

SONY[®]

3-866-010-11 (2)

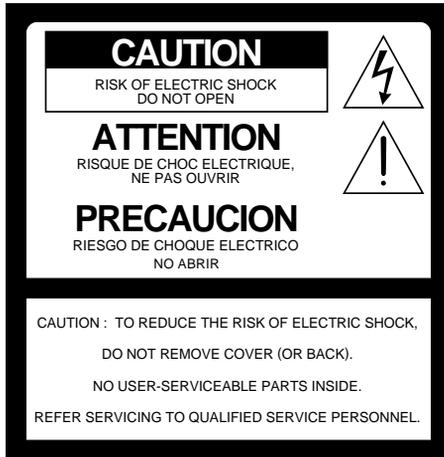
HDTV

HDTV Projection TV

Operating Instructions

WARNING

To prevent 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, do not use this polarized AC plug with an extension cord, receptacle or other outlet unless the blades can be fully inserted to prevent blade exposure.

CAUTION

When using TV games, computers, and similar products with your projection 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 especially at a high brightness or contrast setting, the image can be permanently imprinted onto the screen. These types of imprints are not covered by your warranty because they are the result of misuse.

Note on Caption Vision

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

Note on convergence adjustment

Before you use your projection TV, make sure to adjust convergence. For details, see page 27.

Note to CATV system installer

This reminder is provided to call the CATV system installer's attention to Article 820-40 of the 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.

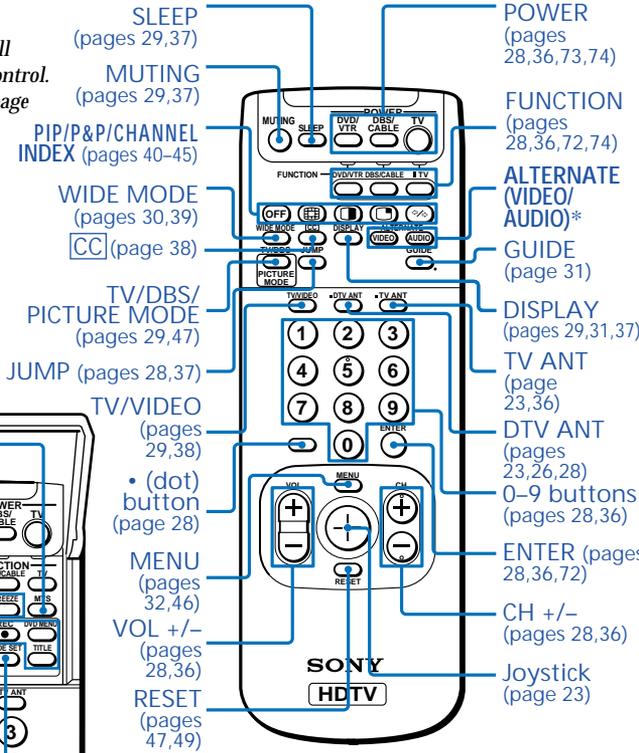
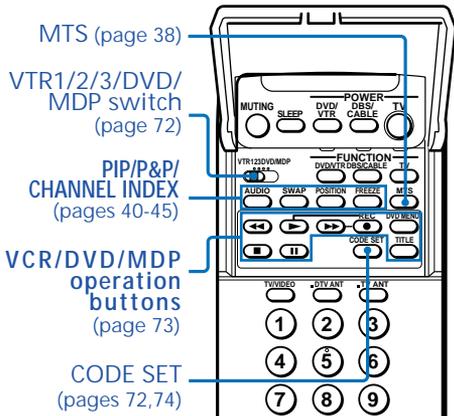
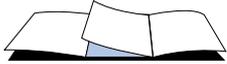
This document is for the remote control RM-Y904
MODEL: KWP-65HD1

Please keep this notice with the instruction manual.

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Remote Control

In the instructions that follow, we will refer to the buttons on your remote control. Keep this flap unfolded and use this page for reference.



* Note:
 • The ALTERNATE (VIDEO/AUDIO) buttons do not function with this projection TV.

Getting to know the buttons on the remote control

Names of the buttons on the remote control are presented in different colors to represent the available functions.

Button color

Transparent Press to select the component you want to control; e.g. VTR (VCR)/MDP/DVD Player, DBS (Direct Broadcast Satellite)/CABLE, or projection TV.

Green Buttons relevant to power operations, like turning the projection TV, DBS/CABLE, or VTR (VCR)/MDP/DVD Player on or off

Label color

White TV/VTR (VCR)/MDP/DVD Player/DBS (Direct Broadcast Satellite)/CABLE operation buttons

Yellow PIP, P&P, and CHANNEL INDEX operation buttons

Blue DBS operation buttons

Pink DVD Player operation buttons

For a detailed explanation of most buttons, see "Watching Digital TV" on page 28, or "Watching Conventional TV" on page 36.

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Owner's Record

The model and serial numbers are located at the rear of the projection TV, below the Sony logo, on the sticker, and also on the TV box (white label). Record these numbers in the spaces provided below. Refer to them whenever you call upon your Sony dealer regarding this product.

Model No.	<u>KWP-65HD1</u>
Serial No.	_____

Welcome!

Thank you for purchasing the Sony HDTV Projection TV.

The features you will enjoy include:

- Built-in Digital Television (DTV) receiver, enabling you to view digital television programs and to enjoy the improved audio/video quality that these programs offer. This DTV receiver is designed for use with terrestrial broadcast DTV system only. (see “Frequently Asked Questions” on page 3)
- WIDE SCREEN MODE, allowing you to watch 4:3 normal broadcasts in wide screen mode (16:9 aspect ratio).
- PARENTAL CONTROL, enabling you to block programs that are unsuitable for your children. (*not available for DTV programs*)
- DRC (Digital Reality Creation), a technology unique to Sony, allowing you to obtain a finer, more detailed picture with four-times higher density* than the conventional NTSC picture. (*not available for DTV programs except for 480i*)

* When you select WIDE ZOOM or ZOOM, the DRC feature will work but the picture density may not reach its full potential.

- MID (Multi Image Driver), a newly developed device, allowing you to enjoy the following features and, at the same time, to use your projection TV easily. (*not available for DTV programs or VIDEO 5 (HD) IN jack*)
 - Picture & Picture (P&P) with zoom-in function (Twin View™)
 - Picture-in-Picture (PIP)
 - CHANNEL INDEX, allowing you to view and choose from twelve programs
 - FAVORITE CHANNEL, allowing you to view and choose from eight of your favorite channels
- AUTO FOCUS, allowing you to adjust convergence automatically.
- S-Link™, allowing you to synchronize some operations of your projection TV with those of other Sony components.
- One Y/P_B/P_R input for DVD Player connection.
- Four AUDIO/VIDEO/S VIDEO inputs.
- VIDEO 5 (HD) IN jacks, switchable between R/G/B/HD/VD and Y/P_B/P_R inputs, for receiving various HDTV formats (up to 1080i) scheduled to broadcast in the near future (not compatible with a computer’s 5BNC (R/G/B/HD/VD) video output connectors).

Using This Manual

We recommend that you carefully review the contents of the following four sections in the order provided to ensure that you fully understand the operation of your new projection TV.

1 Installing and Connecting the Projection TV

This section guides you through your initial set up. It shows you how to install your projection TV, to connect your new components and to connect to the antenna and cable.

2 Basic Set Up

This section teaches you the basic skills needed to operate your new projection TV, including Easy Set Up. It shows you how to operate the remote control’s special functions.

3 Using Digital Television (DTV) Features

This section shows you how to use your remote control’s features to watch the DTV programs. It also shows you how to access on-screen menus and adjust your projection TV’s settings for DTV.

4 Using Conventional Television Features

This section shows you how to operate your projection TV and how to access on-screen menus for conventional TV.

