting a VCR**

- See the connections described on pages 24 and 26.

### **About Using CableCARD**

If you are planning to use a separate cable box for digital cable TV services, you may be able to receive programming using this TV with the CableCARD instead — except in the following circumstances:

- Your cable TV company does not provide CableCARD service in your viewing area.
- You want to access your cable TV company's interactive or advanced features (such as video-on-demand or, in some cases, pay-per-view). At this time, these services require a bidirectional link, which are only available through the use of a separate set-top box. CableCARD is currently a unidirectional device only, and cannot provide these advanced services.

Check with your cable TV company for CableCARD service details, limitations, pricing, and availability, all of which are determined by your cable TV company — not Sony. For information on installing and activating CableCARD, see "Using CableCARD" on page 43.

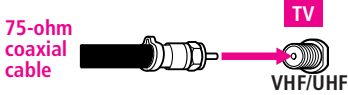
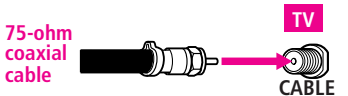
## Cable or Antenna Only

For best results, use one of the following connections if you are connecting a cable or an antenna and you:

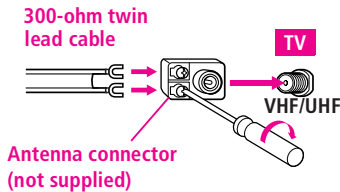
- ❑ Do not need a cable box to unscramble channels. (If you have a cable box, see pages 20-21.)
- ❑ Do not intend to connect a VCR. (If you have a VCR, see pages 24 and 26.)

The connection you choose depends on the cable type you have in your home, as described below.

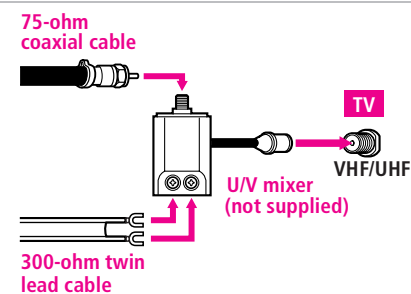
### 75-ohm coaxial cable (usually found in newer homes)

Cable Type	Connect As Shown
VHF Only or combined VHF/UHF	 <p>75-ohm coaxial cable</p> <p>TV VHF/UHF</p>
Cable	 <p>75-ohm coaxial cable</p> <p>TV CABLE</p>

### 300-ohm twin lead cable (usually found in older homes)

Cable Type	Connect As Shown
VHF Only or UHF Only or combined VHF/UHF	 <p>300-ohm twin lead cable</p> <p>TV VHF/UHF</p> <p>Antenna connector (not supplied)</p>

### 75-ohm coaxial and 300-ohm twin lead cable (found in some homes)

Cable Type	Connect As Shown
VHF and UHF	 <p>75-ohm coaxial cable</p> <p>TV VHF/UHF</p> <p>U/V mixer (not supplied)</p> <p>300-ohm twin lead cable</p>

## Cable and Antenna Only

### For best results, use this connection if you:

- ❑ Have a cable and an antenna.  
(This is convenient if you are using a separate rooftop antenna to receive additional channels that are not provided by your cable TV company.)
- ❑ Do not have a cable box or VCR. (If you have a cable box, see pages 20 to 21. If you have a VCR, see pages 24 and 26.)

Cable Type	Connect As Shown
Cable TV (CATV) and Antenna	

### Notes on Using This Connection

To Do This ...	Do This ...
Switch the TV's input between the cable and antenna	Press <b>ANT</b> to switch back and forth between the TV's VHF/UHF and CABLE inputs.

## Cable Box and Cable Only

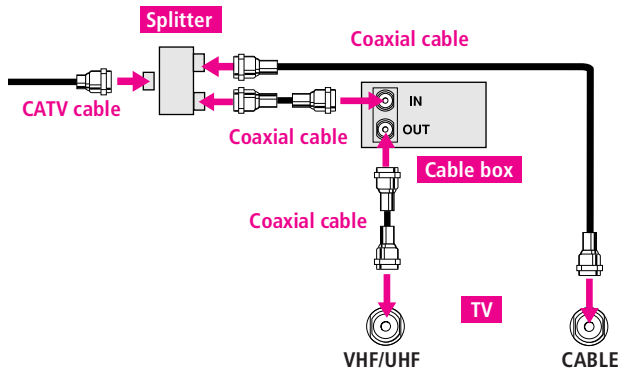
Before connecting a cable box, see "About Using CableCARD" on page 17.

### For best results, use this connection if:

- ❑ Your cable TV company scrambles some channels, such as premium channels (which requires you to use a cable box), but does not scramble all channels.
- ❑ You do not have a VCR. (If you have a VCR, see pages 24 and 26.)

### With this connection you can:

- ❑ Use the TV remote control to change channels coming through the cable box to the TV's VHF/UHF input jack. (You must first program the remote control for your specific cable box; see "Programming the Remote Control" on page 51.)
- ❑ Use the TV remote control to change channels coming directly into the TV's CABLE input. (The TV's tuner provides a better signal than the cable box.)



### About Using This Connection with Dual Picture (Twin View, etc.) Features

With this connection, you can use all the dual picture features for unscrambled channels coming directly into the TV's CABLE input jack.

### Notes on Using This Connection

To Do This ...	Do This ...
Use the cable box	Tune the TV to the channel the cable box is set to (usually channel 3 or 4) and then use the cable box to switch channels.
Set up the TV remote control to operate the cable box	Program the remote control. See "Programming the Remote Control" on pages 51-52.
Activate the remote control to operate the cable box	Press <b>SAT/CABLE FUNCTION</b> .
Switch the TV's input between the cable box and cable	Press <b>ANT</b> to switch back and forth between the TV's VHF/UHF (scrambled channels) and CABLE (unscrambled) inputs.

## Cable Box Only

Before connecting a cable box, see "About Using CableCARD" on page 17.

### For best results, use this connection if:

- ❑ Your cable TV company scrambles all channels, which requires you to use a cable box.
- ❑ You do not have a VCR. (If you have a VCR, see pages 24 and 26.)

### With this connection you can:

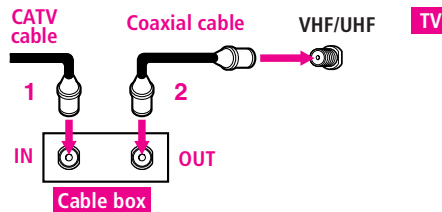
- ❑ Use the TV remote control to change channels coming through the cable box to the TV's VHF/UHF jack. (You must first program the remote control for your specific cable box.)

### About Using This Connection with Dual Picture (Twin View, etc.) Features

With this connection, all channels come into the TV through your cable box and only one unscrambled signal is sent to the TV, so you cannot use the dual picture features. If some of your channels are scrambled, but others are not, consider using the "Cable Box and Cable" connection on page 20 instead.

### To connect the cable box

- 1 Connect the CATV cable to the cable box's input jack.
- 2 Use a coaxial cable to connect the cable box's output jack to the TV's VHF/UHF jack.



- 3 Run Auto Program, as described in "Setting Up the Channel List" on page 45.

## Notes on Using This Connection

To Do This ...	Do This ...
Use the cable box	Tune the TV to the channel the cable box is set to (usually channel 3 or 4) and then use the cable box to switch channels.
Set up the TV remote control to operate the cable box	Program the remote control. See "Programming the Remote Control" on pages 51.
Activate the remote control to operate the cable box	Press <b>SAT/CABLE FUNCTION</b> .

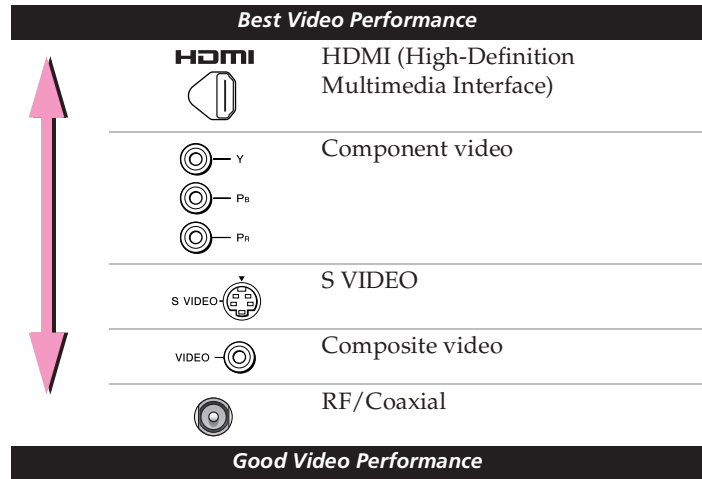
## Connecting Optional Equipment

Use the directions in this section to connect the following optional equipment:

<i>If You Are Connecting</i>	<i>See Page</i>
VCR and Cable	24
VCR and Cable Box	26
Two VCRs for Tape Editing	28
Satellite Receiver	30
Satellite Receiver and VCR	32
DVD Player with Component Video Connectors	34
DVD Player with S VIDEO and Audio Connectors	36
Camcorder	37
Audio Receiver	38
DVI-Equipped Device	39
HDMI-Equipped Device	40

## Making Video Connections

Your TV includes several types of video inputs. When connecting your TV, use the inputs that are available on your components that provide the best video performance, as described below.

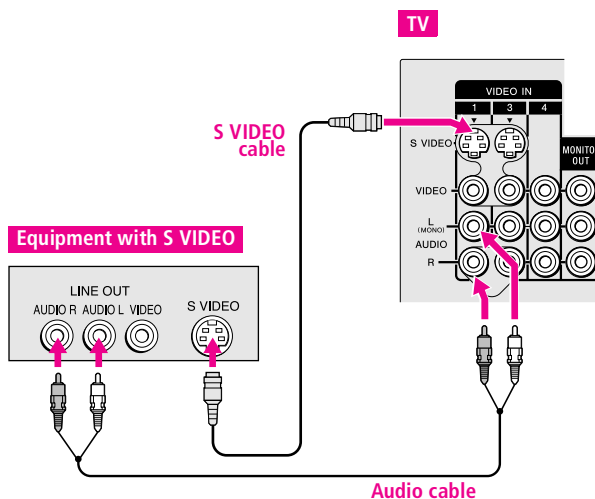


## About Using S VIDEO



If the optional equipment you are connecting has an S VIDEO jack (shown at left), you can use an S VIDEO cable for improved picture quality (compared to an A/V cable). Because S VIDEO carries only the video signal, you also need to connect audio cables for sound, as shown below.

### Example of an S VIDEO Connection



Cables are often color-coded to connectors. Connect red to red, white to white, etc.



## VCR and Cable

For best results, use this connection if:

- ❑ Your cable TV company does not require you to use a cable box.

### About Using This Connection with Dual Picture (Twin View, etc.) Features

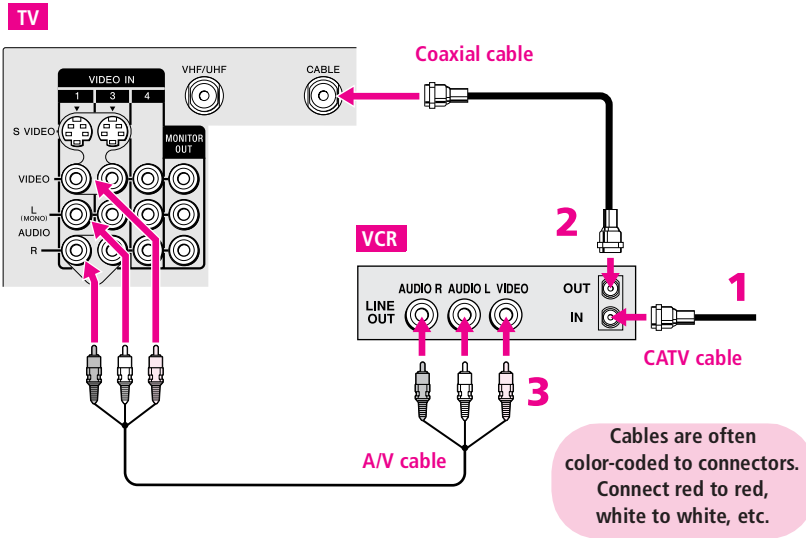
With this connection, you can use all the dual picture features.

#### To connect the VCR and cable

- 1 Connect the CATV cable to the VCR's VHF/UHF input jack.
- 2 Use a coaxial cable to connect the VCR's VHF/UHF output jack to the TV's CABLE jack.
- 3 Use an A/V cable to connect the VCR's A/V output jacks to the TV's A/V input jacks.
- 4 Run Auto Program, as described in "Setting Up the Channel List" on page 45.



Using  
S VIDEO jacks?  
See page 23.



## Notes on Using This Connection

<i>To Do This ...</i>	<i>Do This ...</i>
Watch the VCR	Press <b>TV/VIDEO</b> repeatedly to select the VCR input (VIDEO 1 in the illustration).
Watch cable channels	Press <b>TV/VIDEO</b> repeatedly to select the cable input (CABLE in the illustration).
Set up the TV remote control to operate the VCR	If you have a non-Sony VCR, you must program the remote control. See “Programming the Remote Control” on pages 51-52.
Activate the TV remote control to operate the VCR	Open the outside cover, as shown on page 50. Then set the A/V slide switch to the position you programmed for the VCR.
Control VCR functions with the TV remote control	See “Operating a VCR” on page 66.
Label video inputs to easily identify equipment connected to the TV	See the instructions for setting up Video Labels on page 105.

## VCR and Cable Box

Before connecting a cable box, see "About Using CableCARD" on page 17.

### For best results, use this connection if:

- ❑ Your cable TV company scrambles some channels, such as premium channels (which requires you to use a cable box), but does not scramble all channels.

### About Using This Connection with Dual Picture (Twin View, etc.) Features

With this connection, you can use all the dual picture features.

### With this connection you can:

- ❑ Use the TV remote control to change channels coming through the cable box. (You must first program the remote control for your specific cable box; see "Programming the Remote Control" on page 51.)
- ❑ Use the TV remote control to change channels coming directly into the TV's CABLE jack. (The TV's tuner provides a better signal than the cable box.)
- ❑ Record channels coming through the cable box and channels coming directly into the TV.

### To connect a VCR and cable box, you need:

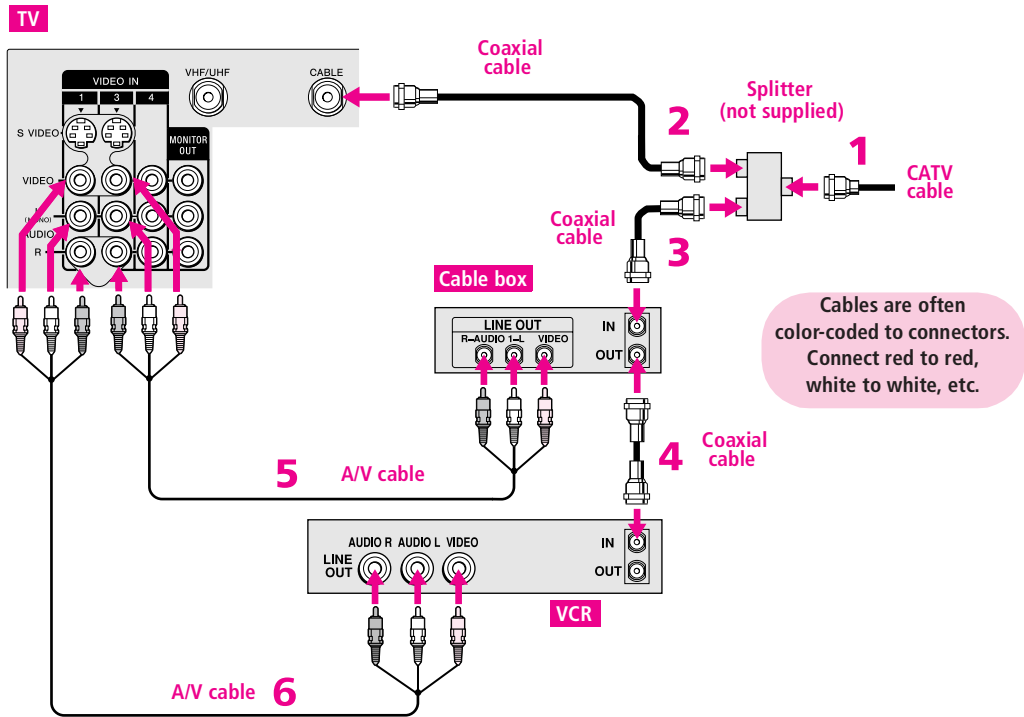
- ❑ A splitter, which is a small, inexpensive device that you can purchase at your local electronics store.
- ❑ Four coaxial cables.
- ❑ Two A/V cables or two S VIDEO cable with audio cables.

### To connect the VCR and cable box

- 1 Connect the CATV cable to the single (input) jack of the splitter.
- 2 Use a coaxial cable to connect one of the splitter's two output jacks to the TV's CABLE jack.
- 3 Use a coaxial cable to connect the splitter's other output jack to the cable box's input jack.
- 4 Use a coaxial cable to connect the cable box's output jack to the VCR's RF input jack.
- 5 Use an A/V cable to connect the cable box's A/V output jacks to the TV's A/V input jacks.
- 6 Use an A/V cable to connect the VCR's A/V output jacks to the TV's A/V input jacks.
- 7 Run Auto Program, as described in "Setting Up the Channel List" on page 45.



Using  
S VIDEO jacks?  
See page 23.



## Notes on Using This Connection

To Do This ...	Do This ...
Watch cable (unscrambled) channels	Press <b>TV/VIDEO</b> repeatedly to select the cable input (CABLE in the illustration).
Watch cable box (scrambled) channels	Press <b>TV/VIDEO</b> repeatedly to select the cable box input (VIDEO 3 in the illustration). Use the cable box to change channels.
Watch the VCR	Press <b>TV/VIDEO</b> repeatedly to select the VCR input (VIDEO 1 in the illustration).
Set up the TV remote control to operate the cable box or VCR	If you have a non-Sony VCR, you must program the remote control. See "Programming the Remote Control" on pages 51-52.
Activate the remote control to operate the cable box or VCR	For the cable box, press <b>SAT/CABLE FUNCTION</b> . For the VCR, open the outside cover, as shown on page 50. Then set the A/V slide switch to the position you programmed for the VCR.
Control specific cable box and VCR functions with the TV remote control	See "Operating a Cable Box" on page 67 and "Operating a VCR" on page 66.
Label video inputs to easily identify equipment connected to the TV	See the instructions for setting up Video Labels on page 101.

## Two VCRs for Tape Editing

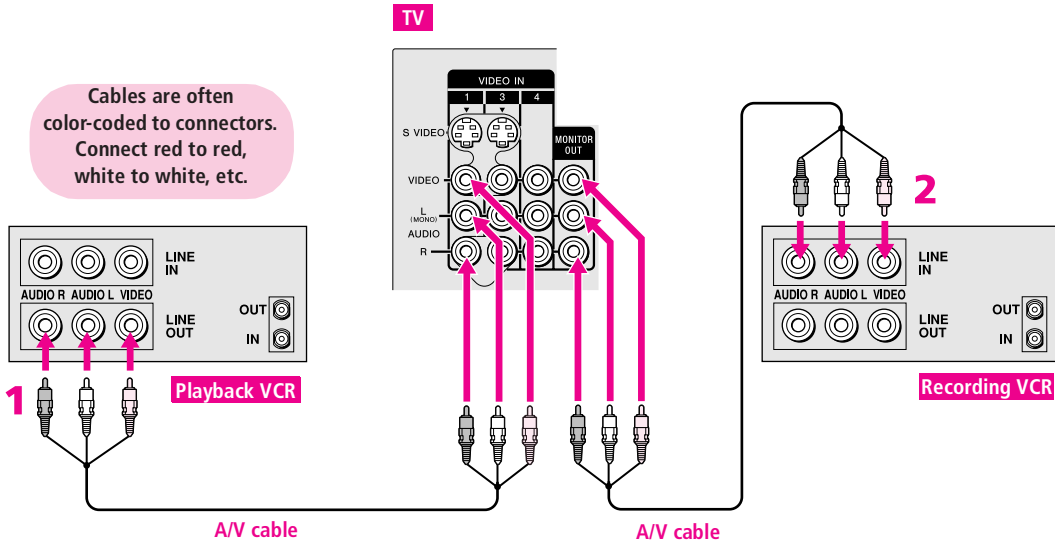


Using  
S VIDEO jacks?  
See page 23.

Connecting two VCRs lets you record from one VCR to the other. By connecting them as shown below, you can view (monitor) what is being recorded.

### To connect two VCRs for tape editing

- 1 Use an A/V cable to connect the playback VCR's A/V output jacks to the TV's A/V input jacks.
- 2 Use an A/V cable to connect the recording VCR's A/V input jacks to the TV's MONITOR OUT jacks.



## Notes on Using This Connection

<i>To Do This ...</i>	<i>Do This ...</i>
View (monitor) what is being recorded	Press <b>TV/VIDEO</b> repeatedly to select the VCR input (VIDEO 1 in the illustration above).
Set up the TV remote control to operate the VCR(s)	If you have a non-Sony VCR, you must program the remote control. See "Programming the Remote Control" on pages 51-52.
Activate the TV remote control to operate the VCR(s)	Open the outside cover, as shown on page 50. Then set the A/V slide switch to the position you programmed for the VCR.
Control VCR functions with the TV remote control	See "Operating a VCR" on page 66.
Label video inputs to easily identify equipment connected to the TV	See the instructions for setting up Video Labels on page 105.

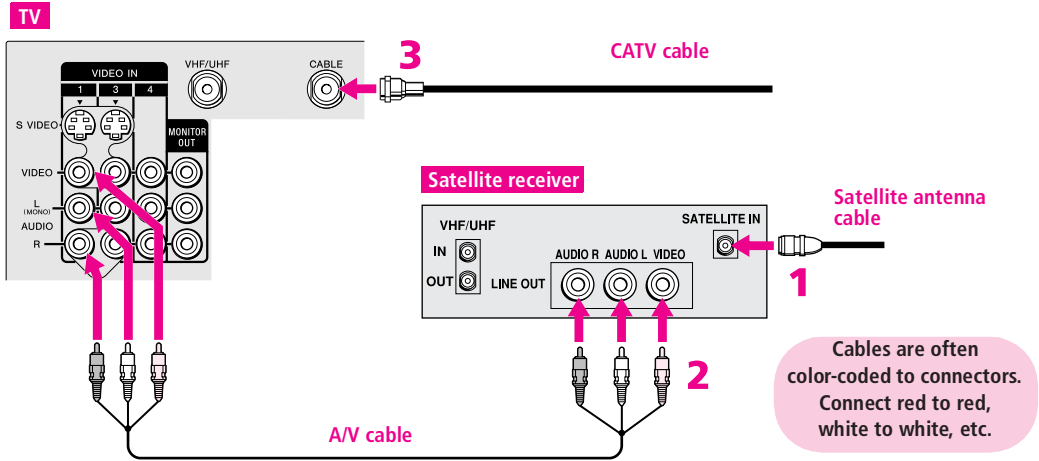
## Satellite Receiver



Using S VIDEO jacks?  
See page 23.