Instructions in this manual are written for the remote control. Similar controls may be found on the projection TV console.

Frequently Asked Questions

What is digital TV (DTV)?

Digital television (or “DTV”) refers to the new over-the-air television broadcast standards adopted by the Federal Communications Commission in 1996. Developed by the Advanced Television Systems Committee (ATSC), a group of manufacturing companies, these standards define the specifications for 18 digital broadcast formats.

There are six formats in the ATSC DTV standard that are described as “High Definition Television.” The remaining 12 video formats are described as “Standard Definition Television.”

Although the technical aspects of these standards are transparent to television viewers, the benefits are as dramatic as those experienced when digital music on compact disc was introduced—probably even more so.

Your Sony DTV is capable of receiving all 18 formats of digital TV formats, which includes high-definition.

What are the benefits of DTV?

For the television viewer, digital TV represents one of the most significant advances in television since color television replaced black and white. Here are just a few of the benefits:

Dramatically superior picture quality, with up to six times the picture detail of today’s analog television.

Multichannel digital sound, including Dolby Digital sound.

Widescreen. DTV can provide the same type of widescreen presentation you see in movie theaters. The new screen size has a 16:9 width-to-height (or “aspect”) ratio, compared to the 4:3 aspect ratio of today’s conventional television. This means that digital broadcasts of movies can be shown in their original format, and no longer need to be “reformatted” for television.

Do I need a special antenna to receive digital television?

No. Initially, digital television will arrive through a standard, over-the-air VHF/UHF antenna, which means you can receive digital broadcasts using the same terrestrial (“rooftop”) antenna you currently use to receive conventional programming. However, if you currently receive your VHF/UHF programming via cable, you will need to install a VHF/UHF antenna in order to receive digital programming.

Can this projection TV receive conventional analog broadcasts that are available today?

Yes. This projection TV is designed to receive conventional analog broadcasts, cable TV, as well as all formats of digital broadcasts. Of course, you can also connect VCRs, DVD players, digital broadcast (satellite) receivers, and other audio/video components.

When is digital broadcasting being introduced?

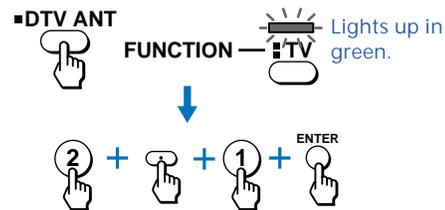
The transition from today’s analog broadcasting system to digital television will take time to complete. In the fall of 1998, some networks began broadcasting digital programs.

How can I select digital channels?

Digital channels are indicated by the use of a decimal or “dot” in the subchannel number (for example, “2.1”). This number appears when you press the CH +/- buttons or press the DISPLAY button.

Before selecting a digital channel, press DTV ANT on the remote control so that the TV FUNCTION indicator on the remote control lights up in green. To select a subchannel directly, use the 0-9 buttons, • (dot) button, and the ENTER button.

For example, to select subchannel 2.1



You can also select digital channels using an on-screen guide. See page 31 for details.

Precautions

Safety

- Operate the projection TV only on 120 V AC.
- The plug is designed, for safety purposes, to fit into the wall outlet only one way. If you are unable to insert the plug fully into the outlet, contact your dealer.
- If any liquid or solid object should fall inside the cabinet, unplug the projection TV immediately and have it checked by qualified service personnel before operating it further.
- If you will not be using the projection TV for several days, disconnect the power by pulling the plug itself. Never pull on the cord.

For details concerning safety precautions, see the supplied leaflet "IMPORTANT SAFEGUARDS."

Note on cleaning

Clean the cabinet of the projection TV with a dry soft cloth. To remove dust from the screen, wipe it gently with a soft cloth. Stubborn stains may be removed with a cloth slightly dampened with solution of mild soap and warm water. Never use strong solvents such as thinner or benzine for cleaning.

If the picture becomes dark after using the projection TV for a long period of time, it may be necessary to clean the inside of the projection TV. Consult qualified service personnel.

Installing

- To prevent internal heat buildup, do not block the ventilation openings.
- Do not install the projection TV in a hot or humid place, or in a place subject to excessive dust or mechanical vibration.
- Avoid operating the projection TV at temperature below 5°C (41°F).
- The DTV I/O cable has already been attached between the projection TV's lower panel and the DTV I/O connector on the projection TV's upper panel. Never touch, tamper with, or disconnect the DTV I/O cable from the connector, as this may cause damage to the projection TV.
- If the projection TV is transported directly from a cold to a warm location, or if the room temperature changes suddenly, the picture may be blurred or show poor color. In this case, please wait a few hours to let the moisture evaporate before turning on the projection TV.

- To obtain the best picture, do not expose the screen to direct illumination or direct sunlight. It is recommended to use spot lighting directed down from the ceiling or to cover the windows that face the screen with opaque drapery. It is desirable to install the projection TV in a room where the floor and walls are not of a reflective material.

Installing and Connecting the Projection TV

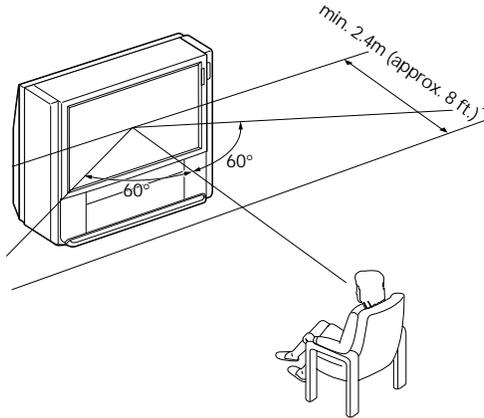
Carrying Your Projection TV

Carrying the projection TV requires four or more people.

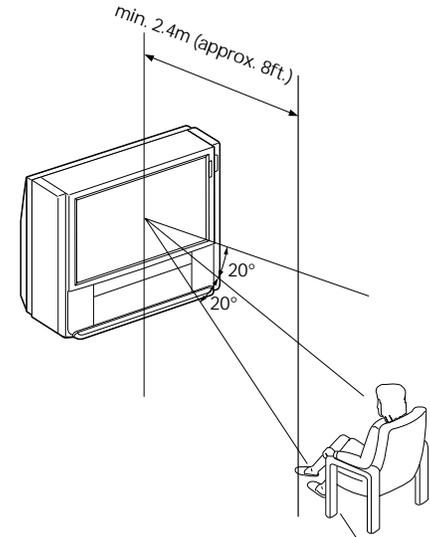
The projection TV has been equipped with casters for easy movement on a hard surface. Please move your projection TV using the casters.

Installing the Projection TV

Recommended viewing area
(Horizontal)



Recommended viewing area
(Vertical)



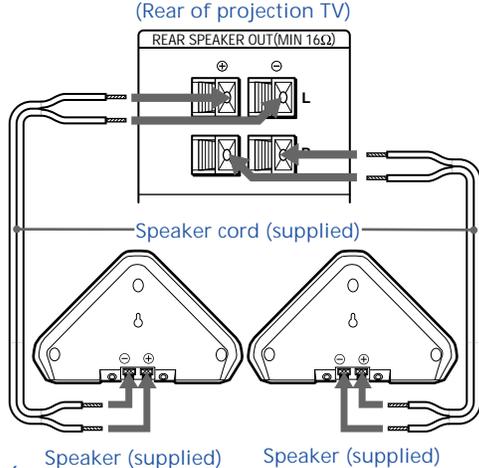
Installing and Connecting the Projection TV (continued)

Mounting the Supplied Rear Speakers

For enhanced surround effect, connect the supplied rear speakers to your projection TV.

Connecting the rear speakers

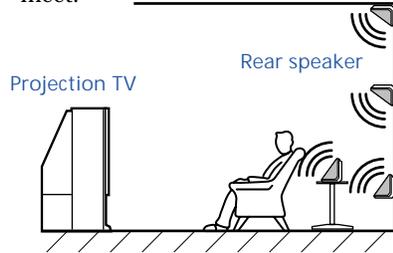
Using the supplied speaker cords, connect REAR SPEAKER OUT L on your projection TV to the speaker terminal on one rear speaker, and connect REAR SPEAKER OUT R to the terminal on the other one.



Installation

For optimum surround effect, mount the rear speakers in the following places (as shown in the illustration):

- on a wall, a little higher or lower than the listener's ears.
- on a table, a little lower than the listener's ears.
- at the corner where the wall and ceiling meet.



(Rear of projection TV)



Left rear speaker

Right rear speaker

Note:

- Match the colors of the speaker cords and the terminals. If the colors are reversed, sound will be distorted.

Connector Types

You may find it necessary to use some of the following connector types during set up.

Coaxial cable

Standard TV cable and antenna cable

Plug Type



Push into connection.

Screw-on Type



Screw into connection.

S Video cable

High quality video cable for enhanced picture quality



Align guides and push into connection.

Audio/Video cable



Push into connection.

Video - Yellow

Audio (Left) - White

Audio (Right) - Red

Some DVD Players are equipped with the following three video connectors.

Y - Green

P_B (C_B, C_b or B-Y) - Blue

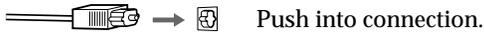
P_R (C_R, C_r or R-Y) - Red

S-Link/CONTROL S cable

Sony cable for S-Link and CONTROL S connections. These features are exclusive to Sony products and allow greater control of all Sony equipment.



Optical digital cable



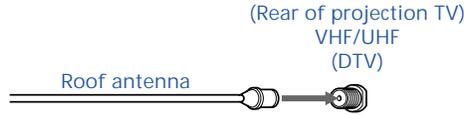
Note:

- For S-Link and CONTROL S connections, you can use the combined S-Link/CONTROL S cable provided with some Sony video equipment, or you can purchase a separate S-Link/CONTROL S cable (RK-G69HG).

Making Connections

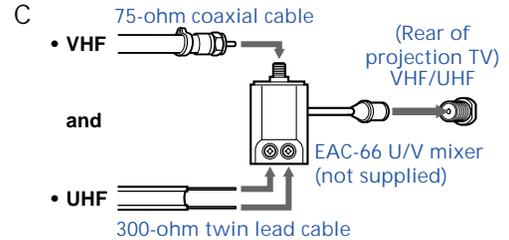
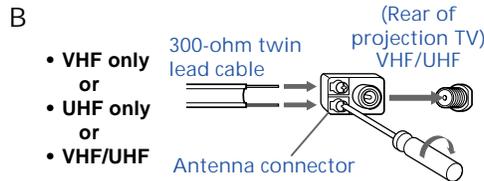
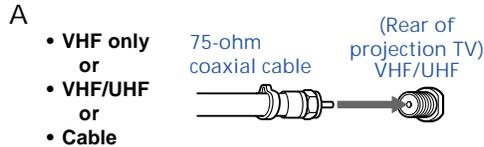
To receive DTV channels

First, install a roof antenna and connect it to the VHF/UHF (DTV) connector on the lower panel at the rear of the projection TV. Second, connect another antenna or cable line to the VHF/UHF connector on the upper panel at the rear of the projection TV.



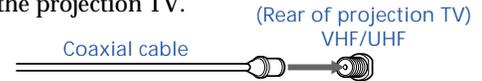
Connecting directly to a cable or an antenna

The connection you choose will depend on the cable found in your home. Newer homes will be equipped with standard coaxial cable (see A); older homes will probably have 300-ohm twin lead cable (see B); still other homes may contain both (see C).



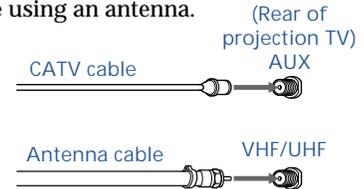
Cable or antenna

This is the simplest connection. Connection is made directly from the cable or antenna to the projection TV.



Cable and antenna

You may find it convenient to use the following set up if your cable provider does not feature local channels that you are able to receive using an antenna.



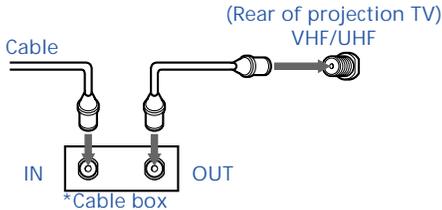
(continued)

Installing and Connecting the Projection TV (continued)

Select Cable or ANT mode by pressing TV ANT on the remote control.

Connecting a cable box

Some pay cable TV systems use scrambled or encoded signals that require a cable box* to view all channels.

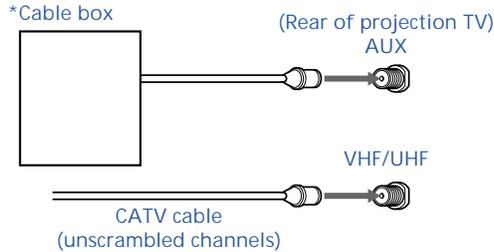


Note:

- If you will be controlling all channel selection through your cable box, you should consider using the CHANNEL FIX feature. (see "CHANNEL FIX" on page 56)

Cable box and cable

Some pay cable TV systems use scrambled or encoded signals requiring a cable box* only for certain channels (e.g. HBO, SHOWTIME, etc.)



For this set up, you can switch between scrambled channels (through your cable box), and normal (CATV) channels by pressing TV ANT on your remote control.

Notes:

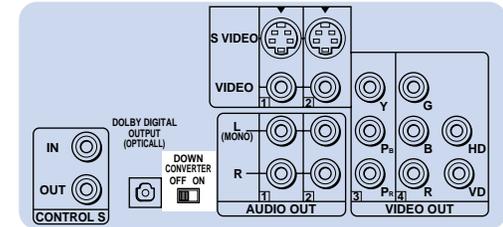
- You may be able to program your Sony remote control to operate your cable box. (see "Operating a Cable Box or DBS Receiver" on page 74)
- During PIP, P&P, CHANNEL INDEX or FAVORITE CHANNEL viewing, the AUX input can only be viewed in the main picture.
- If you are connecting a cable box through the AUX input and would like to switch between the AUX and normal (CATV) input, you should consider using CHANNEL FIX. (see "CHANNEL FIX" on page 56)

About the DOWN CONVERTER switch

The DOWN CONVERTER switch on the projection TV's lower panel must be set to OFF to receive an HD signal. Do not change the switch position.

Note:

- If the DOWN CONVERTER switch is set to ON, set the switch to OFF and turn off the projection TV. Then, turn the power back on to activate the new switch position (OFF).



About the DTV I/O cable

The DTV I/O cable has already been attached between the projection TV's lower panel and the DTV I/O connector on the projection TV's upper panel. Never touch, tamper with, or disconnect the DTV I/O cable from the connector, as this may cause damage to the projection TV.