### To connect a satellite receiver

- 1 Connect the satellite antenna cable to the satellite receiver's satellite input jack.
- 2 Use an A/V cable to connect the satellite receiver's A/V output jacks to the TV's A/V input jacks.
- 3 Connect a CATV cable from your cable or antenna to the TV's CABLE jack.
- 4 Run Auto Program, as described in "Setting Up the Channel List" on page 45.



## Notes on Using This Connection

To Do This ...	Do This ...
Watch the satellite receiver	Press <b>TV/VIDEO</b> repeatedly to select the satellite receiver input (VIDEO 1 in the illustration).
Set up the TV remote control to operate the satellite receiver	If you have a non-Sony satellite receiver, you must program the remote control. See "Programming the Remote Control" on pages 51-52.
Activate the TV remote control to operate the satellite receiver	Press <b>SAT/CABLE FUNCTION</b> .
Control satellite receiver functions with the TV remote control	See "Operating a Satellite Receiver" on page 66.
Label video inputs to easily identify equipment connected to the TV	See the instructions for setting up Video Labels on page 105.



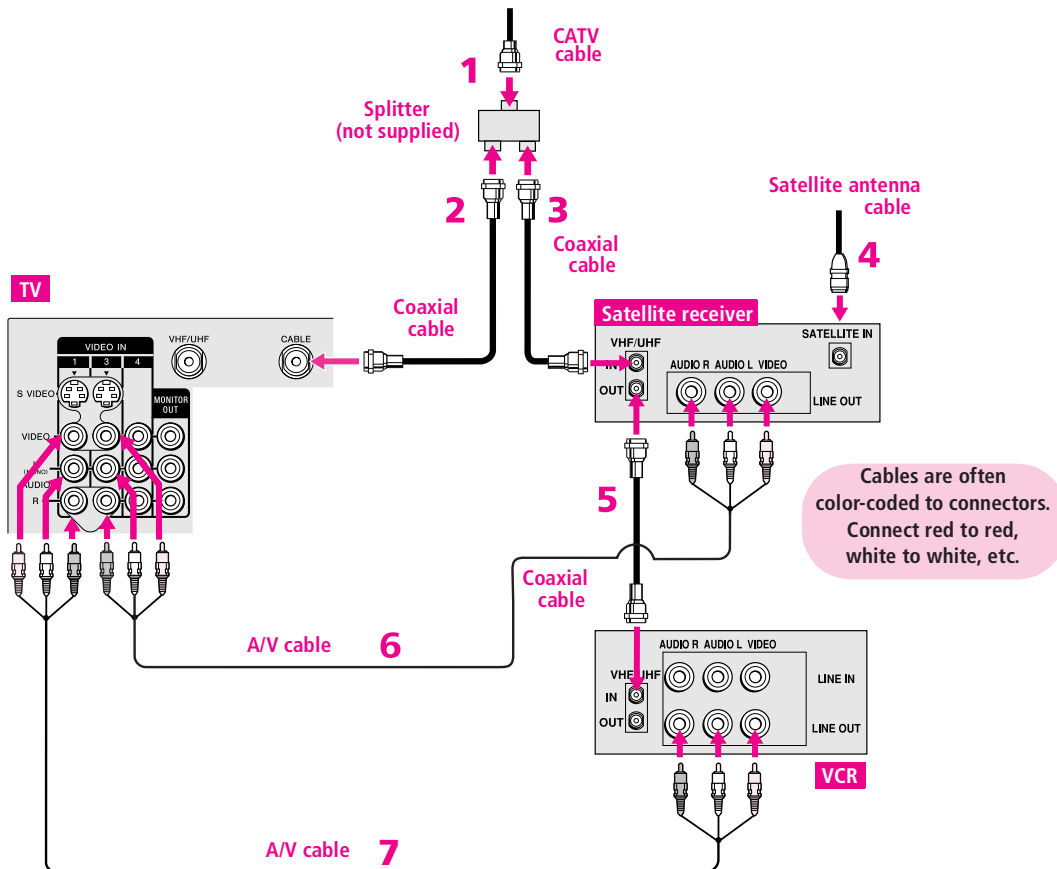
## Satellite Receiver and VCR



Using S VIDEO jacks?  
See page 23.

### To connect a satellite receiver and VCR

- 1 Connect the CATV cable to the single (input) jack of the splitter.
- 2 Use a coaxial cable to connect one of the splitter's two output jacks to the TV's CABLE jack.
- 3 Use a coaxial cable to connect the splitter's other output jack to the satellite receiver's VHF/UHF input jack.
- 4 Connect the satellite antenna cable to the satellite receiver's satellite input jack.
- 5 Use a coaxial cable to connect the satellite receiver's VHF/UHF output jack to the VCR's VHF/UHF input jack.
- 6 Use an A/V cable to connect the satellite receiver's A/V output jacks to the TV's A/V input jacks.
- 7 Use an A/V cable to connect the VCR's A/V output jacks to the TV's A/V input jacks.
- 8 Run Auto Program, as described in "Setting Up the Channel List" on page 45.



## Notes on Using This Connection


<i>To Do This ...</i>	<i>Do This ...</i>
Watch the satellite receiver	Press <b>TV/VIDEO</b> repeatedly to select the VCR input (VIDEO 3 in the illustration).
Watch the VCR	Press <b>TV/VIDEO</b> repeatedly to select the input to which the VCR is connected (VIDEO 1 in the illustration).
Set up the TV remote control to operate the satellite receiver or VCR	If you have a non-Sony VCR or satellite receiver, you must program the remote control. See "Programming the Remote Control" on pages 51-52.
Activate the TV remote control to operate the satellite receiver or VCR	For the satellite receiver, press <b>SAT/CABLE FUNCTION</b> . For the VCR, open the outside cover, as shown on page 50. Then set the A/V slide switch to the position you programmed for the VCR.
Control satellite receiver and VCR functions with the TV remote control	See "Operating a Satellite Receiver" on page 66 and "Operating a VCR" on page 66.
Label video inputs to easily identify equipment connected to the TV	See the instructions for setting up Video Labels on page 105.

## DVD Player with Component Video Connectors

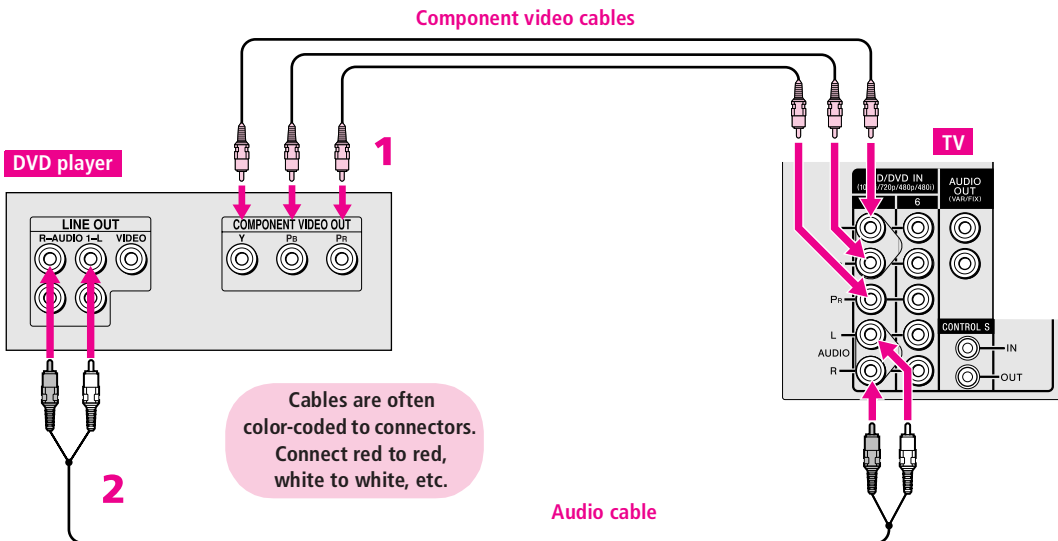
For best results, use this connection if your DVD player has component video (Y, P<sub>B</sub>, P<sub>R</sub>) jacks.

### To connect a DVD player with component video connectors

- 1 Use three separate component video cables to connect the DVD player's Y, P<sub>B</sub> and P<sub>R</sub> jacks to the Y, P<sub>B</sub> and P<sub>R</sub> jacks (VIDEO 5) on the TV.


 The Y, P<sub>B</sub> and P<sub>R</sub> jacks on your DVD player are sometimes labeled Y, C<sub>B</sub> and C<sub>R</sub>, or Y, B-Y and R-Y. If so, connect the cables to like colors.

- 2 Use an audio cable to connect the DVD player's audio output jacks to the TV's VIDEO 5 audio input jacks.



## Notes on Using This Connection

To Do This ...	Do This ...
Watch the DVD player	Press <b>TV/VIDEO</b> repeatedly to select the DVD input (VIDEO 5 in the illustration).
Set up the TV remote control to operate the DVD player	If you have a non-Sony DVD player, you must program the remote control. See "Programming the Remote Control" on pages 51-52.
Activate the TV remote control to operate the DVD player	Open the outside cover, as shown on page 50. Then set the A/V slide switch to the position you programmed for the DVD player.
Control DVD functions with the TV remote control	See "Operating a DVD Player" on page 67.
Label video inputs to easily identify equipment connected to the TV	See the instructions for setting up Video Labels on page 105.

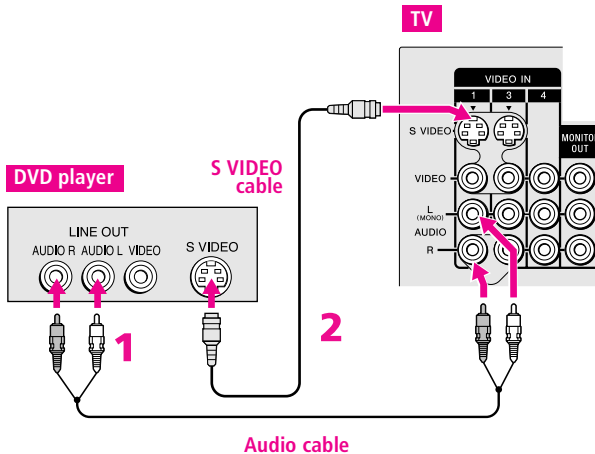
 You cannot record the signal from any equipment connected into the Y, PB, PR jacks.

## DVD Player with S VIDEO and Audio Connectors

Use this connection if your DVD player does not have component video (Y, PB, PR) jacks.

### To connect a DVD player with A/V connectors

- 1 Use an audio cable to connect the DVD player's audio output jacks to the TV's audio input jacks.
- 2 Use an S VIDEO cable to connect the DVD player's S VIDEO jack to the TV's S VIDEO jack.




Cables are often color-coded to connectors. Connect red to red, white to white, etc.

### Notes on Using This Connection

To Do This ...	Do This ...
Watch the DVD player	Press <b>TV/VIDEO</b> repeatedly to select the DVD input (VIDEO 1 in the illustration).
Set up the TV remote control to operate the DVD player	If you have a non-Sony DVD player, you must program the remote control. See "Programming the Remote Control" on pages 51-52.
Activate the TV remote control to operate the DVD player	Open the outside cover, as shown on page 50. Then set the A/V slide switch to the position you programmed for the DVD player.
Control DVD functions with the TV remote control	See "Operating a DVD Player" on page 67.
Label video inputs to easily identify equipment connected to the TV	See the instructions for setting up Video Labels on page 105.

## Camcorder

For easy connection of a camcorder, the TV has front A/V input jacks. If you prefer, however, you can connect the camcorder to the TV's rear A/V input jacks.

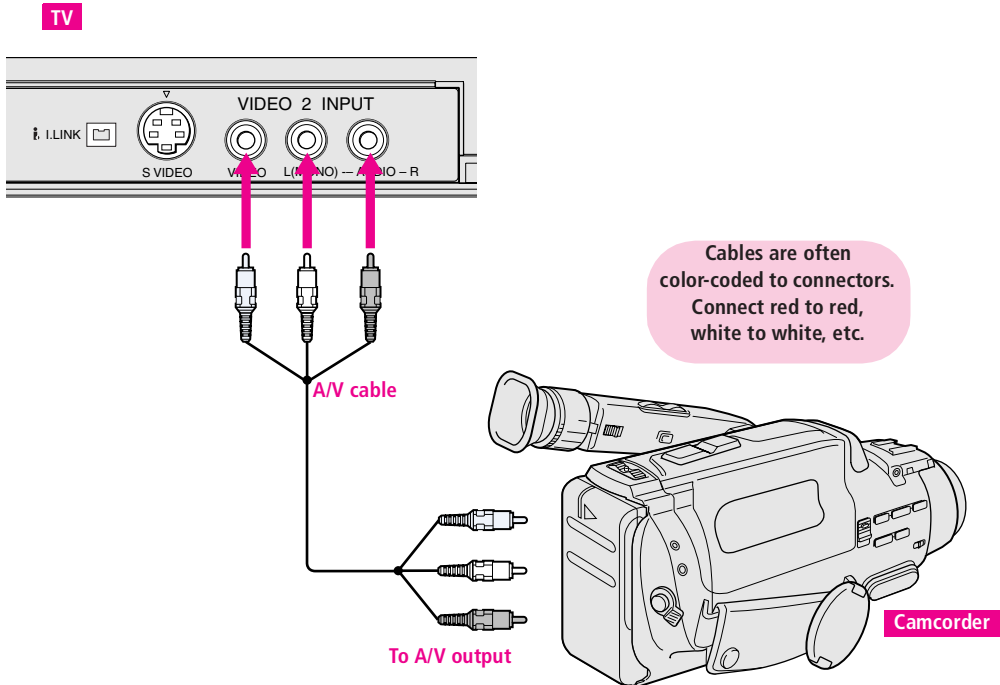
 **If your camcorder is equipped with an i.LINK jack, you can connect it using i.LINK instead of the A/V inputs. See "Using i.LINK" on page 85.**



Using  
S VIDEO jacks?  
See page 23.

### To connect a camcorder

- 1 Use A/V cables to connect the camcorder's A/V output jacks to the TV's A/V input jacks.



If you have a mono camcorder, connect its audio output jack to the TV's L MONO audio jack.

### Notes on Using This Connection

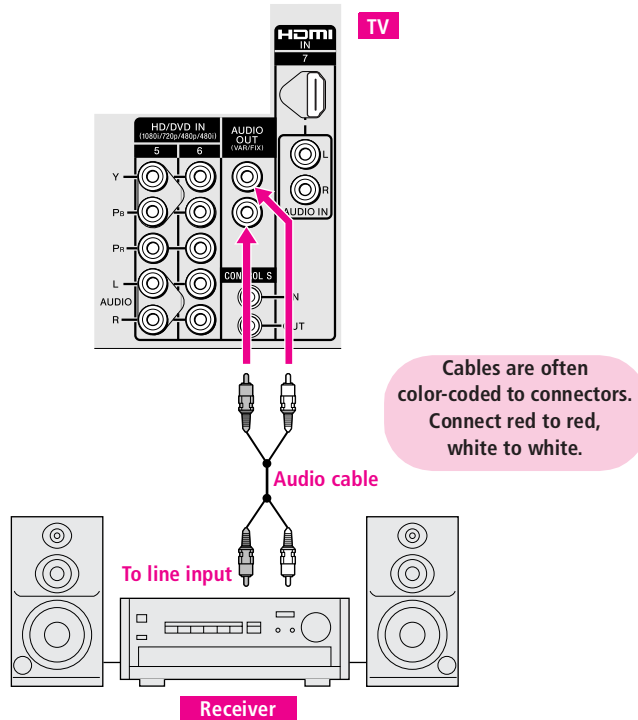
To Do This ...	Do This ...
Watch the camcorder	Press <b>TV/VIDEO</b> repeatedly to select the camcorder input (VIDEO 2 in the illustration).
Label video inputs to easily identify equipment connected to the TV	See the instructions for setting up Video Labels on page 105.

## Audio Receiver

For improved sound quality, you may want to play the TV's audio through your stereo system.

### To connect an audio system

- 1 Use an audio cable to connect the TV's audio output jacks to the audio receiver's line input jacks.




- 2 Using the TV's Audio Menu, set the **Speaker** option to **Off**. Then set the **Audio Out** option to **Fixed** or **Variable**, depending on how you want to control the volume. For details, see "Using the Audio Menu" on page 97.
- 3 Turn on the audio receiver, and then set the receiver's line input to the jack into which you connected the TV.

## DVI-Equipped Device

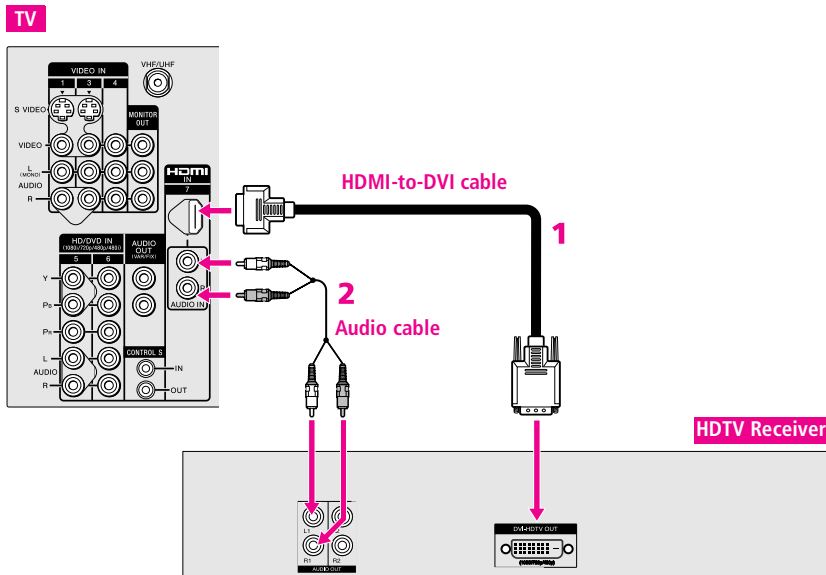
If you have a device, such as an HDTV receiver, that has DVI (Digital Video Interface) output, use the following connection.

### To connect a device that has DVI OUT:

- 1 Use an HDMI-to-DVI cable to connect the device's DVI OUT jack to the TV's HDMI IN jack.

 You can purchase HDMI cables (or cable adapters) at your local electronics store.

- 2 Use an audio cable to connect the device's audio output jacks to the TV's HDMI analog audio input jacks.



### Note on Using This Connection

To Do This ...	Do This ...
Watch the DVI device	Press <b>TV/VIDEO</b> repeatedly to select the VIDEO 7 input.
Label video inputs to easily identify equipment connected to the TV	See the instructions for setting up Video Labels on page 105.




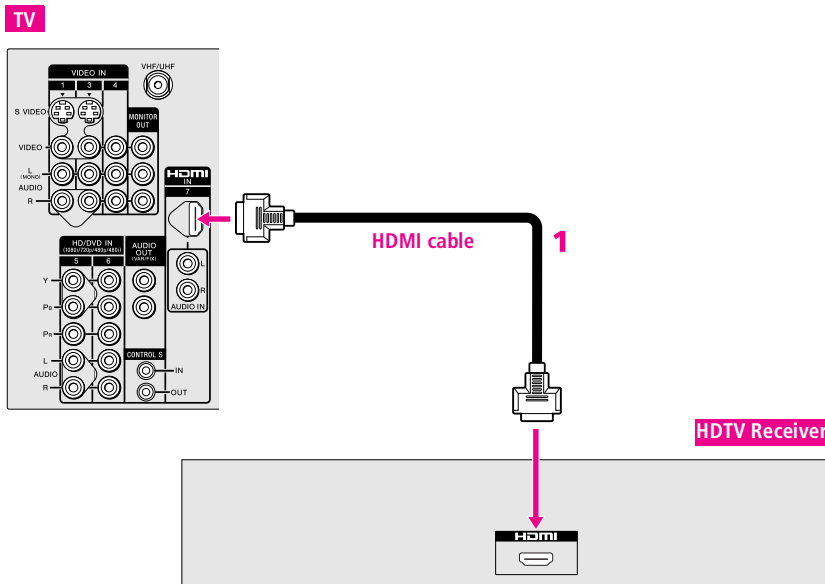
## HDMI-Equipped Device

If you have a device, such as an HDTV receiver, that has a High-Definition Multimedia Interface (HDMI), use the following connection.

### To connect a device that has HDMI OUT:

- 1 Use the HDMI cable that came with your device to connect the device's HDMI OUT jack to the TV's HDMI IN jack.

 HDMI cables transmit both audio and video signals. (Separate audio cables are not necessary.) You can purchase HDMI cables at your local electronics store.



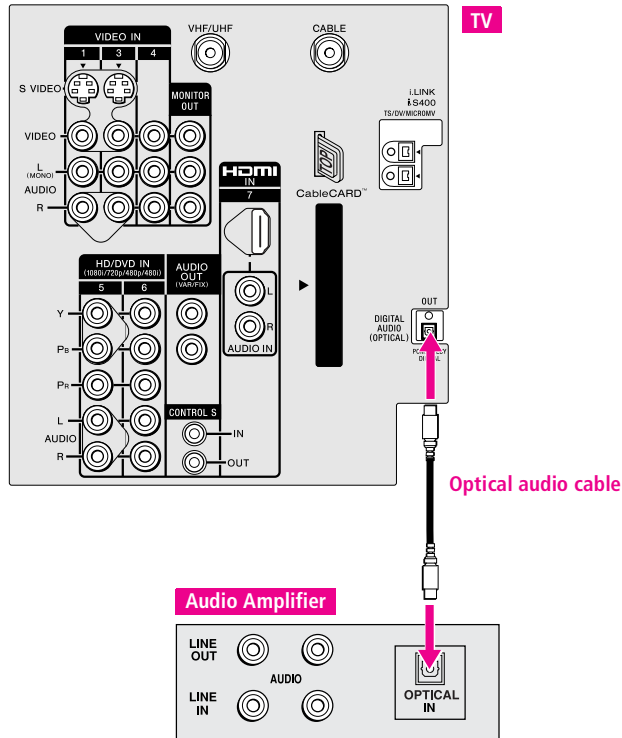
### Note on Using This Connection


To Do This ...	Do This ...
Watch the HDMI device	Press <b>TV/VIDEO</b> repeatedly to select the VIDEO 7 input.
Label video inputs to easily identify equipment connected to the TV	See the instructions for setting up Video Labels on page 105.