Connecting an antenna/cable TV system to a VCR

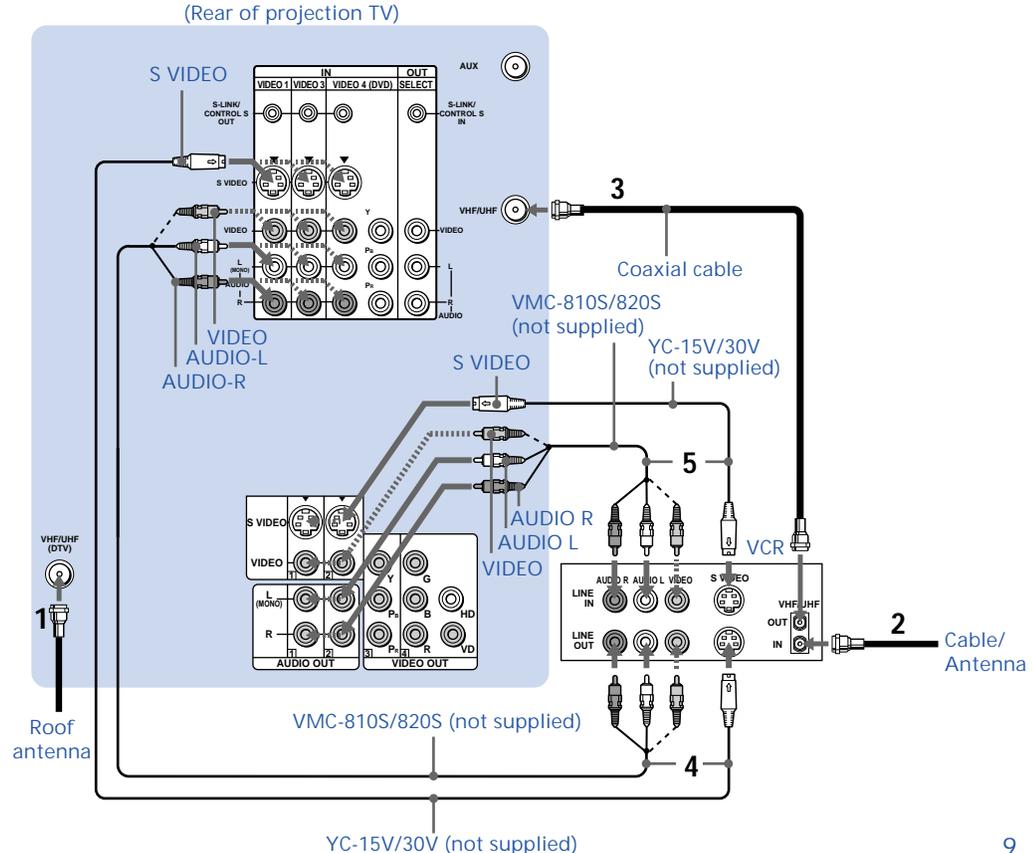
- 1 Attach the coaxial cable from the roof antenna to VHF/UHF (DTV) on the TV's lower panel.
- 2 Attach the coaxial cable from the incoming cable connection or antenna to IN on the VCR.
- 3 Using a coaxial cable, connect OUT on the VCR to VHF/UHF on the TV's upper panel.
- 4 Using AUDIO and S VIDEO* cables, connect AUDIO and S VIDEO OUT on the VCR to AUDIO and S VIDEO IN on the TV's upper panel (White-AUDIO Left, Red-AUDIO Right).
- 5 Using AUDIO and S VIDEO* cables, connect AUDIO and S VIDEO IN on the VCR to AUDIO and S VIDEO OUT on the TV's lower panel.

* If your VCR is not equipped with S VIDEO, use a VIDEO cable (yellow) instead of the S VIDEO cable.

Note:

- If you are connecting a monaural VCR, connect only the single audio output to the left (MONO) input on the projection TV.

Disconnect all power sources before making any connections.



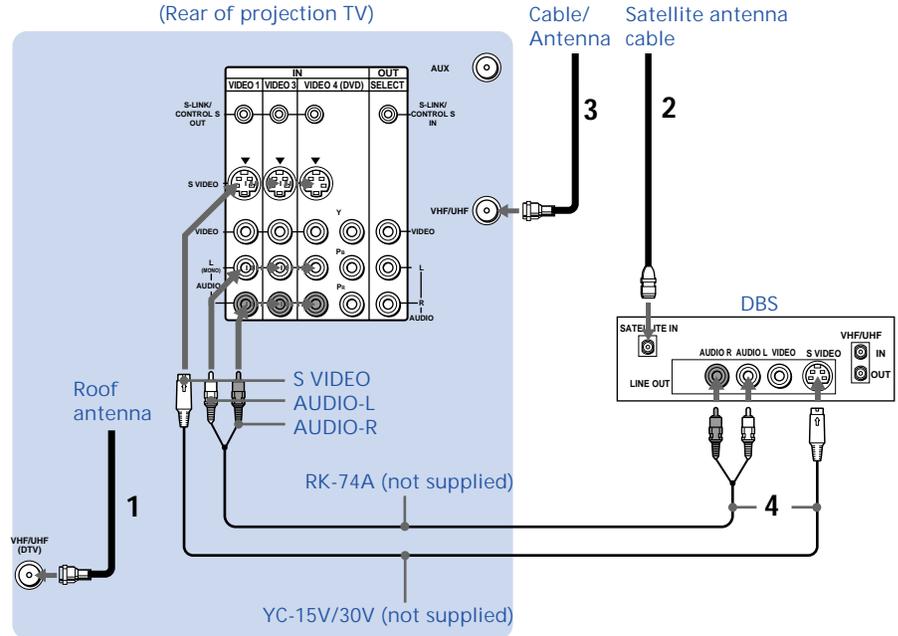
Connecting a DBS (Direct Broadcast Satellite) receiver

- 1 Attach the coaxial cable from the roof antenna to VHF/UHF (DTV) on the TV's lower panel.
- 2 Connect the cable from the satellite antenna to the DBS receiver.
- 3 Attach the coaxial cable from the incoming cable connection or antenna to VHF/UHF on the TV's upper panel.
- 4 Using AUDIO and S VIDEO cables, connect AUDIO and S VIDEO OUT on the DBS receiver to AUDIO and S VIDEO IN on the TV's upper panel (White-AUDIO Left, Red-AUDIO Right).

Note:

- To view input from the DBS, select the video input which the DBS receiver is connected to by pressing TV/VIDEO on the remote control.

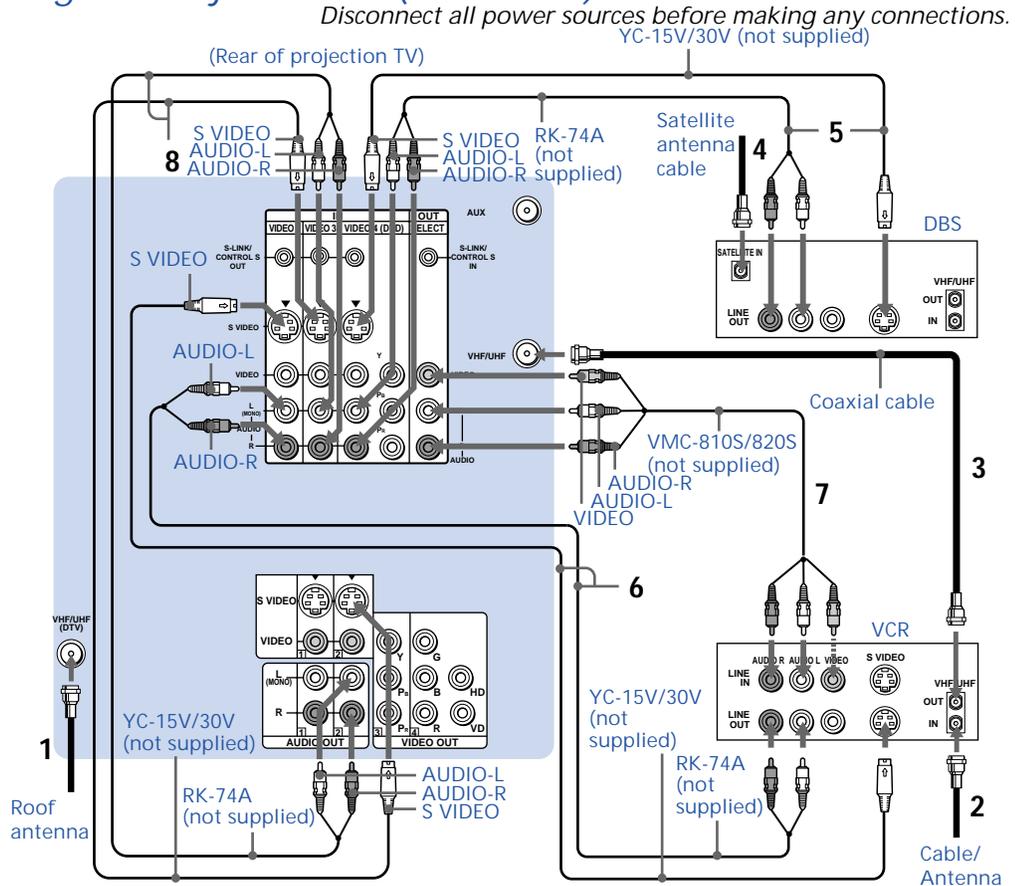
Disconnect all power sources before making any connections.