## Connecting a Device with an Optical IN Connector

You can use the TV's DIGITAL AUDIO OPTICAL output jack to connect an audio device that is Dolby Digital and PCM compatible, such as an audio amplifier.

- Using an optical cable, connect the TV's DIGITAL AUDIO OPTICAL output jack to the device's audio optical input jack.



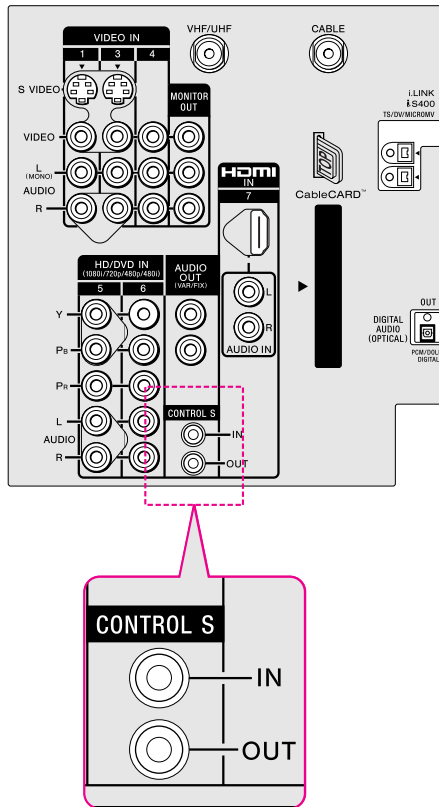
 Because all equipment does not output digital audio, you should also connect the TV's analog audio output jacks to the amplifier's analog audio input jacks, as described on page 38.

## Using the CONTROL S Feature

CONTROL S allows you to control your system and other Sony equipment with one remote control. In addition to allowing you to control multiple devices with one remote control, the CONTROL S feature allows you to always point your remote control at your TV, instead of having to point it at the other equipment, which might be hidden or out of direct line of sight.

Use CONTROL S IN to send signals to the TV.

Use CONTROL S OUT to send signals to connected equipment.



# Using CableCARD

CableCARD provides cable subscribers with access to digitally encrypted cable channels — without the need for a set-top box — that will enable you to receive not only standard definition but also high definition television. The CableCARD, which is provided by your cable TV company, is inserted into the TV's rear panel CableCARD slot. After the service is activated with your cable TV company, the card replaces the need for a separate set-top box.

## About Using CableCARD

If you are planning to use a separate cable box for digital cable TV services, you may be able to receive programming using this TV with the CableCARD instead — except in the following circumstances:

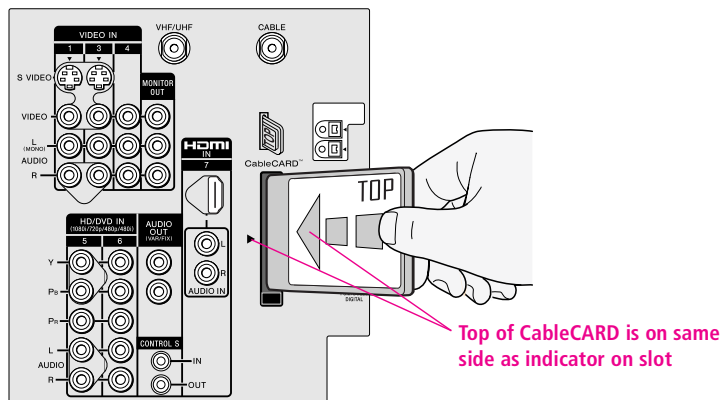
- ❑ Your cable TV company does not provide CableCARD service in your viewing area.
- ❑ You want to access your cable TV company's interactive or advanced features (such as video-on-demand or, in some cases, pay-per-view). At this time, these services require a bidirectional link, which are only available through the use of a separate set-top box. CableCARD is currently a unidirectional device only, and cannot provide these advanced services.

Check with your cable TV company for CableCARD service details, limitations, pricing, and availability, all of which are determined by your cable TV company — not Sony.


## Activating CableCARD Service

Before you can use CableCARD service, you need to insert the CableCARD (supplied by your cable TV company) and activate the service, as described below:

- 1 Turn off the TV.
- 2 Insert the CableCARD into the TV's CableCARD slot.



**!** CAUTION: Inserting the CableCARD incorrectly may result in permanent damage to the card and the TV.


 You can also access information about your CableCARD in the Applications Menu (see page 109).

- 3 Gently push the card into the slot until it locks into place.
- 4 Turn on the TV. After 1-2 minutes, the CableCARD setup screen is displayed. This screen includes information your cable TV company will request before they can activate your service.
- 5 Follow the displayed instructions: Phone your cable TV company. A representative will guide you through the activation process.
- 6 After your CableCARD is activated, your cable TV company will download the service information, including the channel list, to the CableCARD.

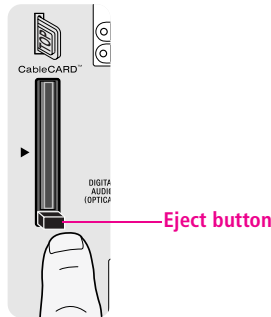
After the CableCARD has acquired channels from your cable TV company, the TV tunes to the lowest available channel.

## Removing the CableCARD

In the event you want to cancel your service, contact your cable TV company.

 **Once the CableCARD is removed, your TV will no longer decrypt digital cable TV programming services that require CableCARD.**

- 1 Turn off the TV.
- 2 Push the eject button on the TV's CableCARD slot to release the card.




- 3 Pull the CableCARD straight out of the slot to remove it. To install a different CableCARD, follow the instructions in "Activating CableCARD Service" on page 43.


## Setting Up the Channel List

After you finish connecting the TV, you need to run the Initial Setup feature, which automatically creates a list of available analog and digital channels and lets you correct tilt and vertical correction settings. The Initial Setup screens appear when you turn on your TV for the first time after hooking it up.

### Using Initial Setup

 For more details on using Tilt Correction and Vertical Correction, see pages 105-106.

 To exit the Tilt Correction and Vertical Correction screens, press the **MENU** button.

 If you are using a CableCARD, Auto Program is disabled for the CABLE input.

#### To run Initial Setup

- 1 Press **POWER** to turn on the TV.  
The Initial Setup screen appears.
- 2 Using the joystick on the remote control, move the highlight to the desired language, then press **+** to select that language.  
The Tilt Correction screen appears.
- 3 Move the joystick **← →** to correct any tilt of the picture. You can choose a correction between +7 and -7.  
When finished, press **+**. The Vertical Correction screen appears.
- 4 Move the joystick **↑ ↓** to make a vertical correction to the picture. You can choose a correction between +5 and -5. When finished, press **+**.
- 5 The next screen instructs you to connect your cable/antenna. Check that you've connected your signal source correctly.  
To start Auto Program, move the joystick to highlight **Yes** and then press **+**.  
  
Auto Program automatically creates a list of receivable analog and digital channels. Auto Program may take 50 minutes or more to complete. A progress bar is displayed while the channel list is being created.  
  
When the channel list is completed, the lowest numbered channel is displayed.

#### To run Auto Program at a later time

- Use the Auto Program feature as described on page 100.

#### To add individual digital channels

Use the Digital Channel feature as described on page 100.

#### To reset the TV to factory settings

- 1 Press **POWER** to turn on the TV.
- 2 Hold down **RESET** on the remote control.
- 3 Press **TV POWER** on the TV. (The TV will turn itself off, then back on.)
- 4 Release **RESET**.



# Using the Remote Control

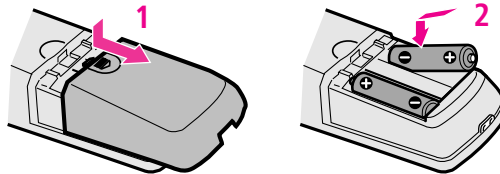
## Overview


This chapter describes how to set up, program, and use the TV's remote control.

Topic	Page
Inserting Batteries	47
Button Descriptions	
Outside Panel	48
Inside Panel	50
Programming the Remote Control	51

## Inserting Batteries

- 1 Remove the battery cover from the remote control.
- 2 Insert two size AA (R6) batteries (supplied) by matching the **+** and **-** terminals on the batteries to the diagram inside the battery compartment.
- 3 Replace the battery cover.



 Remove the batteries to avoid damage from possible battery leakage whenever you anticipate that the remote control will not be used for an extended period.

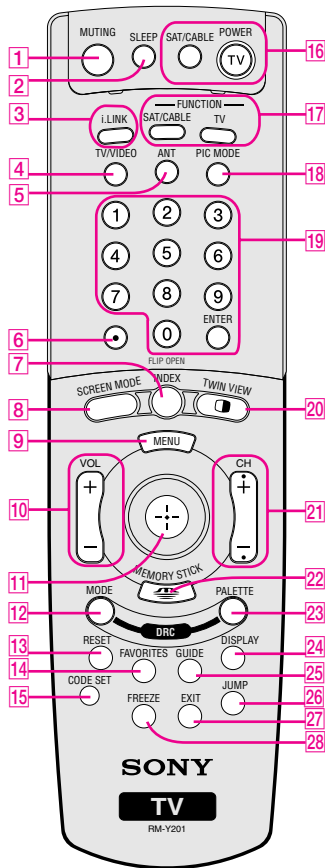
Handle the remote control with care.

Avoid dropping it, getting it wet, placing it in direct sunlight, near a heater, or where the humidity is high.







# Button Descriptions

## Outside Panel




Remote Control

Button	Description
<b>1</b> <b>MUTING</b>	Press to mute the sound. Press again or press <b>VOL+</b> to restore the sound.
<b>2</b> <b>SLEEP</b>	Press repeatedly until the TV displays the time in minutes (15, 30, 45, 60, or 90) that you want the TV to remain on before shutting off automatically. To cancel press until <b>Sleep Off</b> appears. While the Sleep feature is set, press once to display the remaining time. Also available in the Applications Menu (page 108).
<b>3</b> <b>i.LINK</b>	Press to display the i.LINK Control Panel. For information on using the i.LINK Control Panel, see page 89. Also available in the Applications Menu (page 108).
<b>4</b> <b>TV/VIDEO</b>	Press repeatedly to cycle through the video equipment connected to the TV's video inputs.
<b>5</b> <b>ANT</b>	Press to switch between the sources connected to the TV's VHF/UHF and CABLE inputs.
<b>6</b> 	Use with <b>0-9</b> and <b>ENTER</b> buttons to select digital channels (for example, 2.1). For details on selecting digital channels, see page 54.
<b>7</b> <b>INDEX</b>	Press to display the Scrolling Index. For details, see page 57.
<b>8</b> <b>SCREEN MODE</b>	Press repeatedly to step through the Screen Mode settings. Also available in the Screen Menu. For details, see pages 58 and 99.
<b>9</b> <b>MENU</b>	Press to display the Menu. Press again to exit from the Menu. For details, see page 93.
<b>10</b> <b>VOL +/-</b>	Press to adjust the volume.
<b>11</b> 	Move the joystick <b>↑ ↓ ← →</b> to move the on-screen cursor. To select an item, press the center of the joystick ( <b>⊕</b> ).
<b>12</b> <b>DRC MODE</b>	Press repeatedly to cycle through the available high-resolution picture modes: <b>Interlaced</b> , <b>Progressive</b> , <b>CineMotion</b> . Also available in the Video Menu. For details, see "Selecting Video Options" on pages 94-95.
<b>13</b> <b>RESET</b>	Press to reset the settings to the factory defaults. See pages 96 and 98. Also used to clear Favorite Channels (see page 63).
<b>14</b> <b>FAVORITES</b>	Press to display the Favorite Channels list. For details, see page 63.

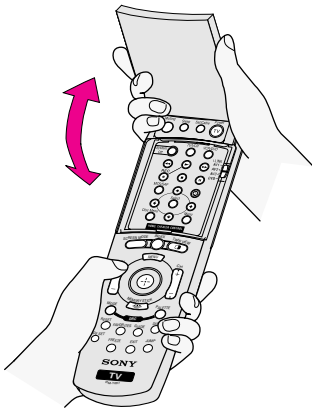
<i>Button</i>	<i>Description</i>
<b>15</b> CODE SET	Press to program the remote control to operate non-Sony video equipment. For details, see "Programming the Remote Control" on page 51.
<b>16</b> POWER Buttons	<b>SAT/CABLE:</b> Press to turn on and off the satellite receiver or cable box. <b>TV:</b> Press to turn on and off the TV.
<b>17</b> FUNCTION Buttons	The indicator lights up momentarily when pressed to show which equipment the remote control is operating: <b>SAT/CABLE:</b> Press to have the remote control operate the satellite receiver or cable box. <b>TV:</b> Press to have the remote control operate the TV.
<b>18</b> PIC MODE	Press repeatedly to cycle through the available video picture modes: <b>Vivid, Standard, Movie, Pro</b> . Also available in the Video Menu. For details, see "Selecting Video Options" on page 94.
<b>19</b> 0 - 9 ENTER	Press <b>0 - 9</b> to select a channel; the channel changes after 3 seconds. Press <b>ENTER</b> to change channels immediately.
<b>20</b> TWIN VIEW 	Press to turn on and off Twin View. For details, see pages 60-62.
<b>21</b> CH +/-	Press to scan through channels. To scan quickly through channels, press and hold down either <b>CH</b> button.
<b>22</b> MEMORY STICK 	Press to display the Memory Stick Menu. For details, see "Using the Memory Stick Viewer" on page 69. Also available in the Applications Menu (page 108).
<b>23</b> DRC PALETTE	Press repeatedly to cycle through the three Custom DRC Palette options. Also available in the Video Menu. For details, see "Selecting Video Options" on pages 94-96.
<b>24</b> DISPLAY	Press once to display the current channel number, current time, and program information banner. Press again to turn Display off.
<b>25</b> GUIDE	Press to display the program guide. For details, see page 55.
<b>26</b> JUMP	Press to jump back and forth between two channels. The TV alternates between the current channel and the last channel that was selected.
<b>27</b> EXIT	Press to exit the on-screen Menu or display and return to normal viewing.
<b>28</b> FREEZE	Press to freeze the window picture. Press again to restore the picture. For details see page 65.


## Inside Panel

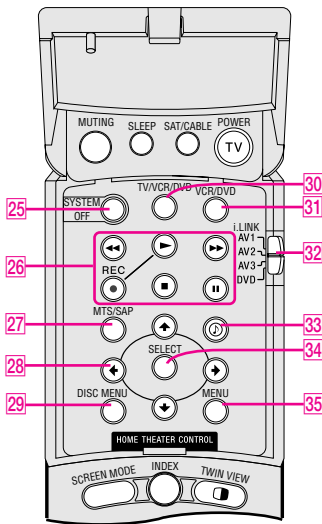
To access the inside panel, open the outside cover as shown.

 Opening the outside cover automatically switches the remote control to operate your VCR or DVD player, depending on the position of the A/V slide switch. For details, see page 51.

VCR and DVD buttons require that you first program the remote (page 51), if the VCR and DVD player are not Sony brand.



Button	Description
<b>25</b> SYSTEM OFF	Press to turn off all Sony brand audio/video equipment at once. (May not function with older Sony equipment.)
<b>26</b> Transport Buttons	◀◀ Rewind ▶▶ Play ● Record (press together with ▶▶)  To record with i.LINK devices, press only ●. ■ Stop ▶▶ Fast forward    Pause
<b>27</b> MTS/SAP	Press repeatedly to cycle through the Multi-channel TV Sound (MTS) options: <b>Stereo</b> , <b>Auto SAP</b> (Second Audio Program), and <b>Mono</b> . Also available in the Audio Menu. For details, see “Using the Audio Menu” on page 97.
<b>28</b> ↑ ↓ ← →	Press ↑ ↓ ← → to move the VCR or DVD player’s on-screen cursor.
<b>29</b> DISC MENU	Press to display the DVD Menu.
<b>30</b> TV/VCR/DVD	Press to change to the VHF/UHF output of the VCR (or DVD/VCR combination unit).
<b>31</b> VCR/DVD	Press to turn on and off the VCR or DVD player.
<b>32</b> i.LINK AV1/2/3/DVD Slide Switch	Use the A/V slide switch to control connected video or i.LINK equipment. You can program one video source for each switch position. i.LINK-connected devices are by default set to <b>AV1</b> . For details, see “Programming the Remote Control” on page 51.
<b>33</b> ⌚	Press repeatedly to step through the Audio Effect options. Also available in the Audio Menu. For details, see page 97.
<b>34</b> SELECT	Press to select an item in the VCR or DVD player’s Menu.
<b>35</b> MENU	Press to display the DVD player setup Menu.



# Programming the Remote Control

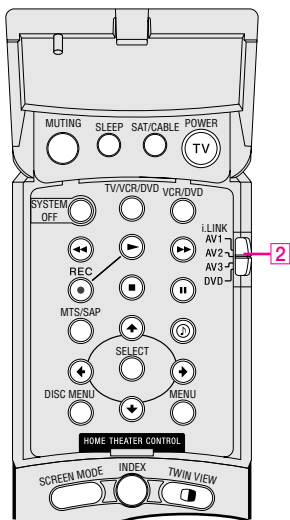
The remote control is preset to operate Sony brand video equipment.

Sony Equipment	Switch Position on Remote Control	Programmable Code Number
i.LINK	i.LINK/ AV1	901
8 mm VCR	AV2	302
VHS VCR	AV3	301
DVD player	DVD	751

If you have video equipment other than Sony brand that you want to control with the TV's remote control, use the following procedure to program the remote control.

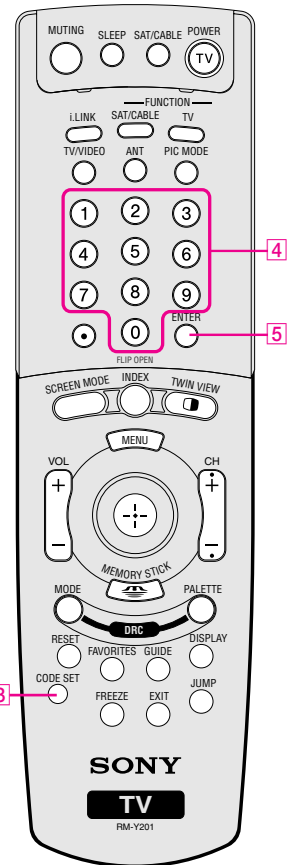
The equipment must have infrared (IR) remote capability in order to be used with the remote control.

Remote Control



- 1 Turn to the list of "Manufacturer's Codes" on page 52, and find the three-digit code number for the manufacturer of your equipment. (If more than one code number is listed, use the number listed first.)
- 2 Open the remote control and set the A/V slide switch to **i.LINK/AV1**, **AV2**, **AV3**, or **DVD**. Then close the remote control.

If the device that you wish to program is connected through i.LINK, you must set the slide switch to AV1.



- 3 Press **CODE SET**.
  - 4 Enter the three-digit manufacturer's code number.
  - 5 Press **ENTER**.
- You must do step 5 within 10 seconds of step 4, or you must redo steps 3 through 5.

- 6 To check if the code number works, aim the TV's remote control at the equipment and press the **POWER** button that corresponds with that equipment. If it responds, you are done. If not, try using another code listed for that manufacturer.

### Notes

- If more than one code number is listed, try entering them one by one until you come to the correct code for your equipment.
- If you enter a new code number, the code number you previously entered at that setting is erased.
- In some cases, you may not be able to operate your equipment with the supplied remote control. In such cases, use the equipment's own remote control unit.
- Whenever you remove the batteries to replace them, the code numbers may revert to the factory setting and must be reset.

## Manufacturer's Codes

### VCRs

<i>Manufacturer</i>	<i>Code</i>
Sony	301, 302, 303
Admiral (M. Ward)	327
Aiwa	338, 344
Audio Dynamic	314, 337
Broksonic	319, 317
Canon	309, 308
Citizen	332
Craig	302, 332
Criterion	315
Curtis Mathes	304, 338, 309
Daewoo	341, 312, 309
DBX	314, 336, 337
Dimensia	304
Emerson	319, 320, 316, 317, 318, 341
Fisher	330, 335
Funai	338
General Electric	329, 304, 309
Go Video	322, 339, 340
Goldstar	332
Hitachi	306, 304, 305, 338
Instant Replay	309, 308
JC Penney	309, 305, 304, 330, 314, 336, 337
JVC	314, 336, 337, 345, 346, 347
Kenwood	314, 336, 332, 337
LXI (Sears)	332, 305, 330, 335, 338
Magnavox	308, 309, 310
Marantz	314, 336, 337
Marta	332
Memorex	309, 335
Minolta	305, 304
Mitsubishi/ MGA	323, 324, 325, 326
Multitech	325, 338, 321
NEC	314, 336, 337
Olympic	309, 308
Optimus	327
Orion	317
Panasonic	308, 309, 306, 307
Pentax	305, 304
Philco	308, 309
Philips	308, 309, 310
Pioneer	308
Quasar	308, 309, 306
RCA/ PROSCAN	304, 305, 308, 309, 311, 312, 313, 310, 329

<i>Manufacturer</i>	<i>Code</i>
Realistic	309, 330, 328, 335, 324, 338
Sansui	314
Samsung	322, 313, 321
Sanyo	330, 335
Scott	312, 313, 321, 335, 323, 324, 325, 326
Sharp	327, 328
Signature 2000 (M. Ward)	338, 327
SV2000	338
Sylvania	308, 309, 338, 310
Symphonic	338
Tashiro	332
Tatung	314, 336, 337
Teac	314, 336, 338, 337
Technics	309, 308
Toshiba	312, 311
Wards	327, 328, 335, 331, 332
Yamaha	314, 330, 336, 337
Zenith	331

### Laserdisc Players

<i>Manufacturer</i>	<i>Code</i>
Sony	701
Panasonic	704, 710
Pioneer	702

### DVD/VCR Combination Units

<i>Manufacturer</i>	<i>Code</i>
Sony	601
Broksonic	605
JVC	604
Panasonic	609
Samsung	603
Toshiba	602

### i.LINK Controls

<i>Function</i>	<i>Code</i>
Rewind, Play, Fast-forward, Record, Stop, Pause	901

### DVD Players

<i>Manufacturer</i>	<i>Code</i>
Sony	751
Apex	762
General Electric	755
Hitachi	758
JVC	756
Magnavox	757
Mitsubishi	761
Oritron	759
Panasonic	753
Philips	757
Pioneer	752
RCA/Proscan	755
Samsung	758
Toshiba	754
Zenith	760

### Cable Boxes

<i>Manufacturer</i>	<i>Code</i>
Sony	230
Hamlin/Regal	222, 223, 224, 225, 226
Jerrold/G. I./ Motorola	201, 202, 203, 204, 205, 206, 207, 208, 218
Oak	227, 228, 229
Panasonic	219, 220, 221
Pioneer	214, 215
Scientific Atlanta	209, 210, 211
Tocom	216, 217
Zenith	212, 213

### Satellite Receivers

<i>Manufacturer</i>	<i>Code</i>
Sony	801
Dish Network	810
Echostar	810
General Electric	802
Hitachi	805
Hughes	804
Mitsubishi	809
Panasonic	803
RCA/ PROSCAN	802, 808
Toshiba	806, 807


# Using the Features


## Overview

This chapter describes how to use the features of your TV.


<i>Topic</i>	<i>Page</i>
Watching TV	54
Using the Program Guide	55
Using the Scrolling Index	57
Using Screen Mode	58
Using Twin View	60
Using Favorite Channels	63
Using the Freeze Function	65
Using Other Equipment with Your TV Remote Control	66

## Watching TV


 For a complete list of all the functions of the remote control, see pages 47-52.

To Do This ...	Do This ...
Activate the remote control to operate the TV	Press <b>TV FUNCTION</b>
Turn on/off the TV	Press <b>TV POWER</b>
Tune directly to a channel	To tune to analog channels, press <b>0-9</b> and then <b>ENTER</b> .  For digital subchannels, press <b>0-9</b> , <b>⊙</b> , press <b>0-9</b> again, and then <b>ENTER</b> .  For example, to select subchannel 21.13, press <b>2+1+⊙+1+3</b> , and then press <b>ENTER</b> .
	 <b>You can also select channels using the program guide. See pages 55 for details.</b>
Adjust the volume	Press <b>VOL +/-</b>
Mute the sound	Press <b>MUTING</b> (press again to unmute)
Alternate back and forth between two channels	Press <b>JUMP</b>  The TV alternates between the current channel and the last channel tuned.
Display the current channel number (and other information)	Press <b>DISPLAY</b> once to display the channel number, current time, and channel label (if set). Press <b>DISPLAY</b> again to turn Display off.
Switch the TV's input to the VCR, DVD player, or other connected equipment	Press <b>TV/VIDEO</b> repeatedly to cycle through the video equipment connected to the TV's video inputs.
Change video and audio options, customize the TV's setup, set parental controls, and more	Press <b>MENU</b> to display the Menu. For details, see "Using the Menus" on page 93.
Switch the TV's input between sources connected to the TV's VHF/UHF and CABLE inputs	Press <b>ANT</b> to alternate between sources connected to the TV's VHF/UHF and CABLE inputs.

# Using the Program Guide

 The program guide is not available while using multipicture functions (Twin View, Freeze, Scrolling Index, i.LINK, Memory Stick, or Favorite Channels).

The program guide lets you review program information and select both analog and digital channels.

 **The Program Guide cannot be displayed when the TV is tuned to one of the video inputs or if the Channel Fix option is set to anything other than Off (see page 100).**

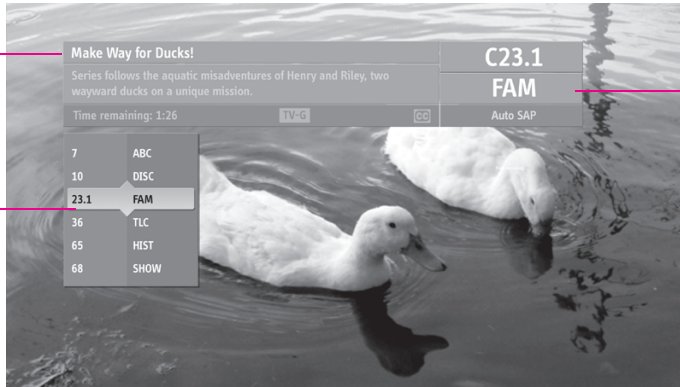


### To display the program guide:


Press **GUIDE** on the TV's remote control. The program guide appears, with the currently selected program showing in the background.





Program title and description, program duration, time remaining, rating information, closed-caption availability, etc.

Selectable channel list



Channel number, call letters, etc.

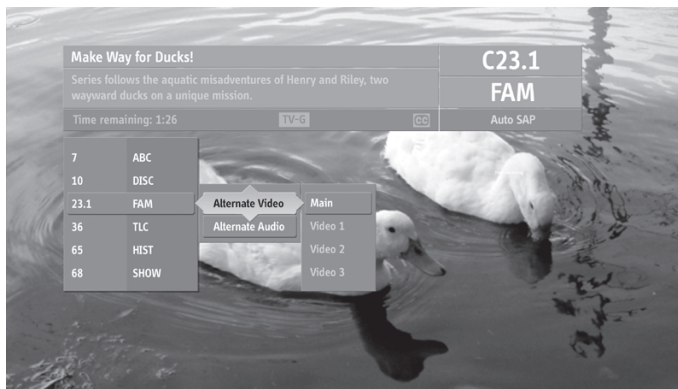
 **Program information in the guide is provided by the broadcasters. As a result, it may sometimes include only the channel number, without a program title or description.**

To Do This ...	Do This ...
Scroll through the channel list	Move the joystick  
Select the currently displayed channel and exit the guide	Press  .
Display additional options	Move the joystick  . See "Using Additional Program Guide Options" on page 56.
Exit the Guide (without changing channels)	Press <b>GUIDE</b>



## Using Additional Program Guide Options

Move the joystick **▶** while in the program guide's channel list to display the following options, which allow you to customize the settings of the program on the currently tuned channel.



Option	Description
Alternate Video (when available)	Each program has a main video stream (the video that you see when the channel is first tuned), and may have alternate video streams. This option allows you to switch among these alternate video streams.
Alternate Audio (when available)	Each program has a main audio stream (the audio that you hear when the channel is first tuned) and may have alternate audio streams. This option allows you to switch among these alternate audio streams (e.g., for different languages).

## Using the Scrolling Index

The Scrolling Index lets you select programs from a series of preview windows that scroll along the right side of the screen.

- 1 Press **INDEX**.

The Scrolling Index appears, with the currently selected program in the main (left) window, and four scrolling video pictures in the right.



As each picture on the right scrolls to the live preview window, it changes briefly from a frozen video picture to a live video. The right side continues to scroll through the entire channel list.

- 2 To change the direction of the scrolling, move the joystick **▲** or **▼**.
- 3 To change the speed of the scrolling, move and hold the joystick **▲** or **▼**.
- 4 To change a frozen video picture to a live video, move the joystick **▲** or **▼** to highlight the picture, then press **⊕**.
- 5 To move the live video (from step 4 ) from the right to the main (left) window of the Scrolling Index, press **⊕** again.

### To exit the Scrolling Index

- ❑ Press **INDEX**.

### Factors Affecting Scrolling Index

- ❑ Scrolling Index does not function if you use a cable box to view all channels.
- ❑ Scrolling Index does not function if you are using CableCARD (see page 43).
- ❑ Scrolling Index does not function if parental controls are set (see page 102).
- ❑ Digital sources, as well as any sources connected to the VIDEO 5, VIDEO 6, VIDEO 7 inputs, display in the left window, but not in the right windows.

# Using Screen Mode











You can also access the Screen Mode settings in the Screen Menu. For details, see page 99.

The Screen Mode feature lets you change the picture size for both standard-definition (480i/480p) and high-definition (720p/1080i) sources.



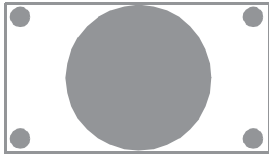

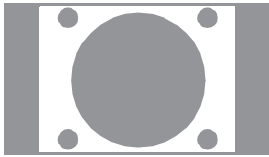





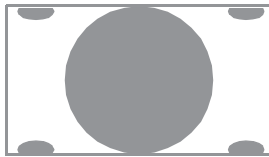



- Press **SCREEN MODE** repeatedly to toggle through the following Screen Mode settings.

## Using Screen Mode with Standard Definition (480i/480p) Sources

Example	Description
  <b>Wide Zoom</b>	<b>Wide Zoom</b> enlarges the center portion of the picture proportionately. The left and right edges of the picture are stretched to fill the 16:9 screen.
  <b>Normal</b>	<b>Normal</b> displays the 4:3 picture in its original size. Bars are shown to fill the 16:9 screen.
  <b>Full</b>	<b>Full</b> stretches the 4:3 picture horizontally, to fill the 16:9 screen.
  <b>Zoom</b>	<b>Zoom</b> enlarges the 4:3 picture proportionately to fill the 16:9 screen. Some clipping may occur. <b>Zoom</b> is useful for watching Letterbox movies.

When you change channels or inputs, the Screen Mode settings revert to the **4:3 Default** setting in the Screen Menu. To retain the current Screen Mode setting as channels and inputs are changed, set **4:3 Default** to **Off**. For details, see page 99.


# Using Screen Mode with High-Definition (720p/1080i) Sources

Example	Description	
  <b>Full (native 16:9)</b>	<b>Full</b> displays the picture at its original size. If the source is a 16:9 high-definition (720p/1080i) signal, the picture fills the screen.	
 <b>Full (upconverted 4:3)</b>	If the source is a 4:3 standard-definition signal that has been upconverted, bars are shown to fill the 16:9 screen.	
  <b>Zoom</b>	<b>Zoom</b> enlarges the picture proportionately, both vertically and horizontally. Some clipping may occur.	
  <b>Horizontal Expand</b>	<b>Horizontal Expand</b> stretches the picture horizontally. Some clipping may occur.	
  <b>Vertical Expand</b>	<b>Vertical Expand</b> stretches the picture vertically. Some clipping may occur.	

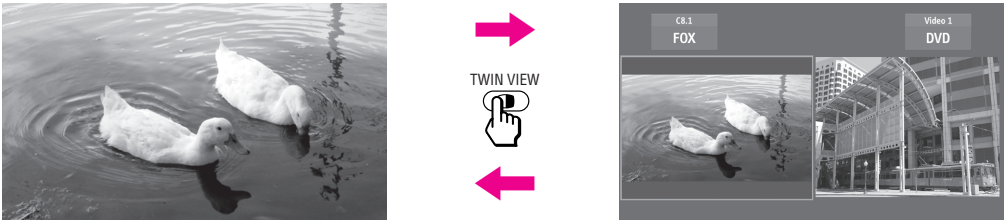
## Using Twin View

Twin View lets you see two pictures from two sources — from an antenna, VCR, DVD, etc. — on the screen at the same time. You hear the sound from only one of the sources at a time, but you can choose which source's sound is selected. You can also change the relative size of each of the pictures.

### Displaying Twin Pictures

- 1 Tune the TV to a working channel.
- 2 Press .

A second picture appears. The active picture is highlighted.



To cancel Twin View and watch the active picture

- Press  or .

### Factors Affecting Twin View

- If you use a cable box to view all channels, the same channel appears in both windows of Twin View because the cable box unscrambles only one channel at a time.
- If you use a cable box, you can view the cable box output in one Twin View window and view a different source (such as a VCR or DVD player) in the second window by using the **TV/VIDEO** button. For details, see “Connecting Optional Equipment” on page 22.
- Digital sources, as well as any sources connected to the VIDEO 5, VIDEO 6, VIDEO 7 inputs, display in the left window, but not in the right window.
- If you are viewing a 4:3 source and a 16:9 enhanced source (such as a DVD) side by side in Twin View, the 4:3 source appears larger.
- Twin View does not display channels that are blocked by parental settings (see page 102).

## Activating the Picture

You can use the ◀ and ▶ buttons to activate the left and right pictures while using Twin View.

### To Do This ...

To activate the picture in the right window

### Do This ...



Move the joystick ▶.



To activate the picture in the left window



Move the joystick ◀.



## Functions Available in the Active (Highlighted) Window

To Do This ...	Do This ...
Tune to a channel	To tune to analog channels, press <b>0-9</b> and then <b>ENTER</b> . For digital subchannels, press <b>0-9</b> , <b>⊙</b> , press <b>0-9</b> again, and then <b>ENTER</b> . For example, to select subchannel 21.13, press <b>2+1+⊙+1+3</b> , and then press <b>ENTER</b> .
Adjust the volume	Press <b>VOL +/-</b>
Mute the sound	Press <b>MUTING</b> (press again to unmute)
Switch the TV's input between sources connected to the TV's VHF/UHF and CABLE inputs	Press <b>ANT</b>
Switch the TV's input between sources connected to the TV's A/V inputs	Press <b>TV/VIDEO</b>
Change the picture size	Move the joystick ▲ or ▼. (For details, see "Changing the Picture Size" on page 62.)

## Changing the Picture Size

The zoom feature lets you vary the relative size of the left and right pictures.

To Do This ...

Do This ...

Enlarge the active picture



Move the joystick ▲.

Make the active picture smaller



Move the joystick ▼.

When you adjust the picture sizes, the TV memorizes the change. The next time you use the Twin View function, the memorized sizes appear.




## Using Favorite Channels


The Favorite Channels feature lets you select programs from a list of up to 16 favorite channels that you specify. You can create a list using the Favorite Channel option in the Channel Menu, or by using the Add to Favorites feature in the Favorite Channels guide.

### Using the Channel Menu




 For details on using the Channel Menu, see page 100.

- 1 Press **MENU** to display the Menu.
- 2 Move the joystick **▲** or **▼** to highlight the Channel icon and press **⊕**.
- 3 Press **⊕** to select **Favorite Channels**.
- 4 Use the **0-9** and **ENTER** buttons to enter the channel number that you want to assign to the Favorite Channel number. A preview of the highlighted channel appears in the upper right of the screen.

 **Digital channels do not display in the preview window.**

Press **⊕** to select that channel as a Favorite Channel.

 **To enter digital channel numbers in step 4, use the 0-9, **○**, and **ENTER** buttons.**

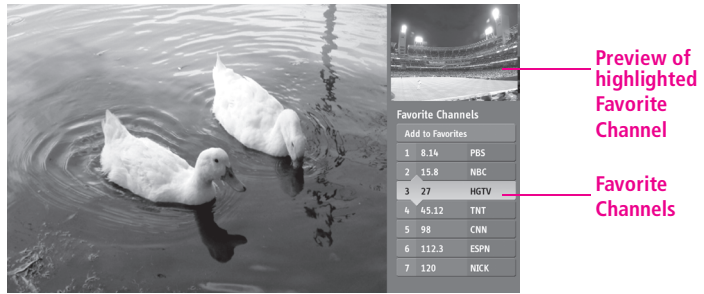
- 5 To add more channels to your favorites list, repeat step 4.  
To clear a Favorite Channel, move the joystick **▲** or **▼** to highlight the channel you want to clear. Press **⊕** and then press **RESET**.
- 6 Press **MENU** to exit the Menu.



## Using the Favorite Channels Guide



- 1 Press **FAVORITES**. The Favorite Channels list appears.



- 2 Move the joystick **▲** or **▼** to highlight the channel you want to watch.  
A preview of the highlighted Favorite Channel appears.

 **Digital channels do not display in the preview window.**


To add the current channel to the list of Favorite Channels, highlight **Add to Favorites** and press **+**.

To change your Favorite Channels list, highlight **Edit Favorites** and press **+**.

- 3 Press **+** to select the channel you want to watch.

## Using the Freeze Function

The **FREEZE** button allows you to temporarily capture a program's picture. You can use this feature to write down information such as phone numbers, recipes, etc.

 **The Freeze feature is not available while using Twin View.**

- 1 When the program information you want to capture is displayed, press **FREEZE**.
- 2 The TV switches to Twin View mode and displays the "frozen" picture on the right, while the current program continues on the left.



**Current  
program  
in progress**



**Frozen  
picture**

- 3 To cancel and return to normal viewing, press **FREEZE** (or just tune to another channel).

# Using Other Equipment with Your TV Remote Control

## All Equipment

To Do This ...	Do This ...
Switch the TV's input to the VCR, DVD player, or other connected equipment	Press <b>TV/VIDEO</b> repeatedly to cycle through the video equipment connected to the TV's video inputs.
Set up the TV remote control to operate non-Sony equipment	You must program the remote control the first time you use it. See "Programming the Remote Control" on pages 51 to 52.

## Operating a VCR

To Do This ...	Press
Activate the remote control to operate the VCR	Open the outside cover, as shown on page 50. Then set the A/V slide switch to the position you programmed for the VCR.
Change channels	<b>CH +/-</b>
Record	<b>▶</b> and <b>●</b> simultaneously
Play	<b>▶</b>
Stop	<b>■</b>
Fast forward	<b>▶▶</b>
Rewind the tape	<b>◀◀</b>
Pause	<b>  </b>
Search the picture forward or backward	<b>▶▶</b> or <b>◀◀</b> during playback (release to resume normal playback)
Change input mode	<b>TV/VCR</b>

## Operating a Satellite Receiver

To Do This ...	Press
Activate the remote control to operate the satellite receiver	<b>SAT/CABLE FUNCTION</b>
Turn on/off	<b>SAT/CABLE POWER</b>
Select a channel	<b>0-9, ENTER</b>
Change channels	<b>CH +/-</b>
Back to previous channel	<b>JUMP</b>
Display channel number	<b>DISPLAY</b>
Display SAT Guide	<b>GUIDE</b>
Display SAT Menu	<b>MENU</b>
Move highlight (cursor)	Move the joystick <b>▲ ▼ ◀ ▶</b>
Select item	<b>⊕</b>

## Operating a Cable Box

To Do This ...	Press
Activate the remote control to operate the cable box	SAT/CABLE FUNCTION
Turn on/off	SAT/CABLE POWER
Select a channel	0-9, ENTER
Change channels	CH +/-
Back to previous channel	JUMP

## Operating a DVD Player

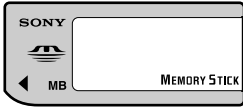
To Do This ...	Press
Activate the remote control to operate the DVD	Open the outside cover, as shown on page 50. Then set the A/V slide switch to the position you programmed for the DVD player.
Play	▶
Stop	■
Pause	
Step through different tracks of the disc	▶▶ to step forward or ◀◀ to step backward
Step through different chapters of a video disc	CH+ to step forward or CH- to step backward
Display the DVD player Menu (Setup)	MENU (inside panel)
Display the DVD Menu	DISC MENU
Move highlight (cursor)	↑ ↓ ◀ ▶
Select item	SELECT

## Operating a DVD/VCR Combination Unit

To Do This ...	Press
Activate the remote control to operate the DVD/VCR	Open the outside cover, as shown on page 50. Then set the A/V slide switch to the position you programmed for the DVD or VCR.
Turn on/off	VCR/DVD (power)
Switch between the DVD player and VCR	TV/VCR/DVD
Display the DVD menu	MENU
Play	▶
Stop	■
Pause	
Search the picture forward or backward	▶▶ or ◀◀ during playback
Move highlight (cursor) and select (DVD)	↑ ↓ ◀ ▶ SELECT
Record (VCR)	▶ and ● simultaneously
Change channels (VCR)	CH +/- or 0-9, ENTER (using tuner)
Adjust tracking (VCR)	CH +/- (during tape playback)

# Using the Memory Stick Viewer

## About Memory Stick



Memory Stick (sold separately) is a compact, portable, and versatile Integrated Circuit recording medium with a data capacity that makes it perfect for portable applications, such as digital photography. Memory Stick is specially designed for sharing digital data among Memory Stick compatible products such as digital cameras and digital video cameras. Because it is removable, Memory Stick can also be used for external data storage.

The Memory Stick Viewer on your TV allows you to view files that are stored on Memory Stick media. You can view:

- ❑ Digital photos (JPEG files)
- ❑ Movies (MPEG1 files)

You can also play slide show background music using MP3 files (or m3u playlists) stored on your Memory Stick.

For more information about handling Memory Stick media, see “Notes on Using Memory Stick Media” on page 83.

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## Features

With the Memory Stick Viewer, you can:


- ❑ View photo (JPEG) and movie (MPEG1) files in a thumbnail index or Slide Show
- ❑ Set customized Slide Show options, including transitions and background audio
- ❑ Pan, zoom, and rotate photos
- ❑ Mark photos and set quantities of prints to be output when the Memory Stick is inserted into your photo printer (not supplied)
- ❑ Lock (protect) or delete files on the Memory Stick

---

## Memory Stick Compatibility

This television is compatible with the following Sony brand Memory Stick media types:

- ❑ Memory Stick Media
- ❑ Memory Stick Duo and PRO Duo Media

 **The Memory Stick slot on your TV has been designed to accommodate standard and compact versions of Memory Stick. It is not necessary to use an adapter for Memory Stick Duo and Memory Stick PRO Duo. If you use an adapter it may damage the adapter and Memory Stick slot.**

- ❑ Memory Stick Media with Memory Select Function
- ❑ Memory Stick PRO Media

### About Memory Stick PRO Media

Memory Stick PRO media features vary by and are dependent upon the design of host hardware devices. Memory Stick PRO in this television has been tested to support up to 1 GB media capacity and does not support high-speed transfer, MagicGate copyright protection technology, or access control security features.

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## Memory Stick Functionality

Sony cannot guarantee or assure the Memory Stick functionality on this television in the following cases:

- ❑ You are using non-Sony brand Memory Stick media.
- ❑ You are using video or audio clips that have been processed on a computer.
- ❑ You are using files that were obtained from the Internet or from a printed film processing center.
- ❑ The Memory Stick has been formatted on a personal computer.

Sony recommends that you back up all data stored on Memory Stick media to avoid potential data loss. In the above two cases, in order to avoid potential data corruption that may occur, be sure to back up data prior to use with the TV's Memory Stick Viewer. Sony cannot accept responsibility in the event that data recorded to Memory Stick media is lost or damaged. For certain non-Sony brand Memory Stick media, you can view images, but you cannot rotate, delete or protect/unprotect images on the television. An error message will occur if you attempt any of these operations. This is a result of the unique file directory structure on these particular flash memory media and is not a malfunction of the television.

---

## **File Compatibility**

The Memory Stick Viewer is compatible with JPEG images taken with Sony digital still cameras and MPEG1\* movies taken with Sony digital cameras and camcorders. In order to be viewable in the Memory Stick Viewer, the files must have the following file name extensions:

<i>File Type</i>	<i>Supported File Name Extensions</i>
JPEG	.jpg .jpeg
MPEG1	.mpg .mpeg

---

## **Trademark Information**

Memory Stick, Memory Stick Duo, Memory Stick PRO, Memory Stick PRO Duo, and MagicGate are trademarks of Sony Corporation.


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\*Some variations of MPEG1 movies may not play back correctly.