Installing and Connecting the Projection TV (continued)

Connecting a DBS (Direct Broadcast Satellite) receiver and a VCR

- 1-3 Perform as described on page 9.
- 4 Connect the cable from the satellite antenna to the DBS receiver.
- 5 Using AUDIO and S VIDEO cables, connect AUDIO and S VIDEO OUT on the DBS receiver to AUDIO and S VIDEO IN of VIDEO 4 IN on the TV's upper panel (White-AUDIO Left, Red-AUDIO Right).
- 6 Using AUDIO and S VIDEO* cables, connect AUDIO and S VIDEO OUT on the VCR to AUDIO and S VIDEO IN of VIDEO 1 IN on the TV's upper panel.
- 7 Using AUDIO and VIDEO cables, connect AUDIO and VIDEO IN on the VCR to AUDIO and VIDEO OUT of SELECT OUT on the TV's upper panel.
- 8 Using AUDIO and S VIDEO* cables, connect AUDIO and S VIDEO OUT of VIDEO 2 OUT on the TV's lower panel to AUDIO and S VIDEO IN of VIDEO 3 IN on the TV's upper panel.
- 9 To record a DTV program on the VCR, use the SET UP menu to set SELECT OUT to "VIDEO3." Set it to "VIDEO4" to record a DBS program.



- * If your VCR is not equipped with S VIDEO, use a VIDEO cable (yellow) instead of the S VIDEO cable.

Note:

- To view input from the DBS or VCR, select the video input which your DBS receiver or VCR is connected to by pressing TV/VIDEO on the remote control.

Connecting a camcorder

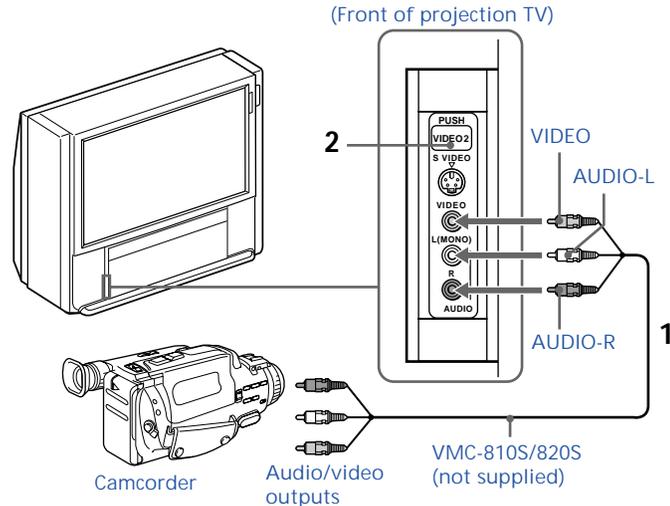
Use this connection to view a picture directly from your camcorder.

- 1 Using an AUDIO/VIDEO cable, connect AUDIO and VIDEO OUT on the camcorder to AUDIO and VIDEO IN on the lower left side on the front of the projection TV (Yellow-VIDEO, White-AUDIO Left, Red-AUDIO Right).
- 2 Press VIDEO 2 to select the video inputs from a camcorder.

Notes:

- If you are connecting a monaural camcorder, connect only the single audio output to the left (MONO) input on the projection TV.
- If you have an S Video equipped camcorder, you can use an S Video connection.

Disconnect all power sources before making any connections.



Installing and Connecting the Projection TV (continued)

Connecting two VCRs for tape editing

SELECT OUT gives you the ability to use a second VCR to record a program being played by the primary VCR or to perform tape editing and dubbing.

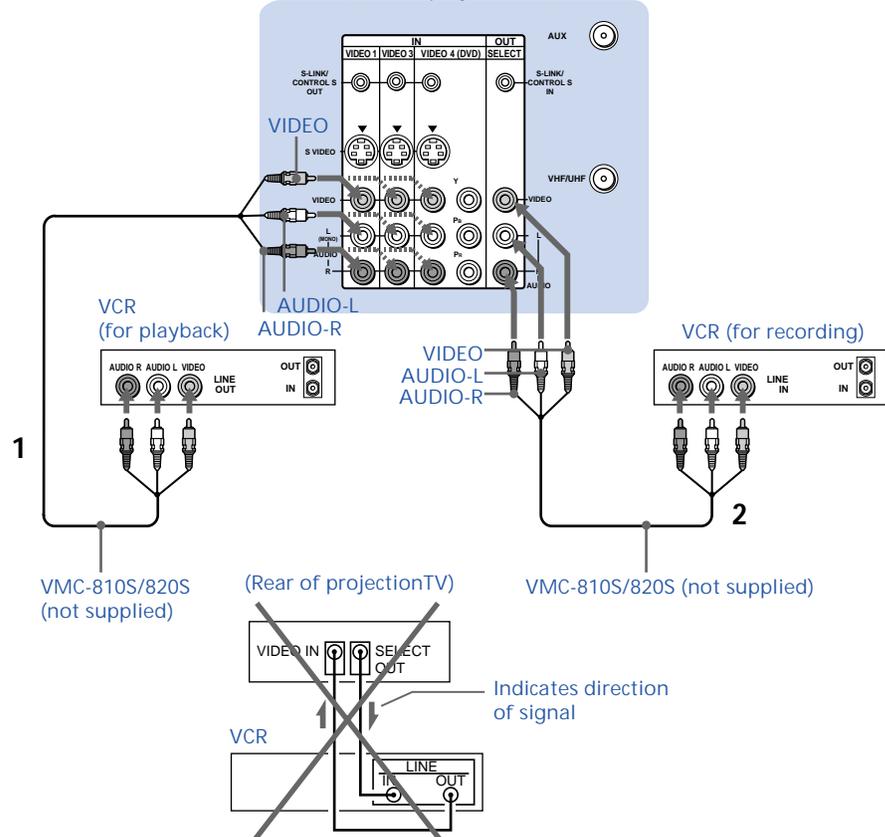
- 1 Connect the VCR intended for playback using the connection instructions on page 9 of this manual.
- 2 Using an AUDIO/VIDEO cable, connect AUDIO and VIDEO IN on the VCR intended for recording to AUDIO and VIDEO OUT of SELECT OUT on the TV's upper panel.

Notes:

- Do not change the input signal while editing through SELECT OUT.
- When connecting a single VCR to the projection TV: if VCR LINE OUT is connected to VIDEO IN on the TV's upper panel, *do not* connect the SELECT OUT on the TV's upper panel to the VCR LINE INPUT (see right). Doing so will cause program interference and other viewing problems.
- You can select the output signal from SELECT OUT from the SET UP menu. (see "SELECT OUT" on page 60)

Disconnect all power sources before making any connections.