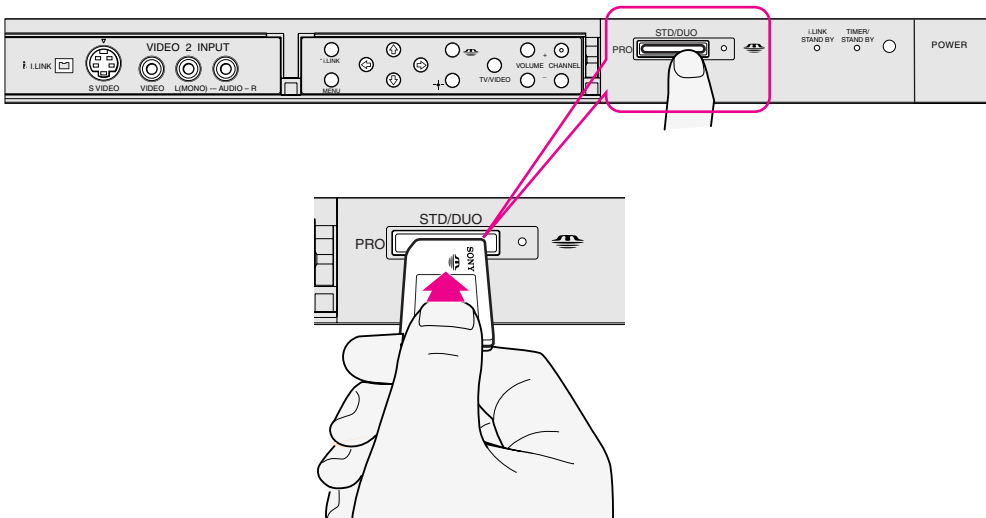



# Inserting and Removing a Memory Stick

## Inserting a Memory Stick

 The Memory Stick slot on your TV has been designed to accommodate standard and compact versions of Memory Stick. It is not necessary to use an adapter for Memory Stick Duo and Memory Stick PRO Duo. If you use an adapter it may damage the adapter and Memory Stick slot.

- 1 Locate the Memory Stick slot (see page 14) and insert the Memory Stick into the Memory Stick slot as illustrated below. When inserted properly, it should slide in with little resistance and click into place.



 Be sure to insert the Memory Stick in the correct direction. If the Memory Stick is forced in the wrong way, it may become damaged. Insert only Memory Stick media into the Memory Stick slot. Attempting to insert other objects into the slot may damage the TV.


To remove the Memory Stick, see “Removing a Memory Stick” on page 73.

---


## Removing a Memory Stick

### To remove a Memory Stick


- 1 Check that the Memory Stick indicator is off. (When the light is on, this indicates that the TV is reading data from the Memory Stick.)

 Removing the Memory Stick while a file is being accessed (when the Memory Stick LED on the TV's front panel is lit) may damage the Memory Stick or its contents.

- 2 Push the Memory Stick gently into the slot, and then release it. The Memory Stick media is ejected.

 Do not pull out the Memory Stick without first pushing it in; otherwise, the TV's locking mechanism may become damaged.


- 3 Pull the Memory Stick completely out of the slot.

 To protect small children from injury from Memory Stick Media, remove all Memory Stick media from the TV's Memory Stick slot and store it in a safe location when it is not in use.

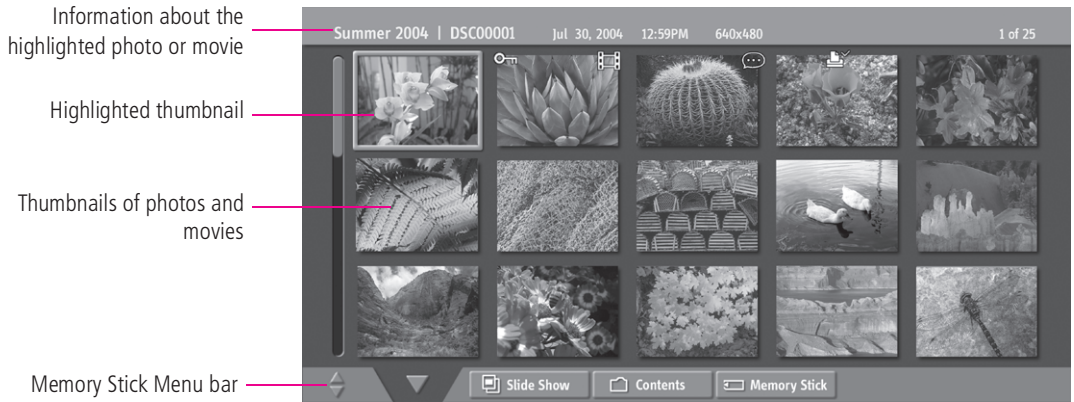
## Using the Memory Stick Index

Turn on the TV and insert a Memory Stick that contains the photo or movie files you want to view. For details, see page 72.







 **If the Memory Stick Index does not appear, press the MEMORY STICK button on the remote control.**

The Memory Stick Index appears, which displays thumbnail images of the files stored on the Memory Stick.



### About the Icons on the Thumbnail Images

- |   |  |
|---|--|
|    | Indicates the thumbnail is a movie (MPEG1) file instead of a photo (JPEG) file.                                      |
|   | Indicates the thumbnail is locked. Locked files cannot be changed or deleted. For details, see "Protect" on page 77. |
|  | Indicates that the photo is marked to be printed.  |
|  | Indicates that the photo has an associated voice memo.   |

## Using the Memory Stick Index


The following describes how to use the Memory Stick Index.

To Do This ...	Do This ...
Move the highlight to a photo, voice memo (🗣️), or movie (🎬) thumbnail	Move the joystick ⬆️ ⬇️ ⬅️ ➡️.
Display the highlighted photo, voice memo, or movie file full screen	Press (⊕). For details, see “Viewing Photos” on page 76 and “Playing Movies” on page 79.
Display the next page of thumbnails	<ol style="list-style-type: none"> <li>1 Move the joystick ⬇️ to select ▼.</li> <li>2 Move the joystick ⬇️ to display the next page of thumbnails.</li> </ol>
Display the previous or next page of thumbnails	<ol style="list-style-type: none"> <li>1 Move the joystick ⬇️ to select ▼.</li> <li>2 Move the joystick ⬅️ to select ◀️.</li> <li>3 To go to the previous page, move the joystick ⬆️. To go to the next page, move the joystick ⬇️.</li> </ol>
Use the Memory Stick Menu bar to access additional options	<ol style="list-style-type: none"> <li>1 Move the joystick ⬇️ to select ▼.</li> <li>2 Move the joystick ⬅️ or ➡️ to select <i>Slide Show</i>, <i>Contents</i>, or <i>Memory Stick</i>.</li> <li>3 Move the joystick ⬆️ or ⬇️ to select the option you want to change.</li> </ol> <p>For details on these options, see “Memory Stick Index Menu Bar Options” on page 81.</p>
Move the highlight from the Memory Stick Menu bar back to the thumbnails	<ol style="list-style-type: none"> <li>1 Move the joystick ⬅️ or ➡️ to select ▼.</li> <li>2 Move the joystick ⬆️ to return to the currently displayed thumbnails, or ⬇️ to display the next page of thumbnails.</li> </ol>
Exit Memory Stick Viewer	Press the <b>MEMORY STICK</b> button on the remote control.




## Viewing Photos













When you select a photo from the Memory Stick Index (described on page 74), it displays as shown below, with the following controls.



 **JPEGs captured using a digital video camera may appear to display motion in full screen. This is a result of the way digital video cameras record still images, and is not a result of a malfunction with the TV.**

### Photo Controls

 When the Menu is hidden, move the joystick  or  to go to the previous or next photo.

To Do This ...	Do This ...
Display the next or previous file on the Memory Stick	Highlight the   (Previous/Next) button. Then move the joystick  to go to the previous file, or  to go to the next file.
Hide the Photo Menu bar, displaying only the photo	With the highlight in the Photo Menu bar, move the joystick  .
Display the hidden Photo Menu bar	Move the joystick  .
Play the JPEG voice memo (  files only)	Highlight  (Play) and then press  . To pause the voice memo, highlight  (Pause) and then press  .
Display the Memory Stick Index again	Highlight <b>Index</b> in the Photo Menu bar and press  . For details on the Memory Stick Index, see page 75.
Access additional options in the Photo Menu bar	See “Photo Menu Bar Options” on page 77.
Exit Memory Stick Viewer	Press the <b>MEMORY STICK</b> button on the remote control.



## Photo Menu Bar Options


The Photo Menu bar lets you access additional photo viewing options.

### To access the Photo Menu bar

- 1 Move the joystick ◀ or ▶ to select **Slide Show**, **View**, or **File**.
- 2 Press to select the desired option.

Option	Description
<b>Index</b>	Displays the Memory Stick Index, with the highlight on the thumbnail of the currently displayed photo. For details, see “Using the Memory Stick Index” on page 74.
<b>Slide Show</b>	Displays the Slide Show Menu. For details, see “Slide Show Menu Options” on page 81.
<b>View</b>	<b>Rotate</b> Allows you to rotate the photo in 90 degree increments clockwise or counterclockwise. For details, see “Using Rotate” on page 78.
	<b>Zoom/Pan</b> Allows you to magnify and pan across the photo. For details, see “Using Zoom and Pan” on page 78.
<b>File</b>	<b>Protect</b> Allows you to the protect the JPEG file from any changes. When a JPEG file is protected, it cannot be rotated or deleted. Select <b>On</b> or <b>Off</b> .
	<b>Print Quantity</b> Allows you to indicate the number of prints to make of the specific photo when the Memory Stick is inserted into a compatible photo printer (not supplied).
	<b>Delete</b> Deletes the JPEG file from the Memory Stick. You cannot delete a JPEG file that has been protected (or if the Memory Stick is locked).

 JPEG files that are protected are indicated by the Lock  icon.

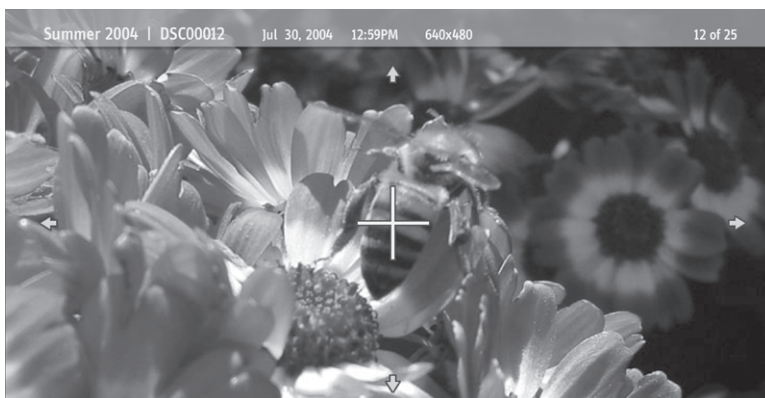
 The **Print Quantity** feature is also known as DPOF (Digital Print Order Format).

## Using Zoom and Pan

### To Zoom and Pan a photo

- 1 In the Photo Menu bar, highlight **View**.
- 2 Highlight **Zoom/Pan** and press  $\oplus$ .
- 3 Specify the zoom center point by moving the joystick; then press  $\oplus$  to set the center.

The Zoom and Pan controls are displayed.



#### To Do This ...

Zoom in (increase magnification) or out (decrease magnification)

Pan (move the photo left, right, up, down)

Exit the Zoom/Pan controls

Exit Memory Stick Viewer

#### Do This ...

Highlight **Zoom** and press  $\blacktriangle$  to zoom in or  $\blacktriangledown$  to zoom out. For help on using Zoom, press  $\oplus$ .

(You can use Pan only when the photo is magnified using Zoom.)

Highlight **Pan** and press  $\oplus$ . Then move the joystick  $\blacktriangleleft$   $\blacktriangleright$   $\blacktriangleup$   $\blacktriangledown$  to pan around the photo.

To stop using Pan, press  $\oplus$ .

Highlight **Exit** and press  $\oplus$ .

Press the **MEMORY STICK** button on the remote control.

## Using Rotate

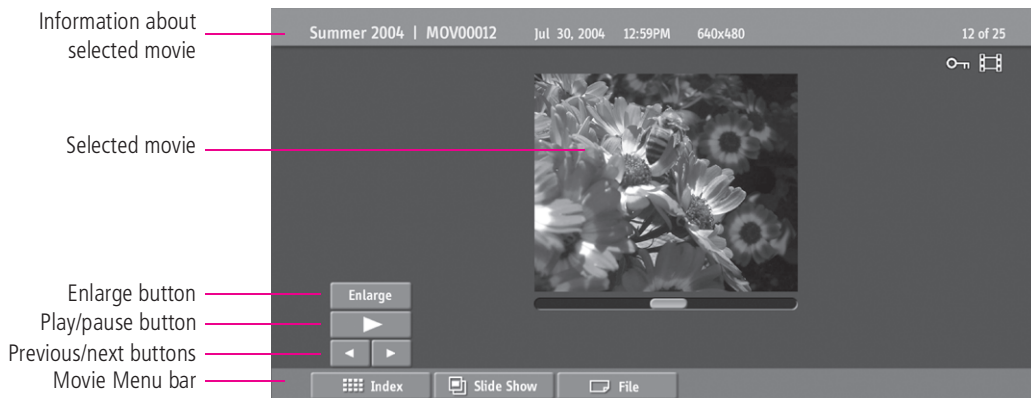
### To Rotate a photo

- 1 In the Photo Menu bar, highlight **View**.
- 2 Highlight **Rotate**.
- 3 To rotate clockwise, highlight **Clockwise** and press  $\oplus$ .  
To rotate counterclockwise, highlight **Counterclockwise** and press  $\oplus$ .


The photo is rotated 90 degrees each time you press  $\oplus$ .

## Playing Movies

When you select a movie from the Memory Stick Index (described on page 74), it displays as shown below, with the following controls.





### Movie Controls

 The quality of the movie when enlarged depends on the resolution of the MPEG1 file. See your camera's instruction manual for details.



To Do This ...	Do This ...
Enlarge the movie window	Highlight <b>Enlarge</b> , and then press $\oplus$ . To display the movie controls again, press $\oplus$ . When the movie ends, the movie controls are displayed again.
Play the movie with the movie controls displayed	Highlight <b>▶</b> (Play) and then press $\oplus$ .
Pause the movie	Highlight <b>⏸</b> (Pause) and then press $\oplus$ .
Display the previous or next file on the Memory Stick	Highlight the <b>◀ ▶</b> (Previous/Next) button. Then move the joystick $\blacktriangleleft$ to go to the previous file, or $\blacktriangleright$ to go to the next file.
Hide the Movie Menu bar, displaying only the movie	With the highlight in the Movie Menu bar, move the joystick $\blacktriangledown$ .
Display the hidden Movie Menu bar	Move the joystick $\blacktriangleup$ .
Access additional options in the Movie Menu bar	See "Movie Menu Bar Options" on page 80.
Exit Memory Stick Viewer	Press the <b>MEMORY STICK</b> button on the remote control.



## Movie Menu Bar Options

 MPEG1 files that are protected are indicated by the Lock  icon.


### To access the Movie Menu bar


- 1 Highlight **Index** in the Movie Menu bar.
- 2 Move the joystick  or  to select **Index**, **Slide Show**, or **File**.
- 3 Select the desired option.


Option	Description
<b>Index</b>	Displays the Memory Stick Index, with the highlight on the thumbnail of the currently displayed movie.
<b>Slide Show</b>	Displays the Slide Show Menu. For details, see “Slide Show Menu Options” on page 81.
<b>File</b>	<b>Protect</b> Allows you to the protect the MPEG1 file from any changes. When an MPEG1 file is protected, it cannot be deleted. Select <b>On</b> or <b>Off</b> .
	<b>Delete</b> Deletes the MPEG1 file from the Memory Stick. You cannot delete an MPEG1 file that has been protected (or if the Memory Stick is locked).


## Memory Stick Index Menu Bar Options

### Slide Show Menu Options

 The Slide Show Menu is the same whether you select it from the Memory Stick Index (page 74), Photo (page 76), or Movie (page 79) Menus.

 When you select **Complete List**, it may take a moment to display the list of all MP3 files.


 Some JPEG files may take longer to display than others, which may make it seem longer than the interval you selected for **Slide Advance**.

 You can also display file information using the **DISPLAY** button on the remote control.

The Slide Show Menu includes the following options:

Option	Description
<b>Start</b>	Starts the Slide Show.
<b>Music</b>	Allows you to select background audio to play during the Slide Show.
<b>Off</b>	No additional background audio is played during the Slide Show. Audio that is associated with the JPEG or MPEG1 files will play.
<b>Play Memory Stick</b>	Plays all MP3 files on the Memory Stick. The <b>Piano</b> MP3 file and any MP3 file playlists are not played.
<b>Piano (built-in)</b>	Plays the MP3 file stored in the TV's internal memory.
<b>(List of MP3 Files and Playlists)</b>	Displays a list of all MP3 files and MP3 file playlists found at the top level (root) of the Memory Stick. To show additional MP3 files stored in other folders on the Memory Stick, select <b>Complete List</b> .
<b>Complete List</b>	Displays a list of all available MP3 files.
<b>Transition Effect</b>	Allows you to select an effect to be used when advancing to the next file in the Slide Show.
<b>Slide Advance</b>	Allows you to specify when to advance to the next slide.
<b>Fast</b>	Slide advances after about 3 seconds.
<b>Medium</b>	Slide advances after about 6 seconds.
<b>Slow</b>	Slide advances after about 12 seconds.
<b>Manual</b>	Slide advances only after you move the joystick ← or →.
<b>File Information</b>	Determines whether file information is shown when the file is displayed full screen. Select <b>On</b> or <b>Off</b> .
<b>Repeat</b>	<b>On</b> Slide Show continuously loops. <b>Off</b> Slide Show plays once through all files and ends.

## Contents Menu Options

 The Rotate function does not change the file's modification date.

The Contents Menu includes the following options:

Option	Description
<b>Select Folder</b>	Allows you to select different folders to view in the Memory Stick Viewer.
<b>Digital Camera Folders</b>	Selects all folders within the directories defined by the DCF rules used by Sony digital cameras (see page 83). JPEG and MPEG1 files in those directories are recognized even if they do not conform to the DCF file naming rules.
<b>Select a Folder</b>	Allows you to access individual folders on the Memory Stick.
<b>File Order</b>	Allows you to change the order in which the Memory Stick files are displayed.
<b>Date Order</b>	Displays files in chronological order by modification date.
<b>Date Order Reverse</b>	Displays files in reverse chronological order by modification date.
<b>Alphabetical</b>	Displays files in alphabetical order by filename.
<b>Filter</b>	Allows you to selectively display specific file types within the selected folder.
<b>Show Photos and Movies</b>	Displays all readable files.
<b>Show Photos Only</b>	Displays only photo (JPEG) files.
<b>Show Movies Only</b>	Displays only movie (MPEG1) files.
<b>Show All Print Marks</b>	Displays all files that are marked for printing. For details, see "Print Quantity" on page 77.

## Memory Stick Menu

The Memory Stick Menu displays the current status of the Memory Stick, including total capacity, used capacity, and free capacity.

## Notes on Using Memory Stick Media

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### **About DCF File Names**

Most Sony brand digital still and video cameras automatically record still photo and movie files using DCF compliant directory and file names.

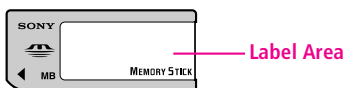
If you selected the **Digital Camera Folders** option, as described on page 82, you might want to have your digital camera's instruction manual handy in order to check how files and directories are organized for your specific model of digital camera.

DCF stands for "Design Rules for Camera File Systems," which are specifications established by the Japan Electronic Industry Development Association (JEIDA).

## Memory Stick Precautions

When using Memory Stick media, follow these precautions:

- ❑ To avoid permanent damage to still image data, do not turn off the TV or remove Memory Stick media from the insertion slot while data is being read (as indicated by the Memory Stick indicator light being on).
- ❑ Avoid touching the terminal of Memory Stick media or bringing it into contact with a metal object.
- ❑ Do not drop, bend, or submit Memory Stick media to external shock.
- ❑ Do not disassemble or modify Memory Stick media.
- ❑ Avoid getting liquid on Memory Stick media.
- ❑ Apply labels only within the designated label area.



- ❑ To avoid permanent damage to still image data, do not use or store Memory Stick media in a location subject to:
  - ❑ High temperature (such as near a heater or inside a hot car)
  - ❑ High humidity
  - ❑ Direct sunlight
  - ❑ Corrosive substances
  - ❑ Magnetic fields
  - ❑ Excessive dust
  - ❑ Static electricity or electric noise
  - ❑ Electric surges
- ❑ Store and carry Memory Stick media in its original case to ensure protection of stored data.
- ❑ Save a backup of stored data.

# Using i.LINK

## About i.LINK

This TV is equipped with i.LINK, which provides a secure digital interface to other digital home entertainment devices, such as digital VCRs, digital camcorders, set-top boxes, and other devices that also are equipped with i.LINK. i.LINK allows for the secure transfer of copyright-protected digital content between these devices and your digital television.

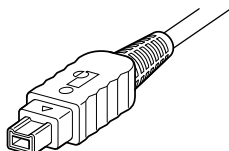
i.LINK is a trademark of Sony Corporation and used only to designate that a product contains an IEEE 1394 connector.

All products with an i.LINK connector may not communicate with each other.

---

## Using i.LINK Cables

This TV has three S400 i.LINK terminals (one in the front panel, and two in the back panel). You can use the following i.LINK cables with this TV:




4-pin i.LINK cable

Sony Model	Length
VMC-IL4415	1.5 meters
VMC-IL4435	3.5 meters



Do not use cables other than the ones listed above.

## Connecting i.LINK Devices


 Before connecting this unit to i.LINK-compatible equipment, read the instruction manual of the i.LINK device to be connected.

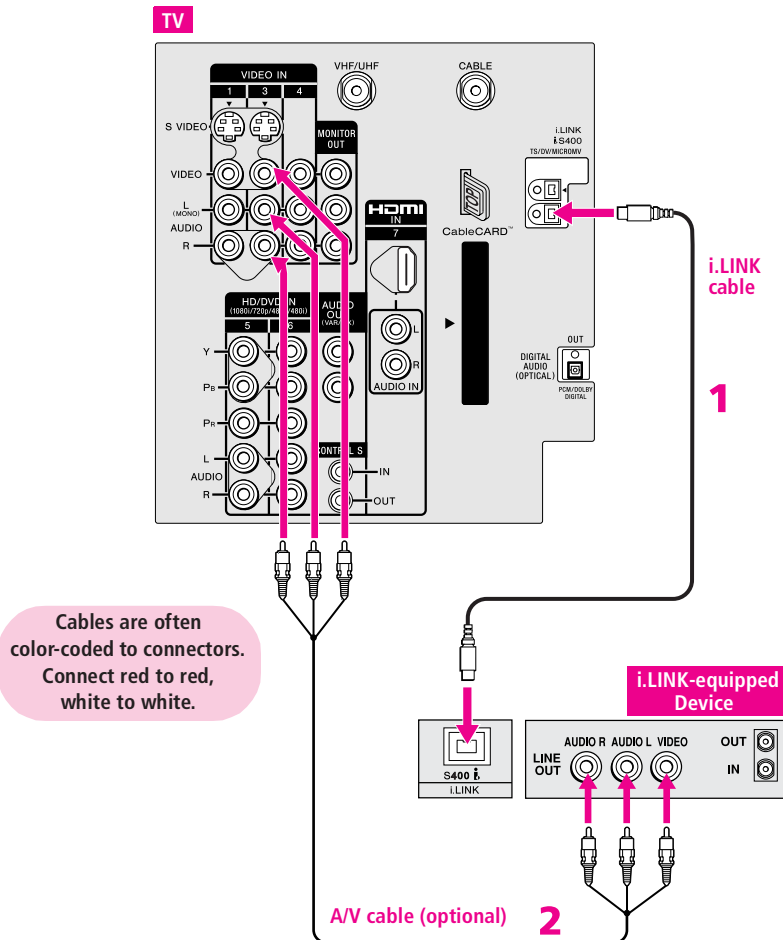
### To connect a digital i.LINK device (using only a digital signal)

- 1 Using an i.LINK cable (see page 85), connect the device's i.LINK jack to either of the TV's i.LINK jacks.

### To connect an i.LINK device that supports an EIA-775A connection

- 1 Using an i.LINK cable (see page 85), connect the device's i.LINK jack to either of the TV's i.LINK jacks.
- 2 Using an A/V cable, connect the i.LINK device's A/V output jacks to the TV's VIDEO 3 A/V input jacks.

 Only one i.LINK cable should connect the TV and any given i.LINK device.

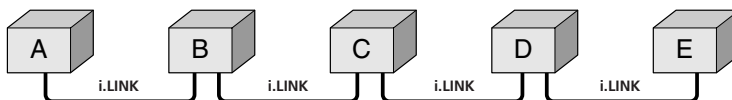


## Notes on Using This Connection

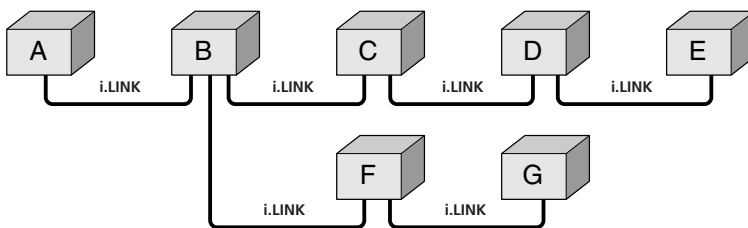
To Do This ...	Do This ...
Set up a digital i.LINK device	For digital i.LINK devices (devices that require only the i.LINK connection), no setup is necessary. The TV automatically recognizes the device as soon as the connection is made.
Set up an i.LINK device that supports an EIA-775A analog connection	<ol style="list-style-type: none"><li>1 Connect analog A/V cables to the VIDEO 3 input (see page 86).</li><li>2 Use the i.LINK Control Panel to activate the analog connection to your i.LINK device (see page 91).</li></ol>

## Notes on Connecting i.LINK Devices

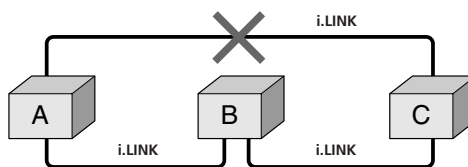
To connect two or more i.LINK devices, use i.LINK cables to connect them as shown below.



You can connect up to 63 i.LINK devices. However, the maximum number of cables in any serial route is 16.



Do not connect i.LINK devices in a way that creates a loop.



Connecting non-compatible devices, such as PCs or PC peripherals, may result in malfunctions.




## Selecting an i.LINK Device

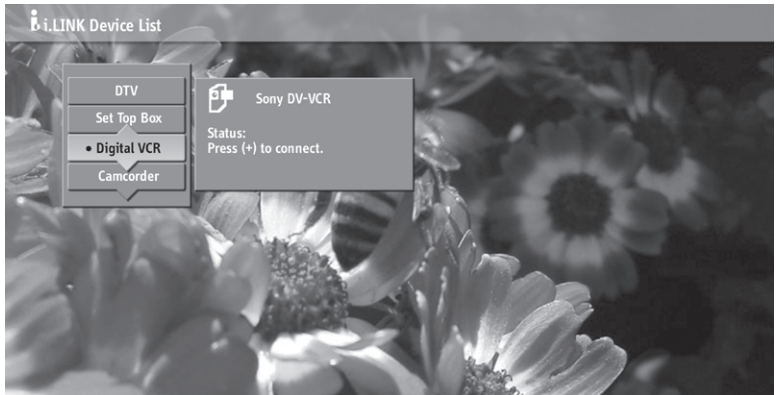
Before an i.LINK device can be viewed, it must first be selected via the i.LINK Device List.



- 1 Connect the i.LINK device that you wish to operate.

 For instructions on connecting i.LINK devices, see page 86.


- 2 Press **i.LINK** on the remote control.




The TV (DTV), along with all devices connected by i.LINK to the TV, appear on the Device List.

Devices that are not supported by the TV appear on the Device List as “Other Device,” but cannot be controlled using the TV's remote control or on-screen i.LINK Control Panel. For these devices, use the remote control supplied with the device.

- 3 Move the joystick  or  to navigate among the i.LINK-connected devices.


 i.LINK devices can be connected to one another and to the TV while the TV is powered on. The Device List will automatically update to include the newly-connected device. See page 86 for more information on connecting i.LINK devices.

- 4 Press  to select the desired device and display the device's i.LINK Control Panel. Use the i.LINK Control Panel to operate the selected device. For details, see page 89.


## Using the i.LINK Control Panel

After you select an i.LINK device using the Device List, the TV displays the i.LINK Control Panel, which allows you to use the TV's remote to control the selected i.LINK device.

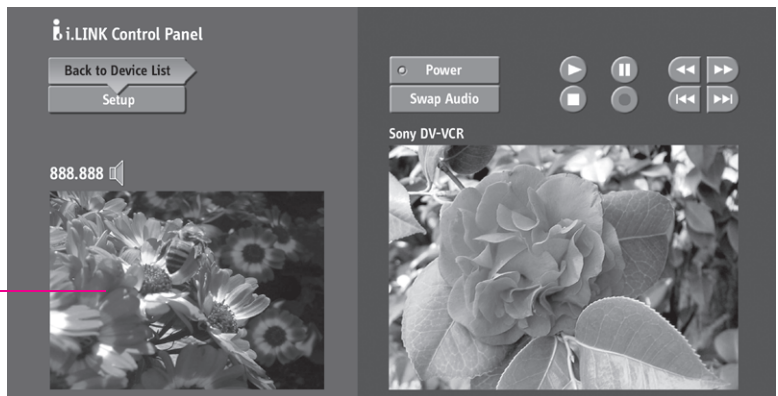
- 1 If the i.LINK Control Panel is not already displayed, press **i.LINK** on the remote control.

 If **i.LINK** is pressed while the TV is displaying an analog or digital channel (not the i.LINK device), then the Device List will appear. Select the desired device from the list and press **+** to display the Control Panel.















- 2 Move the remote control's joystick **↑ ↓ ← →** to navigate through the options available in the i.LINK Control Panel.
- 3 Press **+** to select a desired option.
- 4 Press **i.LINK** to exit the Control Panel and view the i.LINK device full-screen.

 To exit i.LINK mode, select DTV from the Device List or press **CH+/-**.

The DTV window appears only if the i.LINK Menus were entered while watching a digital TV channel



The i.LINK Control Panel displays the signal from the TV to the left (if available), and the signal from the currently selected device to the right.

To Do This ...	Do This ...
Go to the Device List	Move the joystick to highlight <b>Back to Device List</b> and press  .
Change the audio being played from the TV to the current selected device, and vice versa	Move the joystick to highlight <b>Swap Audio</b> and press  . An icon appears next to the window that currently has sound.
Play a recording from the selected i.LINK camcorder or digital VCR	Move the joystick to highlight  and press  .
Fast-forward or rewind a recording from the selected i.LINK camcorder or digital VCR	Move the joystick to highlight  or  and press  .
Record from TV to the selected i.LINK digital VCR	If the  (record) button is available, move the joystick to highlight  and press  .
Stop a recording from the selected i.LINK digital VCR	Move the joystick to highlight  and press  .
Turn the selected device power on and off	Move the joystick to highlight <b>Power</b> and press  .
Setup the selected device	Move the joystick to highlight <b>Setup</b> and press  . For more details on Setup, see page 91.

### Notes About Controlling i.LINK Devices

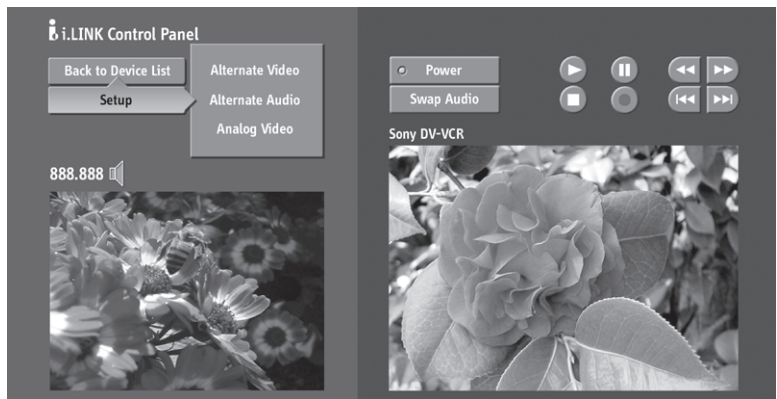
- ❑ You can control the functions of the selected i.LINK device by using the equivalent buttons on the TV's remote control. To program the remote control to operate i.LINK devices, see "Programming the Remote Control" on page 51.
- ❑ Some options on the i.LINK Control Panel may not be available, depending on the device being controlled.
- ❑ Only i.LINK-equipped digital camcorders and digital VCRs can be controlled directly through the i.LINK Control Panel.
- ❑ Not all functions are supported for all i.LINK devices.
- ❑ If you are using a digital VCR, turn off any Auto LINC functionality of the VCR. For details, see the digital VCR's user manual.

## i.LINK Setup

You can use the i.LINK Control Panel to access digital setup options.

### To set up the selected device:

- Move the joystick to highlight **Setup** and press  $\oplus$ .



The following options are displayed:

Option	Description
<b>Alternate Video</b> (when available)	Each program has a main video stream (the video that you see when the channel is first tuned), and may have alternate video streams. This option allows you to switch among these alternate video streams.
<b>Alternate Audio</b> (when available)	Each program has a main audio stream (the audio that you hear when the channel is first tuned). This option allows you to switch among these alternate audio streams (e.g., for different languages).
<b>Analog Video</b>	The TV is able to accept an analog signal from a selected set-top box. The set-top box must be EIA-775A compliant and must be connected to the TV's VIDEO 3 input. To associate the device with the TV's analog VIDEO 3 input, move the joystick to <b>Analog Video</b> and press $\oplus$ . All EIA-775A-compliant devices will be shown in the list. Select the desired device from the list and press $\oplus$ .

### Notes on i.LINK








- The TV can act as an i.LINK repeater, so that i.LINK signals can be relayed to another device even when the TV is powered off. To enable this feature, set the **i.LINK Standby** option to **On** using the Setup Menu as described on page 106.
- Parental Control settings apply to the signal from a selected device. For more details, see page 102.




# Using the Menus

## Overview

The Menu gives you access to the following features:




Menu Icon	Description	Page
	The Video Menu allows you to make adjustments to your picture settings. It also allows you to customize the Picture Mode based on the type of program you are viewing, select Advanced Video options, and more.	94
	The Audio Menu Offers enhanced audio options such as listening to second audio programming (SAP) or customizing the Effect of the sound on your TV.	97
	The Screen Menu allows you to make Screen Mode adjustments and make changes to the screen's vertical center and size.	99
	The Channel Menu allows you to set up a Favorite Channels list, run the Auto Program function, label channels, and more.	100
	The Parental Lock Menu lets you control the viewing of programs based on their ratings.	102
	The Setup Menu provides options for setting up your system, including selecting closed caption modes, labeling video inputs, selecting the language and color of the on-screen Menus, and more.	105
	The Applications Menu lets you display the Memory Stick Viewer, the i.LINK Control Panel, set on/off Timers, access CableCARD and diagnostics information, and more.	108

 Press **MENU** to enter and exit Menus.



## Navigating Through Menus

To Do This ...	Do this...
Display the Menu	Press <b>MENU</b>
Move through the Menus	Move the joystick <b>↑ ↓ ← →</b>
Select an option to change	Press <b>+</b>
Select (confirm) changed setting	Press <b>+</b> or move the joystick <b>←</b>
Exit the Menu	Press <b>MENU</b>

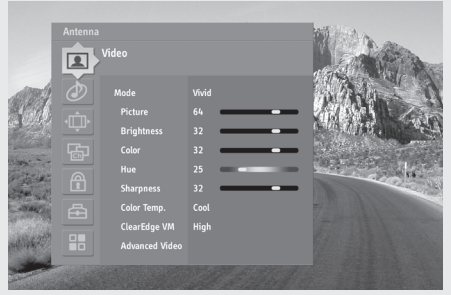
# Using the Video Menu

- To access the Video Menu, follow these steps:
1. Display Menu 
  2. Highlight 
  3. Press to select 





To change settings, move the joystick . Press  to confirm the selection.

To exit the Menu, press **MENU**.




## Selecting Video Options


 You can also change the Mode setting using the **PIC MODE** button on the remote control.


 You can alter the Video Menu settings (**Picture**, **Brightness**, **Color**, etc.) for each Mode.

The Video Menu includes the following options:

Option	Description
<b>Mode</b>	
<i>Customized picture viewing</i>	
<b>Vivid</b>	Select for enhanced picture contrast and sharpness.
<b>Standard</b>	Select for standard picture settings.
<b>Movie</b>	Select to display a softer picture.
<b>Pro</b>	Select to display a picture with minimum enhancements.
To control how the <b>Mode</b> settings ( <b>Vivid</b> , <b>Standard</b> , <b>Movie</b> , <b>Pro</b> ) are applied to each video input, see <b>Mode Memory</b> on page 96.	
<b>Picture</b>	Adjust to increase picture contrast and deepen the color, or decrease picture contrast and soften the color.
<b>Brightness</b>	Adjust to brighten or darken the picture.
<b>Color</b>	Adjust to increase or decrease color intensity.
<b>Hue</b>	Adjust to increase or decrease the green tones.
<b>Sharpness</b>	Adjust to sharpen or soften the picture.
<b>Color Temp.</b>	
<i>White intensity adjustment</i>	
<b>Cool</b>	Select to give the white colors a blue tint.
<b>Neutral</b>	Select to give the white colors a neutral tint.
<b>Warm</b>	Select to give the white colors a red tint (NTSC-Standard).

 You can also change the DRC Mode using the **DRC MODE** button on the remote control.

 You can also change the DRC Palette using the **DRC PALETTE** button on the remote control.

 For best results, adjust the Reality by moving the joystick **▲** **▼** until you are satisfied with the level of detail. Then adjust the Clarity by moving the joystick **◀** **▶** until you have a smooth, detailed image.

Option	Description
<b>ClearEdge VM Velocity Modulation</b>	Sharpens picture definition to give every object a sharp, clean edge. Select from <b>High, Medium, Low, Off</b> .
<b>Advanced Video</b>	Select <b>Program</b> to choose among the <b>Advanced Video</b> options.
<b>DRC Mode</b>	Creates a high-resolution picture with 4x density, for high quality sources (i.e., DVD player, satellite receiver).
<b>Interlaced</b>	Recommended for moving pictures.
<b>Progressive</b>	Recommended for still images and text.
<b>CineMotion</b>	Provides an optimized display by automatically detecting film content and applying a reverse 3/2 pulldown process. Moving pictures will appear clearer and more natural-looking.
<b>DRC Palette</b>	Allows you to customize the level of detail (Reality) and smoothness (Clarity). You can create up to three Custom DRC Palettes. <ol style="list-style-type: none"> <li>1 Move the joystick to highlight <b>Custom 1</b>, <b>Custom 2</b>, or <b>Custom 3</b> and then press <b>⊕</b>. The DRC palette appears.               <div data-bbox="801 847 1049 1052" data-label="Diagram"> </div> </li> <li>2 Move the joystick to adjust the position of the marker (●). As you move the ● higher along the Reality axis, the picture becomes more detailed. As you move the ● to the right along the Clarity axis, the details become more smoothly integrated with one another.</li> <li>3 To save the setting, press <b>⊕</b>.</li> </ol> <p>To return the Custom options to the default factory settings, press the <b>RESET</b> button.</p>



Option	Description
Advanced Video (continued)	<b>Color Axis</b> Allows you to control the emphasis of red tones.
	<b>Default</b> Emphasizes red tones.
	<b>Monitor</b> De-emphasizes red tones.
	<b>Mode Memory</b> Allows you to control how the <b>Mode</b> settings ( <b>Vivid</b> , <b>Standard</b> , <b>Movie</b> , <b>Pro</b> ) are applied to TV viewing, Memory Stick viewing, i.LINK and each video input. For details about Mode settings, see page 94.
	<b>Off</b> Set to <b>Off</b> to apply the same <b>Mode</b> settings to all video inputs. Changing inputs does not change the <b>Mode</b> setting.
	<b>On</b> Set to <b>On</b> to customize <b>Mode</b> settings for each video input. Changing inputs might change the <b>Mode</b> setting.

**To restore the factory default settings for Video settings:**

- Press **RESET** on the remote control when in the Video Menu.

## Using the Audio Menu



To access the Audio Menu, follow these steps:

1. Display Menu



2. Highlight



3. Press to select



To change settings, move the joystick . Press to confirm the selection.

To exit the Menu, press **MENU**.



### Selecting Audio Options

You can also change the Effect using the button on the inside panel of the remote control.

The Audio Menu includes the following options:

Option	Description
<b>Treble</b>	Adjust to decrease or increase higher-pitched sounds.
<b>Bass</b>	Adjust to decrease or increase lower-pitched sounds.
<b>Balance</b>	Adjust to emphasize left or right speaker balance.
<b>Steady Sound</b>	<b>Auto</b> Select to stabilize the volume.
	<b>Off</b> Select to turn off Steady Sound.
<b>The Steady Sound option is not available (it is grayed out) if the Effect option is set to TruSurround or Simulated. To use Steady Sound, set Effect to Off.</b>	
<b>Effect</b>	<b>TruSurround</b> Select for surround sound (for stereo programs only).
	<b>Simulated</b> Adds a surround-like effect to mono programs.
	<b>Off</b> Normal stereo or mono reception.
<b>MTS</b> <i>Enjoy stereo, bilingual and mono programs</i>	<b>Stereo</b> Select for stereo reception when viewing a program broadcast in stereo.
	<b>Auto SAP</b> Select to automatically switch the TV to second audio programs when a signal is received. (If no SAP signal is present, the TV remains in Stereo mode.)
	<b>Mono</b> Select for mono reception. (Use to reduce noise during weak stereo broadcasts.)
<b>MTS is available only with analog programs.</b>	

Option	Description
Speaker	On Select to turn on the TV speakers.
	Off Select to turn off the TV speakers and listen to the TV's sound only through your external audio system speakers.
Audio Out <i>Easy control of volume adjustments</i>	This option can be set only when the <b>Speaker</b> option is set to <b>Off</b> .
	Variable The TV's speakers are turned off, but the volume output from your audio system can still be controlled by the TV's remote control.
	Fixed The TV's speakers are turned off and the volume output of the TV is fixed. Use your audio receiver's remote control to adjust the volume through your audio system.

**To restore the factory default settings for Treble, Bass, and Balance**

- Press **RESET** on the remote control when in the Audio Menu.

## Using the Screen Menu



To access the Screen Menu, follow these steps:

1. Display Menu



2. Highlight



3. Press to select



To change settings, move the joystick **↑ ↓ ← →**. Press **⊕** to confirm the selection.

To exit the Menu, press **MENU**.



### Selecting Screen Mode Options



You can also change the Screen Mode using the **SCREEN MODE** button on the remote control.

The Screen Menu includes the following options:

Option	Description
<b>Screen Mode</b>	Enables you to change the picture size for both standard-definition (480i/480p) and high-definition (720p/1080i) sources. For 480i/480p sources Select from: <b>Wide Zoom</b> , <b>Normal</b> , <b>Full</b> , <b>Zoom</b> . For details, see page 58. For 720p/1080i sources Select from: <b>Full</b> , <b>Zoom</b> , <b>Horizontal Expand</b> , <b>Vertical Expand</b> . For details, see page 59. Screen Mode is unavailable while in Twin View. <b>In some cases, wide-screen programs will be shown in aspect ratios that require the display of bars at the top and bottom of your 16:9 screen. For more details, see page 118.</b>
<b>4:3 Default</b>	Select the default Screen Mode to use for 4:3 sources. To select a Screen Mode to use when channels or inputs are changed, select from: <b>Wide Zoom</b> , <b>Normal</b> , <b>Full</b> , <b>Zoom</b> . For details, see page 58. To continue using the current Screen Mode setting when the channel or input is changed, select <b>Off</b> .
<b>Vertical Center</b>	Allows you to move the position of the picture up and down in the window. (Available only in Wide Zoom and Zoom modes.) Move the joystick <b>↑</b> or <b>↓</b> and press <b>⊕</b> to choose a correction between +15 and -15 (Zoom mode), and +5 and -5 (Wide Zoom mode).
<b>Vertical Size</b>	Allows you to adjust the vertical size of the picture. (Available only in Wide Zoom and Zoom modes.) Move the joystick <b>↑</b> or <b>↓</b> and press <b>⊕</b> to choose a correction between +7 and -7.

## Using the Channel Menu

To access the Channel Menu, follow these steps:

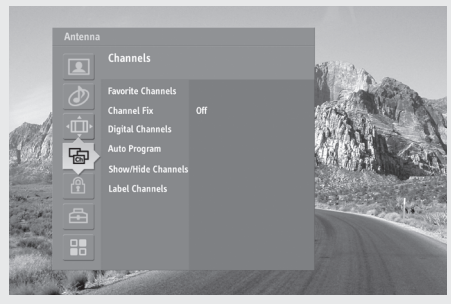


1. Display Menu
2. Highlight
3. Press to select



To change settings, move the joystick **↑ ↓ ← →**. Press **⊕** to confirm the selection.

To exit the Menu, press **MENU**.