(Rear of projection TV)



Connecting a DVD Player without component video output connectors

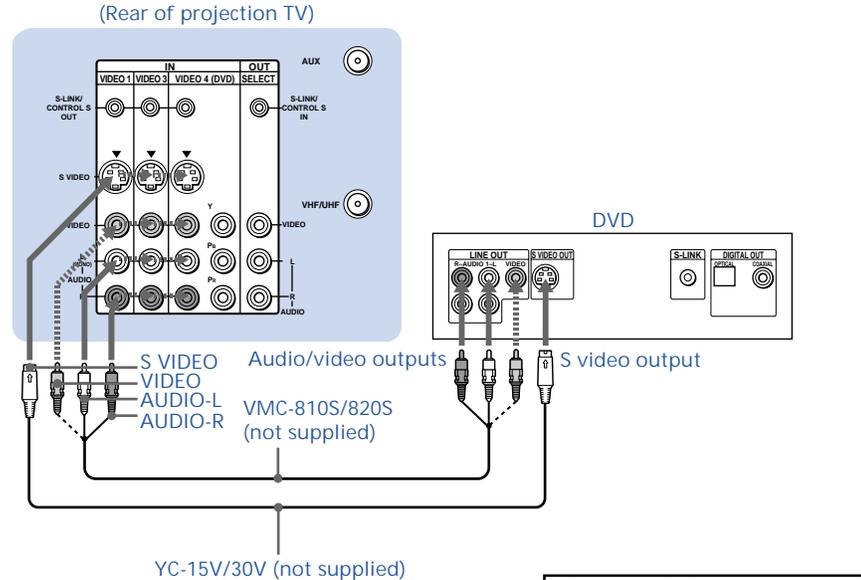
Using an AUDIO and S VIDEO* cables, connect AUDIO and S VIDEO IN on the TV's upper panel to LINE OUT on the DVD Player (White-AUDIO Left, Red-AUDIO Right).

* If your DVD Player is not equipped with S VIDEO, use a VIDEO cable (yellow) instead of the S VIDEO cable.

Note:

- Since the high quality pictures on a DVD disc contain a lot of information, picture noise may appear. In this case, adjust NR in the VIDEO menu. (see "NR" on page 48)

Disconnect all power sources before making any connections.



Connect the DVD Player directly to the projection TV. Connecting the DVD Player through other video equipment will cause unwanted picture noise.

Installing and Connecting the Projection TV (continued)

Disconnect all power sources before making any connections.

Connecting a DVD Player with component video output connectors

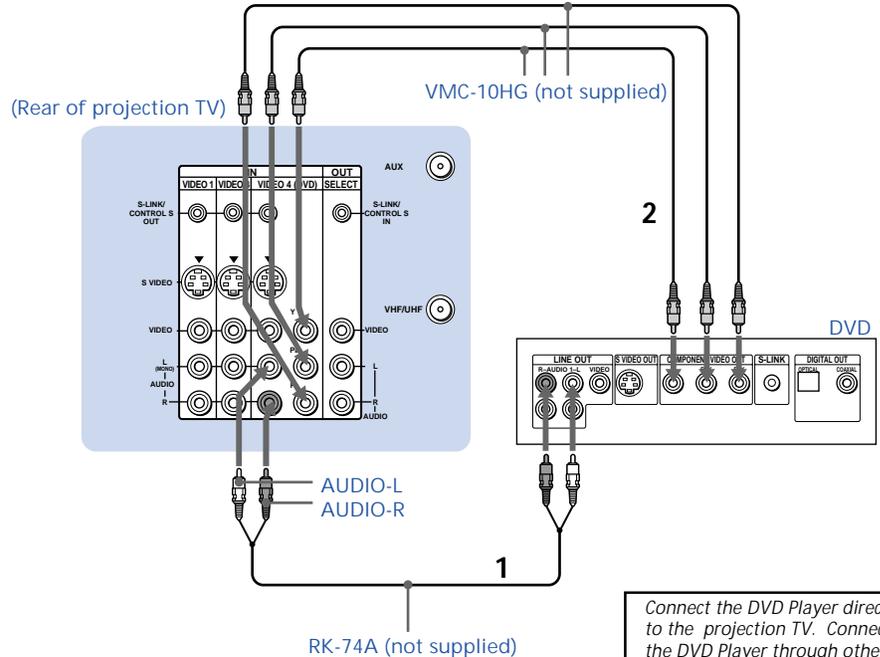
- Using an AUDIO cable, connect AUDIO R and L of LINE OUT on the DVD Player to AUDIO R and L of VIDEO 4 IN on the TV's upper panel (White-AUDIO Left, Red AUDIO Right).
- Using three yellow VIDEO cables, connect Y, P_B, and P_R of the COMPONENT VIDEO OUT on the DVD Player to Y, P_B, and P_R of VIDEO 4 IN on the TV's upper panel.

Notes:

- Some DVD Player terminals may be labeled differently. If so, connect as follows:

Connect	To
Y (green)	Y
P _B (blue)	C _B , C _b or B-Y
P _R (red)	C _R , C _r or R-Y

- Since the high quality pictures on a DVD disc contain a lot of information, picture noise may appear. In this case, adjust NR in the VIDEO menu. (see "NR" on page 48)



Installing and Connecting the Projection TV (continued)

Disconnect all power sources before making any connections.

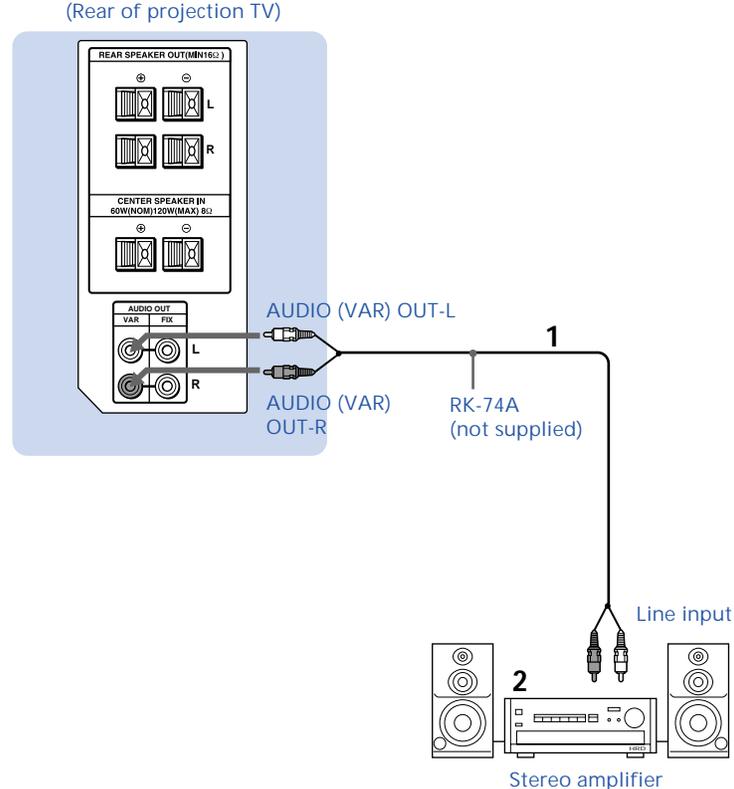
Connecting an audio system

For more dynamic sound, connect an audio system to the projection TV.

- 1 Using an AUDIO cable, connect AUDIO (VAR) OUT on the TV's upper panel to one of the unused Line inputs (e.g. Tape-2, AUX1, etc.) on the stereo (White-AUDIO Left, Red-AUDIO Right).
- 2 Set the stereo to the chosen Line input and use the AUDIO menu to switch the TV's speakers off. (see "SPEAKER" on page 49)

Note:

- You can adjust VOLUME, BASS, TREBLE and BALANCE through the projection TV on AUDIO (VAR) OUT only.



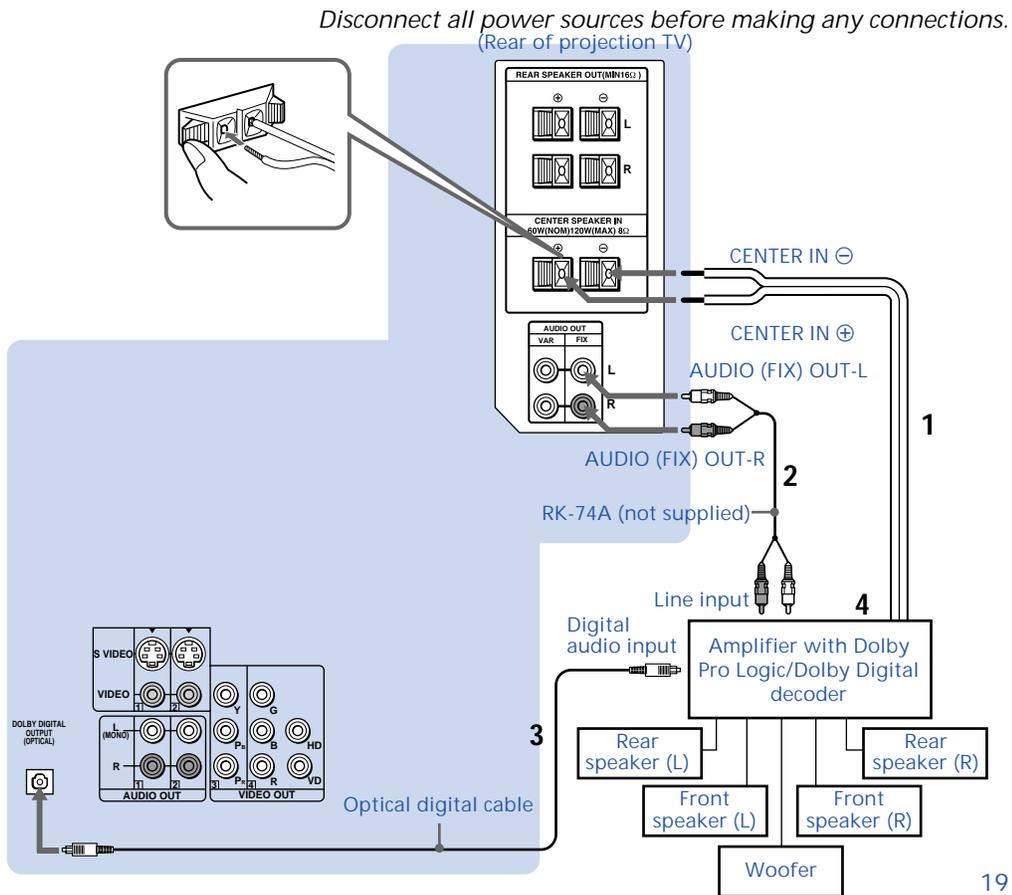
Connecting an amplifier that supports Dolby Pro Logic/Dolby Digital decoder

If you use an amplifier with a Dolby Pro Logic/Dolby Digital decoder instead of the projection TV's audio system, you can still use the projection TV's center speaker.

- 1 Using the speaker cords (supplied with the amplifier), connect the speaker terminals on the amplifier to CENTER SPEAKER IN +/- on the TV's upper panel.
- 2 Using an AUDIO cable, connect AUDIO (FIX) OUT on the TV's upper panel to one of the unused Line inputs (e.g. Tape-2, AUX1, etc.) on the amplifier (White-AUDIO Left, red-AUDIO Right).
- 3 If the amplifier is equipped with a digital audio input, connect DOLBY DIGITAL OUTPUT (OPTICAL) on the TV's lower panel to the digital audio input on the amplifier using the optical digital cable.
- 4 Set the amplifier to the chosen Line input and use the AUDIO menu to set "SPEAKER" to "CENTER IN" on the projection TV. (see "SPEAKER" on page 49)

Note:

- The Dolby Pro Logic/Dolby Digital decoder's digital audio input jacks are sometimes labeled AC-3 or DCN.



Installing and Connecting the Projection TV (continued)

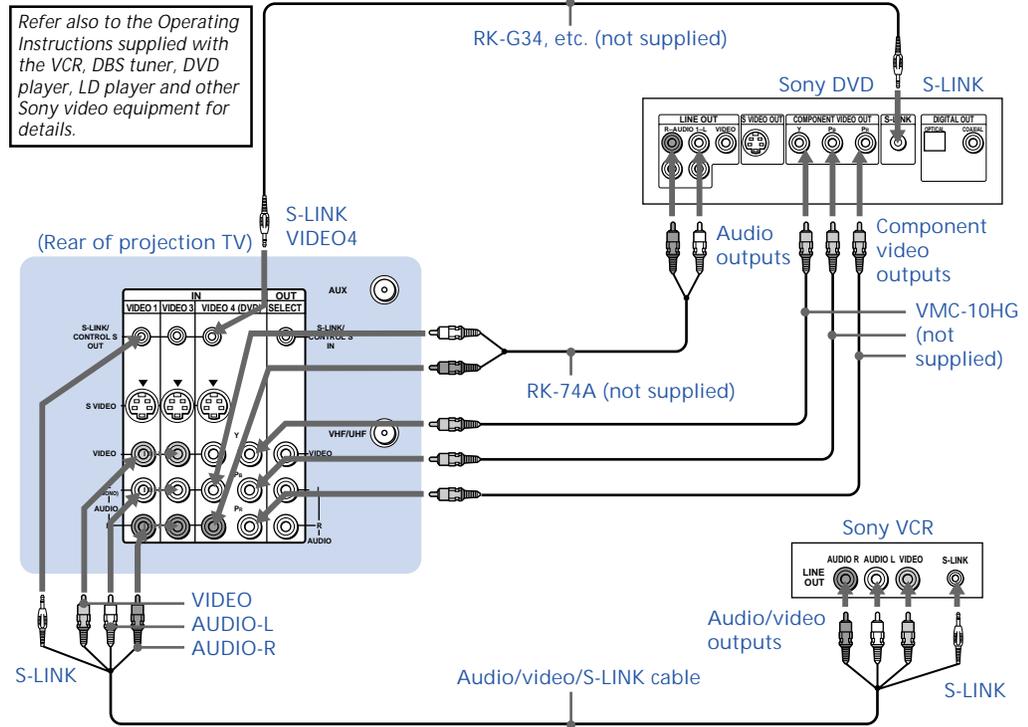
Disconnect all power sources before making any connections.

Using the S-Link/CONTROL S Function

S-Link is a Sony innovation designed to make the Sony components work together. It allows you to automatically switch the projection TV's input mode to video when you press the play button on the Sony S-Link VCR.

Using the S-Link function without a Sony AV receiver

- 1 Connect the Sony VCR (DVD). (see "Connecting an antenna/cable TV system to a VCR" on page 9 or "Connecting a DVD Player with component video output connectors" on page 16)
- 2 Using an S-LINK cable, connect the S-LINK jacks on the VCR (DVD) and the TV's upper panel. Ensure that both ends are seated firmly and that the projection TV's S-LINK jack is in the same row as the AUDIO/VIDEO cable extending from the Sony VCR (DVD).



Installing and Connecting the Projection TV (continued)

Disconnect all power sources before making any connections.

Using the CONTROL S feature

CONTROL S allows you to control the projection TV and other Sony equipment with one remote control.