### Selecting Channel Options

The Channel Menu includes the following options:

Option	Description
<b>Favorite Channels</b>	Lets you set up a list of your favorite channels. For details, see "Using Favorite Channels" on page 63.
<b>Channel Fix</b>	<p><b>Off</b> Turns off Channel Fix.</p> <p><b>2-6</b> "Fix" your TV's channel setting to 2-6 (VHF/UHF input) and use the cable box or satellite receiver to change channels.</p> <p><b>C2-C6</b> "Fix" your TV's channel setting to C2-C6 (CABLE input) and use the cable box or satellite receiver to change channels.</p> <p><b>Video 1</b> Use this setting if you have connected the equipment to the A/V input jacks.</p>
<b>Digital Channels</b>	<b>Add</b> Select to add digital channels.
<b>Auto Program</b>	Automatically sets up the channel list on the TV for all receivable channels for the current input (VHF/UHF or CABLE). <p><b>⚠ Auto Program may take up to 30 minutes to complete. A progress bar will display the approximate progress of the Auto Program and Digital Channels/Add sequences.</b></p>

If you are using a CableCARD, Auto Program is disabled for the CABLE input. However, you can run Auto Program for the VHF/UHF input.

 Channels that you set to **Hidden** can be accessed only with the **0-9** buttons.

Option	Description
<b>Show/Hide Channels</b>	<p>Allows you to show or hide channels that appear in the Program Guide (page 55) and when you use the <b>CH+/-</b> buttons to channel surf. Channels that are set to <b>Hidden</b> do not appear in the Program Guide or when you use the <b>CH+/-</b> buttons.</p> <ol style="list-style-type: none"> <li><b>1</b> Move the joystick <b>▲</b> or <b>▼</b> to highlight the channel that you want to show or hide. To move between the Major and Digital subchannel lists, move the joystick <b>◀</b> or <b>▶</b>.</li> <li><b>2</b> To change a channel's setting to <b>Shown</b> or <b>Hidden</b>, press <b>⊕</b>.</li> <li><b>3</b> To show or hide more channels, repeat steps 1 and 2.</li> </ol>
<b>Label Channels</b>	<p>Allows you to assign labels (such as station call letters) to channel numbers.</p> <ol style="list-style-type: none"> <li><b>1</b> Move the joystick to highlight <b>Channel</b> and press <b>⊕</b>.</li> <li><b>2</b> Move the joystick <b>▲▼</b> to scroll through the channel numbers. Then press <b>⊕</b> to select the channel number that you want to assign a label.</li> <li><b>3</b> Move the joystick to highlight <b>Label</b> and press <b>⊕</b>.</li> <li><b>4</b> Move the joystick <b>▲▼</b> to scroll through the label characters (A-Z, 0-9, etc.). Then press <b>⊕</b> to select the highlighted character. Repeat to add characters to the label.</li> <li><b>5</b> To assign labels to more channels, repeat steps 1-4.</li> <li><b>6</b> Move the joystick <b>◀</b> to return to the Channel Menu, or press <b>MENU</b> to exit the Menus.</li> </ol>

## Using the Parent Menu



The Parent Menu allows you to set up the TV to block programs according to their content and rating levels.

To access the Parent Menu, follow these steps:

1. Display Menu
2. Highlight
3. Press to select



Use the 0-9 buttons on the remote control to enter a four-digit password.

If this is the first time you are creating this password, confirm the password by entering it again. (The Parent Menu options appear.)

To change settings, move the joystick . Press to confirm the selection.

To exit the Menu, press **MENU**.



**You need your password for any future access into the Parent Menu. If you lose your password, see "Lost password" on page 118.**

### Selecting Parent Menu Options


If you are not familiar with the Parental Guideline rating system, you should select **Child**, **Youth**, or **Young Adult** to help simplify the rating selection. To set more specific ratings, select **Custom**.


For descriptions of **Child**, **Youth**, and **Young Adult** ratings, see page 103.

The Parent Menu includes the following options:

Option	Description
<b>Parental Lock</b>	<b>Off</b> Parental lock is off. No programs are blocked from viewing.
<i>Turn ratings on/off and select a rating system</i>	<b>Child</b> Maximum ratings permitted are: <input type="checkbox"/> US: TV-Y, TV-G, G <input type="checkbox"/> Canada: C, G, TV-Y <b>Youth</b> Maximum ratings permitted are: <input type="checkbox"/> US: TV-PG, PG <input type="checkbox"/> Canada: C8+, PG, 8 ans+, TV-PG <b>Y. Adult</b> Maximum ratings permitted are: <input type="checkbox"/> US: TV-14, PG-13 <input type="checkbox"/> Canada: 14+, 13 ans+, TV-14 <b>Custom</b> Select to set ratings manually. <input type="checkbox"/> US: See page 103 for details. <input type="checkbox"/> Canada: See page 104 for details.
<b>Change Password</b>	For changing your password.
<b>Select Country</b>	<b>U.S.A.</b> Select to use USA ratings (see page 103). <b>Canada</b> Select to use Canadian ratings (see page 104).

## US Models: Selecting Custom Rating Options

 The Content-Based Ratings are linked to the level of the Age-Based Rating. For example, a program with an Age-Based Rating of TV-PG V (Violence) rating may contain moderate violence, while a TV-14 V (Violence) rating may contain more intense violence.

 To ensure maximum blocking capability, set the Age-Based Ratings.

 If you block unrated TV programs, be aware that the following types of programs may be blocked: emergency broadcasts, political programs, sports, news, public service announcements, religious programs and weather.

For US models, the Custom Rating Menu includes the following options. (For Canadian models, see page 104.)

Option	Description
<b>Movie Rating</b>	<b>G</b> All children and General Audience.
	<b>PG</b> Parental Guidance suggested.
	<b>PG-13</b> Parental Guidance for children under 13.
	<b>R</b> Restricted viewing, parental guidance is suggested for children under 17.
	<b>NC-17 and X</b> No one 17 or under allowed.
<b>TV Rating</b> <i>Block programs by their rating, content or both</i>	<b>Age-Based Ratings</b>
	<b>TV-Y</b> All children.
	<b>TV-Y7</b> Directed to children age 7 and older.
	<b>TV-G</b> General Audience.
	<b>TV-PG</b> Parental Guidance suggested.
	<b>TV-14</b> Parents Strongly cautioned.
	<b>TV-MA</b> Mature Audience only.
	<b>Content-Based Ratings</b>
	<b>FV</b> Fantasy Violence.
	<b>D</b> Suggestive Dialogue.
<b>L</b> Strong Language.	
<b>S</b> Sexual situations.	
<b>V</b> Violence.	
<b>Unrated</b> <i>Block programs or movies that are broadcast without a rating</i>	<b>Block</b> Blocks all programs and movies that are broadcast without a rating.
	<b>Allow</b> Allows programs and movies that are broadcast without a rating.

## Viewing Blocked Programs

You can view blocked programs by entering the password. Press the **ENTER** button when tuned to a blocked program, then enter the password. This temporarily switches off the Parental Lock. To reactivate the Parental Lock settings, turn off the TV. When the TV is turned on again, your Parental Lock settings are reactivated.



## Canadian Models: Selecting Custom Rating Options

For Canadian models, the Custom Rating Menu includes the following options. (For US models, see page 103.)

<i>Option</i>	<i>Description</i>
<b>English Rating</b>	<b>C</b> All children.
	<b>C8+</b> Children 8 years and older.
	<b>G</b> General programming.
	<b>PG</b> Parental Guidance.
	<b>14+</b> Viewers 14 and older.
	<b>18+</b> Adult programming.
<b>French Rating</b>	<b>G</b> General programming.
	<b>8 ans+</b> Not recommended for young children.
	<b>13 ans+</b> Not recommended for ages under 13.
	<b>16 ans+</b> Not recommended for ages under 16.
	<b>18 ans+</b> Programming restricted to adults.
<b>U.S.A. Rating</b>	See "US Models" on page 103 for details.

## Viewing Blocked Programs

You can view blocked programs by entering the password. Press the **ENTER** button when tuned to a blocked program, then enter the password. This temporarily switches off the Parental Lock. To reactivate the Parental Lock settings, turn off the TV. When the TV is turned on again, your Parental Lock settings are reactivated.

## Using the Setup Menu



To access the Setup Menu, follow these steps:

1. Display Menu





2. Highlight

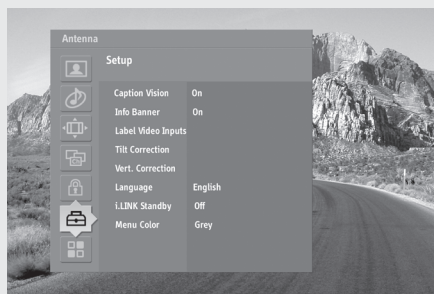


3. Press to select









To change settings, move the joystick . Press  to confirm the selection.


To exit the Menu, press **MENU**.





### Selecting Setup Options


The Setup Menu includes the following options:

Option	Description
<b>Caption Vision</b>	Allows you to select from several closed caption modes (for programs that are broadcast with closed caption). <b>On</b> Caption Vision is turned on. <b>Off</b> Caption Vision is turned off. <b>Program</b> Allows you to set basic and advanced Caption Vision options. See “Programming Caption Vision” on page 106.
<b>Info Banner</b>	Set to <b>On</b> or <b>Off</b> . When on, displays the program name, time remaining and other information (if the broadcaster offers this service). Displays when the channel is changed or the <b>DISPLAY</b> button is pressed.
<b>Label Video Inputs</b>	Allows you to identify A/V equipment you connected to the TV, such as a VCR, DVD, etc. For example, if you have a DVD player connected to the VIDEO 5 jack, you can select the label <b>DVD</b> for the VIDEO 5 input. Then when you press the <b>TV/VIDEO</b> button to change inputs, the Video Label you assigned to that input appears on screen. <b>1</b> Move the joystick  or  to highlight the video input (VIDEO 1-7) to which you want to assign a label. Then press  to select the input. <b>2</b> Move the joystick  or  to highlight one of the displayed labels. Then press  to select the label. You can select from the following labels for each input: <b>Video 1-7</b> <b>VHS, DVD, Receiver, Satellite, Cable Box, 8mm, DTV, Game, LD, Web, Beta, HD, PVR, Skip</b>

 The **Skip** label is useful for inputs that do not have equipment connected to them.

 **If you select Skip, your TV skips this input when you press the TV/VIDEO button.**

 Normally, **Tilt Correction** and **Vertical Correction** only need to be adjusted the first time you turn on the unit and after the unit is moved to a new location.

 If a CableCARD is inserted, the **i.LINK Standby Off** setting uses the same amount of power as the **i.LINK Standby On** setting.

Option	Description
<b>Tilt Correction</b>	Allows you to correct any tilt of the picture. Move the joystick <b>←</b> or <b>→</b> to choose a correction between +7 and -7 and press <b>⊕</b> .
<b>Vertical Correction</b>	Allows you to make a vertical correction to the picture. Move the joystick <b>↑</b> or <b>↓</b> to choose a correction between +5 and -5 and press <b>⊕</b> .
<b>Language</b>	Select to display all on-screen Menus in your language of choice.
<b>i.LINK Standby</b>	<b>On</b> Allows the i.LINK signal to pass through to connected i.LINK devices even when the TV is turned off. The front panel i.LINK Standby LED shows orange. The TV uses more standby power than when this option is set to <b>Off</b> .
	<b>Off</b> Does not allow the i.LINK signal to pass through to connected i.LINK devices when the TV is turned off. The front panel i.LINK Standby LED shows red. The TV uses less standby power than when this option is set to <b>On</b> .
<b>Menu Color</b>	Enables you to select a specific color for the on-screen menus.

## Programming Caption Vision

If you selected the **Program** option under **Caption Vision** (see page 105), you can change the following settings:

<b>Basic</b>	Allows you to select basic analog (EIA-608) closed caption options.
	<b>CC1, CC2, CC3, CC4</b> Displays a printed version of the dialog or sound effects of a program. (Should be set to <b>CC1</b> for most programs.)
	<b>Text1, Text2, Text3, Text4</b> Displays network/station information presented using either half or the whole screen (if available). For closed captioning, set to <b>CC1</b> .
<b>Advanced</b>	Allows you to select advanced digital (EIA-708) closed caption options. Select from the available options.
<b>Override</b>	Allows you to “force” the close captioning to analog (EIA-608). This setting is in effect only until you change channels, inputs, or turn off the TV. Set to <b>On</b> or <b>Off</b> .

Advanced Settings	Allows you to make additional settings for digital (EIA-708) closed caption options.	
As Broadcast	Large Text	
Small Text	Custom ...	
	Allows you to customize the following settings:	
Character Size	Small, Standard, Large	
Character Style	Style 1-7	
Character Color	None, Color 1-8	
Edge Color	Color 1-8	
Edge Type	None, Raised, Depressed, Outline, Left shadow, Right shadow	
Background Color	None, Color 1-8	
Window Color	None, Color 1-8	

# Using the Applications Menu

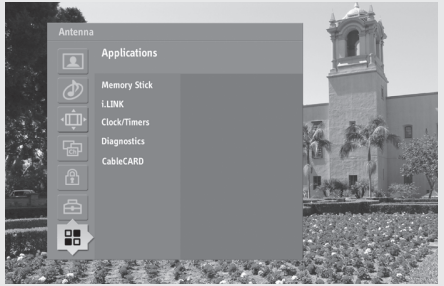


To access the Applications Menu, follow these steps:

1. Display Menu
2. Highlight
3. Press to select

To change settings, move the joystick .  
Press to confirm the selection.

To exit the Menu, press **MENU**.



## Selecting Applications Options

You can also use the **MEMORY STICK** and **i.LINK** buttons on the remote control or front panel.



You can also change the **Sleep** options using the **SLEEP** button on the remote control.







To go directly to programming Timer 1 or 2, press instead of moving the joystick .

To return to the Timer Menu after programming one of the Timers, press when the highlight is in the channel number field.

The Applications Menu includes the following options:

Option	Description
<b>Memory Stick</b>	Displays the Memory Stick Viewer. For details, see page 69.
<b>i.LINK</b>	Displays the i.LINK Device List. For details, see page 88.
<b>Clock/Timers</b>	Select to set the clock, set the Sleep timer, and to program your TV to turn on and off at two scheduled viewing times.
<b>Sleep</b>	Set the time in minutes ( <b>15min</b> , <b>30min</b> , <b>45min</b> , <b>60min</b> , <b>90min</b> , or <b>Off</b> ) that you want the TV to remain on before shutting off automatically.
<b>Timer 1</b> <b>Timer 2</b>	You can use the Timers to program the TV to turn on and off and tune to a specific channel at two scheduled viewing times.
<b>Timer 1</b> and <b>Timer 2</b> are not available to be set until you set the <b>Current Time</b> .	
<b>1</b>	Press  or  to highlight <b>Timer 1</b> or <b>Timer 2</b> . To set the timer, move the joystick .
<b>2</b>	Press  or  to highlight one of the following options, then press .
<b>Program</b>	Select to set the Timer by day, time, duration, and channel.
<b>Off</b>	Select to turn off the Timer. (Your previous settings are saved.)
<b>3</b>	If you selected <b>Program</b> in step 2, Press  and  to set the day(s), hour, minute, duration, and channel number. Press  or  to confirm each setting and move to the next setting. Press  to go back to the previous setting.
<b>4</b>	Press <b>MENU</b> to exit the Menu. An LED on the front panel will light, indicating the timer has been set.

 To return to the Timer Menu after setting the **Current Time**, press  when the highlight is in the minute field.

<i>Option</i>	<i>Description</i>
	<b>Current Time</b>
	<ol style="list-style-type: none"> <li><b>1</b> Press  to select <b>Current Time</b>.</li> <li><b>2</b> Press  and  to set the current time (day, hour, and minute). Press  or  to confirm each setting and move to the next setting. Press  to go back to the previous setting.</li> <li><b>3</b> Press <b>MENU</b> to exit the Menu.</li> </ol>
<b>Diagnostics</b>	Displays the strength of the terrestrial digital broadcast signal, to help you adjust your antenna to optimize signal reception.
<b>CableCARD</b>	This list of selectable CableCARD options will vary, depending on your cable service provider.



# Other Information

## Overview

This chapter includes the following topics:

<i>Topic</i>	<i>Page</i>
Glossary	112
Contacting Sony	113
Troubleshooting	113
Specifications	120
Optional Accessories	121
Index	123



# Glossary

## analog signal

A signaling method that uses continuous changes in the amplitude or frequency of an electronic transmission to convey information.

## aspect ratio

Refers to the ratio between the width and height of the screen. This TV has a 16:9 (widescreen) aspect ratio, as opposed to a 4:3 aspect ratio.

### 4:3 aspect ratio



### 16:9 aspect ratio



## component video



Component video is sent through three cables: two color shade (chrominance) signals and one brightness (luminance) signal. Component video achieves greater color accuracy than composite video or S VIDEO by splitting chrominance into two separate portions.

## composite video



Composite video is sent through a single cable. Composite video combines the color shade (chrominance) and brightness (luminance) information into one video signal.

## degauss

A process that demagnetizes the metal components in the TV monitor, which eliminates image distortion that can result from magnetic charges acquired by the TV's components. Your TV degausses automatically when it is turned on.

## digital television (DTV)

A new technology for transmitting and receiving broadcast television signals. DTV provides clearer resolution and improved sound quality over analog television.

## HDMI (High-Definition Multimedia Interface)

Provides an uncompressed, all-digital audio/video interface between this TV and any HDMI-equipped audio/video component, such as a set-top box, DVD player, and A/V receiver. HDMI supports enhanced, or high-definition video, plus two-channel digital audio.

## National Television System Committee (NTSC)

A unit of the Federal Communications Commission, Washington, DC, that establishes television standards in the United States, such as NTSC Color, the standard used in this TV.

## RF

Radio Frequency. That part of the frequency spectrum that is used to transmit TV and radio signals.

## S VIDEO



S VIDEO requires a single cable, which carries the brightness (luminance) and color (chrominance) signals of the picture separately. S VIDEO provides better resolution than composite video, which carries the signals together.

## VHF/UHF

VHF (Very High Frequency) is the part of the frequency spectrum from 30 to 300 megahertz. UHF (Ultra High Frequency) is the part of the frequency spectrum from 300 to 3,000 megahertz.

## 480i (SD)

Provides 480 lines of resolution. Displays images using interlaced scanning, which first transmits all the odd lines on the TV screen and then the even lines.

## 480p (SD)

Provides 480 lines of resolution. Displays images using progressive scanning, which transmits each line from top to bottom.

## 720p (HD)

Provides 720 lines of resolution. Displays images using progressive scanning, which transmits each line from top to bottom.

## 1080i (HD)

Provides 1080 lines of resolution. Displays images using interlaced scanning, which first transmits all the odd lines on the TV screen and then the even lines. 1080i is one of the formats used by HDTV (High Definition TV).

## Contacting Sony

If, after reading these operating instructions, you have additional questions related to the use of your Sony television, please call our Customer Information Services Center at 1-800-222-SONY (7669) (US residents only) or (416) 499-SONY (7669) (Canadian residents only).

Before calling Sony customer support, please write down the model and serial numbers of your TV. You'll find this information on the front cover of this manual.

## Troubleshooting

### Twin View

Problem	Possible Remedies
I cannot get Twin View to work	<ul style="list-style-type: none"> <li>❑ If you are using a cable box to unscramble all channels (as shown on page 21), you cannot use the Twin View feature. This is because the cable box can unscramble only one channel at a time. But if you need the cable box to unscramble only some (usually premium) channels, you can use Twin View for unscrambled channels if you connect both a cable and cable box, as shown on page 20.</li> <li>❑ You can use Twin View to view a signal from a different source that is connected to the TV's A/V jacks (such as a VCR or DVD player) in the second window by pressing the <b>TV/VIDEO</b> button while in Twin View.</li> <li>❑ Digital sources, as well as any sources connected to the VIDEO 5, VIDEO 6, VIDEO 7 inputs, display in the left window, but not in the right windows.</li> </ul>
There is no Twin View window, or it is just static	<ul style="list-style-type: none"> <li>❑ Be sure the Twin View window is set to a video input or channel that has a signal airing.</li> <li>❑ You might be tuned to a video input with nothing connected to it. Try cycling through the video inputs by pressing the <b>TV/VIDEO</b> button.</li> </ul>
Twin View cannot display anything but TV channels	<ul style="list-style-type: none"> <li>❑ Try cycling through the video inputs by pressing the <b>TV/VIDEO</b> button. Check that the <b>Video Label</b> option is not set to <b>Skip</b>. (See the Setup Menu on page 105.)</li> </ul>
Twin View displays the same program in both windows	<ul style="list-style-type: none"> <li>❑ Both Twin View windows might be set to the same channel. Try changing channels in either window.</li> </ul>

## Remote Control

Problem	Possible Remedies
Remote control does not operate	<ul style="list-style-type: none"><li>❑ The batteries could be weak. Replace the batteries.</li><li>❑ Check the orientation of the batteries.</li><li>❑ Press the <b>TV FUNCTION</b> button. You may have inadvertently pressed the <b>SAT/CABLE FUNCTION</b> button, which changes the remote control to SAT or CABLE mode.</li><li>❑ Make sure the TV's power cord is connected securely to the wall outlet.</li><li>❑ Locate the TV at least 3-4 feet away from fluorescent lights.</li></ul>
Cannot change channels with the remote control	<ul style="list-style-type: none"><li>❑ If you are using the TV to change channels, first press the <b>TV FUNCTION</b> button.</li><li>❑ If you are using another device to change channels, be sure you have not inadvertently switched your TV from the channel 3 or 4 setting. Use the <b>Channel Fix</b> option to "fix" the channel based on the hookup you used (see page 100).</li><li>❑ If you are using another device to change channels, be sure to press the <b>FUNCTION</b> button for that device. For example, if you are using your cable box to change channels, be sure to press the <b>SAT/CABLE FUNCTION</b> button.</li></ul>
Remote control does not operate non-Sony video equipment	<ul style="list-style-type: none"><li>❑ If you replaced the batteries to the remote recently, the code numbers for the video equipment may need to be reset.</li><li>❑ There may be more than one code for the equipment that you are attempting to operate.</li><li>❑ There is a possibility that some non-Sony equipment cannot be operated by your Sony TV remote. You may need to use the equipment's original remote control.</li></ul>

## CableCARD





Problem	Possible Remedies
Problems using CableCARD or CableCARD services	<ul style="list-style-type: none"><li>❑ Check that the CableCARD is inserted properly (see pages 43-44).</li><li>❑ The CableCARD must be activated by your local cable TV provider before you can receive digital cable TV services. See the activation instructions on pages 43-44.</li><li>❑ Check the <b>Diagnostics</b> and <b>CableCARD</b> menu options (see page 109). (This can be useful in providing information to an authorized technician or repair person.)</li><li>❑ Contact your cable TV provider.</li></ul>

## Channels

<i>Problem</i>	<i>Possible Remedies</i>
Cannot receive upper channels (UHF) when using an antenna	<ul style="list-style-type: none"> <li>❑ Use <b>Auto Program</b> in the Channel Menu to add receivable channels that are not presently in the TV's memory (see page 100).</li> </ul>
TV is fixed to one channel	<ul style="list-style-type: none"> <li>❑ Use <b>Auto Program</b> in the Channel Menu to add receivable channels that are not presently in the TV's memory (see page 100).</li> <li>❑ Check your Channel Fix settings (see page 100).</li> </ul>
Cannot receive any channels when using cable TV	<ul style="list-style-type: none"> <li>❑ Use <b>Auto Program</b> in the Channel Menu to add receivable channels that are not presently in the TV's memory (see page 100).</li> </ul>
Cannot receive or select channels	<ul style="list-style-type: none"> <li>❑ Use <b>Auto Program</b> in the Channel Menu to add receivable TV channels that are not presently in TV memory (see page 100).</li> </ul>
Some digital cable channels are not being displayed	<ul style="list-style-type: none"> <li>❑ Certain cable TV companies have limitations on the broadcast of digital cable channels. Check with your cable TV company for more information.</li> <li>❑ Check with your cable TV company if the channels are scrambled or encrypted. You will need a CableCARD or a separate set-top box to view those channels.</li> <li>❑ Some optional digital cable broadcast formats may not be supported. If your cable TV company is broadcasting digital signals in unsupported broadcast formats, you will need a separate set-top box provided by your cable TV company to view those channels.</li> <li>❑ The digital cable channel may be set to <b>Hide</b> in the Channel Menu (see page 101).</li> <li>❑ Use the Digital Channels feature to search for new digital channels (see page 100).</li> </ul>

## Memory Stick

Problem	Possible Remedies
Image does not display/Cannot see all files	<ul style="list-style-type: none"> <li>❑ Make sure the image file is a JPEG (.jpg, .jpeg) file or an MPEG1 (.mpg, .mpeg) file.</li> <li>❑ Make sure the Memory Stick is inserted properly (see page 72).</li> <li>❑ Check the <b>Filter</b> option setting (see page 82).</li> <li>❑ Check the <b>Select Contents</b> setting (see page 82) and ensure that files are either in DCF directories if <b>Digital Camera Folders</b> is selected (see page 82), or in the currently selected folder if <b>Select a Folder</b> is selected (see page 82).</li> <li>❑ The maximum number of files the Memory Stick Viewer can display is 2,000 files total, including all JPEG, MPEG1, and MP3 files.</li> <li>❑ If you are using a Memory Stick with the Memory Select function, try changing the position of the A/B select switch.</li> </ul>
JPEG image displays undesirable motion or flicker in full screen	<ul style="list-style-type: none"> <li>❑ JPEGs captured using a digital video camera may appear to display motion in full screen. This is a result of the way digital video cameras record still images, and is not a result of a malfunction with the TV.</li> </ul>
Rotation not saved after Memory Stick is ejected or Memory Stick Viewer is closed	<ul style="list-style-type: none"> <li>❑ The Memory Stick might be locked. Unlock the Memory Stick and try rotating the image again.</li> <li>❑ The file might not have information (EXIF data) that is usually generated when a digital camera records a photo. In this case, it is not possible to save the rotation.</li> <li>❑ There might be insufficient space on the Memory Stick to save the rotated file. Try deleting one or more files and rotating the image again.</li> </ul>
Cannot Rotate, Zoom, Pan or Print Mark MPEG files	<ul style="list-style-type: none"> <li>❑ These functions are available only for JPEG files.</li> </ul>
Cannot show (or hide) file information in full screen or Slide Show	<ul style="list-style-type: none"> <li>❑ Set the <b>File/Information</b> option to <b>On</b> or <b>Off</b> (see page 81).</li> </ul>
Cannot set print quantity	<ul style="list-style-type: none"> <li>❑ The Memory Stick might be locked. Unlock the Memory Stick and try setting the print quantity again.</li> </ul>
Cannot see Menu	<ul style="list-style-type: none"> <li>❑ Move the joystick <b>▲</b> to display the Menu again.</li> </ul>
Cannot hear audio while using Memory Stick	<ul style="list-style-type: none"> <li>❑ Check the TV's volume or <b>Speaker</b> (page 98) settings.</li> <li>❑ To hear JPEG voice memo in full screen view, select the <b>Digital Camera Folders</b> option and set the <b>Filter</b> option to <b>Show All</b>.</li> <li>❑ Check that the <b>Music</b> option is not set to <b>Off</b> (see page 81).</li> </ul>
Not all MP3 files on Memory Stick are included when the <b>Music/Complete List</b> option is selected (page 81)	<ul style="list-style-type: none"> <li>❑ The Memory Stick Viewer can display a maximum of 2,000 files total, including all JPEG, MPEG1, and MP3 files.</li> <li>❑ Make sure that the file is named with the file extension (.mp3).</li> </ul>
Cannot see MP3 list to play music	<ul style="list-style-type: none"> <li>❑ MP3 files on your Memory Stick only can be played as background music during a Slide Show (see page 81).</li> </ul>
MP3 file does not play back correctly	<ul style="list-style-type: none"> <li>❑ The Memory Stick Viewer supports only MP3 files with a fixed data rate of 128 kbps (kilobits per second).</li> </ul>
MP3 files on the Memory Stick are not listed	<ul style="list-style-type: none"> <li>❑ Only MP3 files that are named with the file extension (.mp3) are displayed in the list.</li> </ul>
Music files are playing in wrong order	<ul style="list-style-type: none"> <li>❑ MP3 files are played in alphabetical order, according to the folder in which they are stored. If you want to change the playing order, rename your files alphabetically in the order in which you want them to play or create an MP3 playlist (.m3u file) on a PC.</li> </ul>

Problem	Possible Remedies
MPEG1 movie does not play back correctly	❑ Some variations of MPEG1 movies may not be compatible with the Memory Stick Viewer.
MPEG1 quality is poor when enlarged (page 79)	❑ The quality of the movie when enlarged depends on the resolution of the MPEG1 file. See your camera's instruction manual for details.
Error message is displayed	❑ No Memory Stick      There is no Memory Stick in the slot.
	❑ Memory Stick Locked      The lock mechanism on the Memory Stick is engaged.
	❑ Memory Stick Error      The Memory Stick in the slot might be damaged; try a different Memory Stick.
	❑ Format Error      The Memory Stick may have been formatted using a PC or other device that is not compatible with cameras.
Error icon is displayed	 The file is not a valid MPEG1 or JPEG format.
	 The thumbnail is not DCF-compatible.
	 The file is a JPEG or an MPEG1, but the thumbnail is unreadable.
	 The file is unreadable.

## Audio

Problem	Possible Remedies
Good picture, no sound	❑ Press <b>MUTING</b> so that the word <b>Muting</b> disappears from the screen (see page 48).
	❑ Make sure the <b>Speaker</b> option is set to <b>On</b> in the Audio Menu (see page 98).
	❑ Make sure the <b>MTS</b> option is set to <b>Stereo</b> or <b>Mono</b> (see page 97).
Cannot gain enough volume when using a cable box	❑ Increase the volume of the cable box using the cable box's remote control. Then press <b>TV FUNCTION</b> and adjust the TV's volume.
Sound seems weak or insufficient	❑ The TV's audio might be set to <b>Auto SAP</b> or <b>Mono</b> , when it might be better set to <b>Stereo</b> . In the Audio Menu (see page 97), set the <b>MTS</b> setting to <b>Stereo</b> . If already set to <b>Stereo</b> , switch to <b>Mono</b> (which may reduce background noise during weak stereo broadcasts).
Cannot raise the volume on external audio speakers	❑ If the <b>Speaker</b> option is set to <b>Off</b> and the <b>Audio Out</b> option is set to <b>Fixed</b> (in order to output the sound to your audio system) use your audio receiver to adjust the sound (see page 97). Or, to use the TV remote control, set the <b>Audio Out</b> option to <b>Variable</b> .
	❑ To turn on the TV speakers, set the <b>Speaker</b> option to <b>On</b> (see page 97).

## Video

Problem	Possible Remedies
No picture (screen not lit), no sound	<ul style="list-style-type: none"><li>❑ If your TV does not turn on, and a red light keeps flashing, your TV may need service. Call your local Sony Service Center.</li><li>❑ Make sure the power cord is plugged in.</li><li>❑ Press the <b>POWER</b> button on the front of the TV.</li><li>❑ Press the <b>TV/VIDEO</b> button to cycle through the connected video sources.</li><li>❑ Try another channel; it could be station trouble.</li></ul>
Dark, poor or no picture (screen lit), good sound	<ul style="list-style-type: none"><li>❑ Adjust the <b>Picture</b> option in the Video Menu (see page 94).</li><li>❑ Adjust the <b>Brightness</b> option in the Video Menu (see page 94).</li><li>❑ Check the antenna/cable connections.</li></ul>
No color	<ul style="list-style-type: none"><li>❑ Adjust the <b>Color</b> option in the Video Menu (see page 94).</li></ul>
Only snow and noise appear on the screen	<ul style="list-style-type: none"><li>❑ Check the antenna/cable connections.</li><li>❑ Try another channel; it could be station trouble.</li><li>❑ Press <b>ANT</b> to change the input mode (see page 48).</li></ul>
Dotted lines or stripes	<ul style="list-style-type: none"><li>❑ Adjust the antenna.</li><li>❑ Move the TV away from noise sources such as cars, neon signs, or hair-dryers.</li></ul>
Double images or ghosts	<ul style="list-style-type: none"><li>❑ Using a highly directional outdoor antenna or a cable may solve the problem.</li></ul>
“Black box” on screen	<ul style="list-style-type: none"><li>❑ You have selected a text option in the Setup Menu and no text is available. (See page 105 to reset Setup selections.) To turn off this feature, set the <b>Caption Vision</b> option to <b>Off</b>. If you were trying to select closed captioning, select <b>CC1</b> instead of <b>TEXT 1-4</b>.</li></ul>
Bars appear at the top and bottom of the screen	<ul style="list-style-type: none"><li>❑ Some wide-screen programs are filmed in aspect ratios that are greater than 16:9, such as 2.35:1. (This is especially common with theatrical releases). Your TV will show these programs with bars at the top and bottom of the screen. For more details, check the documentation that came with your DVD (or contact your program provider).</li></ul>

## General

Problem	Possible Remedies
How to reset TV to factory settings	<ul style="list-style-type: none"><li>❑ Turn on the TV. While holding down the <b>RESET</b> button on the remote control, press the <b>POWER</b> button on the TV. (The TV will turn itself off, then back on again.) Release the <b>RESET</b> button.</li></ul>
How to restore Video settings to factory settings	<ul style="list-style-type: none"><li>❑ Press the <b>RESET</b> button on the remote control while in the Video Menu (see page 94).</li></ul>
How to restore Audio settings to factory settings	<ul style="list-style-type: none"><li>❑ Press the <b>RESET</b> button on the remote control while in the Audio Menu (see page 97).</li></ul>
Cannot cycle through the other video equipment connected to the TV	<ul style="list-style-type: none"><li>❑ Be sure the <b>Video Label</b> option is not set to <b>Skip</b> (see page 105).</li></ul>
Cannot operate Menu	<ul style="list-style-type: none"><li>❑ If a Menu option appears in gray, this indicates that the TV is in a state in which the Menu option is not available.</li></ul>
Lost password	<ul style="list-style-type: none"><li>❑ In the password screen (see page 102), enter the following master password: <b>4357</b>. The master password clears your previous password; it cannot be used to temporarily unblock channels.</li></ul>

<i>Problem</i>	<i>Possible Remedies</i>
TV makes “popping” sound when turned on	<ul style="list-style-type: none"> <li>❑ This is a normal sound that results from the TV automatically degaussing each time it is turned on.</li> </ul>
TIMER/STAND BY LED on front panel is lit	<ul style="list-style-type: none"> <li>❑ The LED (see page 14) blinks when the TV is turned on, then shuts off when the picture is displayed. If the LED blinks for more than a minute, this may indicate the TV needs service. When lit, indicates that the timer is set (page 108). When the timer is set, this LED will remain lit even when the TV is turned off.</li> </ul>
Digital cable box does not work	<ul style="list-style-type: none"> <li>❑ If you are connecting a VCR and digital cable box using a splitter, as described on page 26, you must use a special bi-directional splitter that is designed to work with your digital cable box. Contact your cable TV company for details.</li> </ul>
Cannot record digital channels to VCR	<ul style="list-style-type: none"> <li>❑ Only analog channels can be recorded to your VCR.</li> </ul>
The signal from a selected i.LINK device is not being displayed	<ul style="list-style-type: none"> <li>❑ If you have several i.LINK devices connected and operating at once, the TV may not be able to display the signal from the selected device. Turn the other i.LINK devices off, and reselect the desired i.LINK device.</li> <li>❑ If you are using a digital VCR, turn off any Auto LINC functionality of the VCR. For details, see the digital VCR’s user manual.</li> </ul>



## Specifications

Picture Tube	FD Trinitron® tube	
Antenna	75 ohm external terminal for VHF/UHF	
Television System	NTSC	American TV Standard
	ATSC (8VSB terrestrial)	ATSC compliant 8VSB
	QAM on cable	ANSI/SCTE 07 2000
Channel Coverage	Terrestrial (analog)	2-69
	Cable TV (analog)	1-125
	Terrestrial (digital)	2-69
	Cable TV (digital)	1-135
Power Requirements	120V, 60 Hz	
Inputs/Outputs		
HDMI IN	Video	1080i, 720p, 480p, 480i
	Audio	Two channel linear PCM 32, 44.1 and 48 kHz, 16, 20 and 24 bit
Video (IN)	4 total (1 on front panel)	1 Vp-p, 75 ohms unbalanced, sync negative
S Video (IN)	3 total (1 on front panel)	Y: 1 Vp-p, 75 ohms unbalanced, sync negative
		C: 0.286 Vp-p (Burst signal), 75 ohms
Audio (IN)	7 total (1 on front panel)	500 mVrms (100% modulation)
		Impedance: 47 kilohm
Component Video Input	2 (Y, P <sub>B</sub> , P <sub>R</sub> )	Y: 1.0 Vp-p, 75 ohms unbalanced, sync negative;
		P <sub>B</sub> : 0.7 Vp-p, 75 ohms
		P <sub>R</sub> : 0.7 Vp-p, 75 ohms
CONTROLS (IN/OUT)	1	
Variable/Fixed Audio (OUT)	1	More than 408 mVrms at the maximum volume setting (Variable)
		More than 408 mVrms (Fixed)
		Impedance (output): 2 kilohms
i.LINK	3 total (1 on front panel)	4-pin S400 i.LINK terminal
Digital Audio Optical Output PCM/Dolby Digital	1	Optical Rectangular
CableCARD Slot	PCMCIA Type I/II	
Supplied Accessories	Remote Control	RM-Y201
	AA (R6) Batteries	2 supplied for remote control
Visible Screen Size	34 in (863.6mm) picture measured diagonally	
Actual CRT Size	36 in (914.4 mm) picture measured diagonally	
Speaker Output	7.5 W x 2 + 15 W subwoofer	
Dimensions (W x H x D)	994 x 652 x 605 mm (39 1/8 x 25 5/8 x 23 7/8 in)	
Mass	89 kg (196 lbs)	
Power Consumption	In Use	270 W
	In Standby	3 W
	In i.LINK/CableCARD	23 W
	Standby	

Design and specifications are subject to change without notice.

## **Optional Accessories**

- ❑ A/V Cable (VMC-810/820/830 HG)
- ❑ Audio Cable (RKC-515HG)
- ❑ Component Video Cable (VMC-10/30 HG)
- ❑ TV Stand: SU-34XBR3
- ❑ i.LINK cables: VMC-IL4415 (4-pin to 4-pin, 1.5 meters); VMC-IL4435 (4-pin to 4-pin, 3.5 meters)



# Index

0-9 buttons 49, 54, 61  
4:3 Default settings 99

## A

Advanced Video 95  
Alternate Audio 56, 91  
Alternate Video 56, 91  
ANT button 48, 54  
antenna, connecting 18  
Audio Menu 93  
Audio Out 98  
AUDIO OUT jack 16  
audio receiver, connecting 38  
Auto Program (channel setup)  
100  
Auto SAP, MTS setting 97

## B

balance, adjusting 97  
bass, adjusting 97  
batteries, inserting in remote 47  
bilingual audio 97  
blocking programs. *See ratings.*  
brightness, adjusting 94  
Built 9

## C

cable  
connecting 18  
with VCR, connecting 24  
cable box  
connecting with VCR 26  
Twin View issues 60  
using with TV remote  
control 67  
CABLE jack, described 16  
CableCARD 10, 16, 17, 43  
CableCARD slot 16, 43, 44  
CableCARD, activating 43  
CableCARD, inserting card 43  
CableCARD, removing card 44  
Caption Vision 105  
CATV. *See cable*  
CH buttons 14, 49  
changing picture size, in Twin

View 62  
Channel Fix 100  
channel list, setting up 45  
Channel Menu 93  
Channel Skip/Add 101  
CineMotion 11, 48, 95  
ClearEdge VM 95  
ClearEdge VM Velocity  
Modulation 10  
clearing, Favorite Channels 63  
closed caption modes 93, 105  
CODE SET button 49  
color, adjusting 94  
Component Video Inputs 11  
CONTROL S 42  
CONTROL S IN/OUT jacks,  
described 16  
Cool, Color Temperature 94

## D

degauss 119  
DIGITAL AUDIO OPTICAL jack  
16  
digital channels, adding 100  
Digital Reality Creation 10  
DISC MENU button 50, 67  
DISPLAY button 49, 54  
DRC Mode 95  
DRC MODE button 48  
DRC Palette 95  
DRC PALETTE button 49  
DRC. *See Digital Reality Creation.*  
DVD player  
using with TV remote  
control 67  
with A/V connectors,  
connecting 36

## E

Effect button 50  
ENTER button 49, 54, 61  
error messages, Memory Stick  
117  
EXIT button 49

## F

Fast-forward button 50  
Favorite Channels 10  
clearing 63  
in Channel Menu 100  
using 63  
FAVORITES button 48  
features 9  
Fixed audio setting 98  
FREEZE button 49, 65  
Freeze, using 65  
Full 59  
Full (Screen Mode) 58, 59

## G

GUIDE button 49, 55

## H

HD Detailer 11  
HD/DVD IN  
(1080i/720p/480p/480i)  
jacks, described 16  
High-Definition Multimedia  
Interface (HDMI) 11, 39, 40,  
112  
Horizontal Expand (Screen  
Mode) 59  
hue, adjusting 94

## I

i.LINK 11, 14, 16, 85–91  
i.LINK button 48  
I.LINK jack, described 16  
i.LINK Standby 14, 106  
i.LINK/AV1-3/DVD slide  
switch 50  
INDEX button 48, 57  
Info Banner 105  
Initial Setup 45  
interlaced 10, 48, 95, 112

## J

joystick 48  
JUMP button 49, 54

- L**  
Language, setting 106
- M**  
Memory Stick  
  button 49  
  features 69  
  Index 74  
  indicator (LED) 14  
  inserting 72  
  insertion slot 14  
  panning photos 78  
  photo options 77  
  playing movies 79  
  precautions 84  
  removing 73  
  rotating photos 78  
  slide show options 81  
  troubleshooting 116  
  viewing photos 76  
  zooming photos 78  
Memory Stick button 14  
Memory Stick Viewer 10  
MENU button 14, 48, 50, 54, 63, 93  
Menus  
  Audio 93  
  Channel 93  
  Parent 93, 102  
  Setup 105  
  Video 93  
MONITOR OUT 16  
Mono, MTS setting 97  
Movie mode 94  
movies  
  viewing thumbnails 74  
MTS 97  
MTS/SAP button 50  
MUTING button 48, 54
- N**  
Neutral, Color Temperature 94  
Normal (Screen Mode) 58
- O**  
off, turning off the TV 14  
on, turning on the TV 14
- P**  
Parent Menu 93, 102  
parental control, described 11  
password, changing 102  
Pause button 50  
photos  
  viewing thumbnails 74  
PIC MODE button 49  
picture contrast, adjusting 94  
Picture in Picture. *See Twin View.*  
Play button 50  
POWER button 14  
power cord, removing from  
  holder 13  
powering on/off, the TV 14  
presetting channels 100  
Pro (Video) mode 94  
problems, troubleshooting 113–119  
  Program Guide 55  
  program guide 55  
  progressive 10, 48, 95, 112
- R**  
ratings, setting 102–104  
ratings, viewing blocked  
  programs 103, 104  
Record buttons 50  
remote control  
  inserting batteries 47  
  programming 51–52  
removing, Favorite Channels 63  
RESET button 48, 63  
resetting  
  Audio options 98  
  Video options 96  
Rewind button 50
- S**  
S VIDEO jack, described 14, 16  
SAT/CABLE  
  FUNCTION button 49  
  POWER button 49  
satellite receiver, using with TV  
  remote control 66  
Screen Mode 58, 99  
SCREEN MODE button 48, 58  
Scrolling Index 10  
Scrolling Index, using 57  
SELECT button 50  
Setup Menu 105  
sharpness, adjusting 94  
Simulated, Effect 97  
sizing, picture in Twin View 62  
SLEEP button 48  
speakers  
  turning on/off 98  
  using external speakers 98  
specifications 120  
Standard mode 94  
Steady Sound, described 10  
Steady Sound, setting 97  
Stereo, MTS setting 97  
Stop button 50  
Super Fine Pitch 10  
surround sound 97  
SYSTEM OFF button 50
- T**  
Tilt Correction 45, 106  
tilt, correcting 45, 106  
TIMER indicator 119  
transport buttons 50  
treble, adjusting 97  
troubleshooting 113–119  
TruSurround 97  
TruSurround, Effect 97  
turning on/off the TV 14  
TV FUNCTION button 49, 54  
TV POWER button 49, 54  
TV/VCR button 50  
TV/VIDEO button 48, 54  
Twin View  
  button 49  
  described 10  
  using 60–62
- V**  
Variable audio setting 98  
VCR  
  using with TV remote  
  control 66  
  with cable box, connecting  
  26  
  with cable, connecting 24  
  with satellite receiver,  
  connecting 32  
VCR/DVD button 50  
Vertical Center 99  
Vertical Correction 45, 106  
Vertical Expand (Screen Mode)  
  59  
Vertical Size, adjusting 99  
VHF/UHF jack, described 16  
VIDEO (L/R)/AUDIO jacks,  
  described 16  
Video Menu 93

Video modes, selecting 94

Vivid mode 94

VOL buttons 14, 48, 54

## **W**

Warm, Color Temperature 94

Wega, described 9

Wide Zoom 58

widescreen 11

## **Z**

Zoom (Screen Mode) 58, 59

zoom feature, with Twin View 62