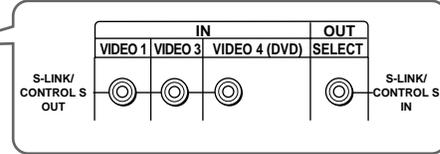
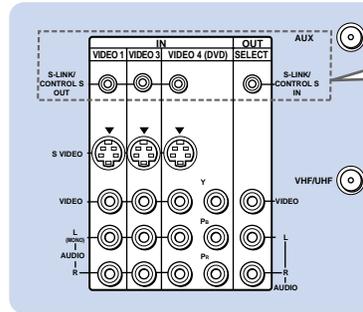
To control other Sony equipment with the projection TV's remote control, connect the CONTROL S IN jack of the equipment to the CONTROL S OUT jack on the TV's upper panel with the CONTROL S cable.

To control the projection TV with a remote control for another Sony product, connect the CONTROL S OUT jack of the equipment to the CONTROL S IN jack on the TV's upper panel with the CONTROL S cable.

About the VIDEO 5 (HD) IN jacks

The VIDEO 5 (HD) IN jacks on the TV's upper panel are designed to connect to the HDTV output jacks of the equipment which will accept the various HDTV formats (up to 1080i) scheduled to broadcast in the near future. The projection TV will be capable of connecting to a digital cable box TV decoder, HDTV digital satellite system (DSS) decoder, etc.

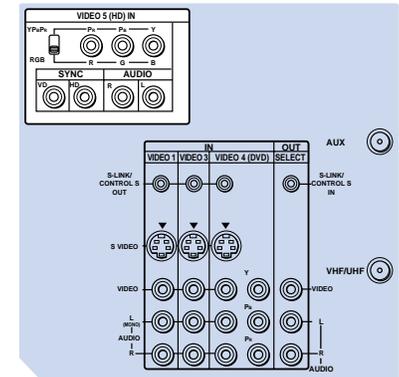
(Rear of projection TV)



WARNING!

Do not use the CONTROL S IN/OUT jacks on the TV's lower side panel. It may cause a malfunction.

(Rear of projection TV)



Before operating, set the YP_BPr/RGB select switch to YP_BPr or RGB depending on the HDTV equipment which is to be connected.

Note:

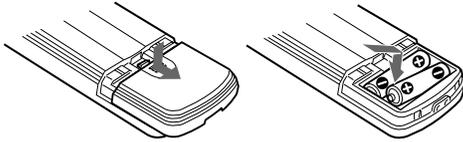
- The VIDEO 5 (HD) IN jacks are not compatible with a computer's 5BNC (R/G/B/HD/VD) video output connectors. Do not connect a computer to the VIDEO 5 (HD) IN jacks.

Basic Set Up

Using the Remote Control

Inserting the batteries

Insert two size AA (R6) batteries (supplied) by matching the + and – on the batteries to the diagram inside the remote control's battery compartment.

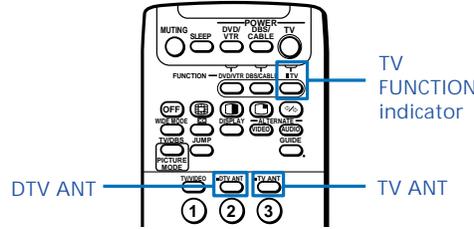


Notes:

- 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, or placing it in direct sunlight, near a heater or where the humidity is high.
- Your remote control can be programmed to operate most video equipment. (see “Operating Video Equipment” on page 72)

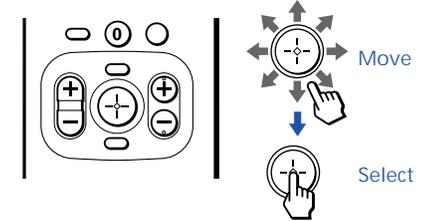
Selecting a digital TV or conventional TV program

The remote control functions both for digital TV and conventional TV features. You will need to switch the function of the remote control according to your choice for viewing either a digital TV or conventional TV program.



When you use the remote control for	Press	so that the TV FUNCTION indicator lights up in
The Digital TV	DTV ANT	green
The Conventional TV	TV ANT	red

Using the remote control joystick



The supplied remote control has a joystick which moves the on-screen selector in eight directions. In most cases, moving the joystick up, down, left or right will cause the selector to *move* in the selected direction.

In some cases, the selector may move in eight directions according to the function. Pressing down on the center of the joystick (+) will *activate* the selected item.

You may also move the joystick right to activate a selected item. (There are some exceptions to this option.)

Adjusting Sliders

When menu items present a slider (▬ or ⇐), move the joystick up, down, left or right to adjust the setting.

On Line Help/Instructions

Several menu windows will provide prompts and instructions to assist you in navigating through the different functions.

Setting Up the Projection TV Automatically

The AUTO SET UP feature will allow you to set all receivable channels.

First, perform AUTO SET UP for conventional TV programs. You can also set the on-screen language.

After AUTO SET UP is completed for conventional TV programs, Auto Program will automatically run for digital TV programs. Later, verify the Language and Time Zone settings in your DTV Setup Menu. (for details, see pages 34 and 35)

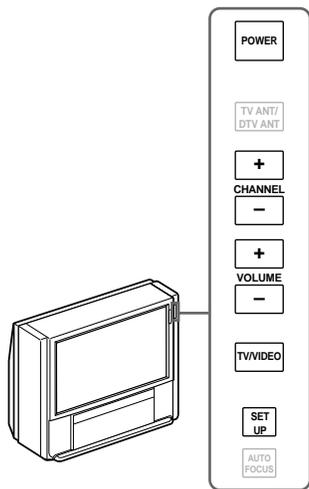
The AUTO SET UP feature does not apply for installations that use a cable box for all channel selection.

You can also set up the projection TV manually. (see “Channel Setup” on page 33 for digital TV channels, or “Using the CHANNEL SET UP Menu” on page 54 for conventional TV channels)

Notes:

- Perform this function during the day, with the antenna and/or cable properly connected, to ensure that all available channels will be broadcasting and receivable.
- Before you perform AUTO SET UP for conventional TV programs, make sure that the input from ANT (not AUX) is selected by pressing TV ANT until “AUX” does not appear next to the channel number.
- When you perform AUTO SET UP for conventional TV programs, your CHANNEL FIX and ON/OFF TIMER settings will be erased.
- When you perform AUTO SET UP for conventional TV programs, the settings in the VIDEO menu except for “NR,” “COLOR CORRECTION” and “DC TRANSMISSION” and all the settings in the AUDIO menu are reset to the factory settings.

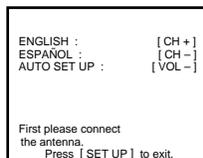
First, perform **AUTO SET UP** for conventional TV programs by using the buttons on the upper right side panel on the front of the projection TV.



- 1 Press **POWER** to turn on the projection TV.

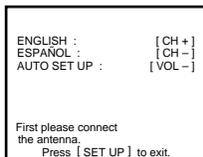
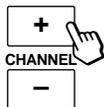


- 2 Press **SET UP** to display the **AUTO SET UP** screen for conventional TV programs.

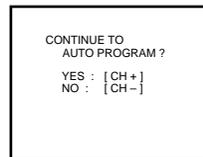


- 3 Press **CHANNEL +** to select English, **CHANNEL -** to select Spanish.

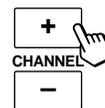
The screen will change to reflect your choice.



- 4 Press **VOLUME -** to select “**AUTO SET UP**.”



- 5 Press **CHANNEL +** to preset conventional TV channels automatically.



“**AUTO PROGRAM**” appears and the projection TV starts scanning and presetting conventional TV channels automatically. While scanning, the received conventional TV channel will be displayed on the sub screen. When all the receivable channels are stored, the lowest conventional TV channel number will be displayed.

(continued)

Basic Set Up (continued)

After *AUTO SET UP* for conventional TV programs has been completed, *Auto Program* for digital TV begins.

“Auto Program in Progress...” is displayed as the projection TV scans and presets available digital TV programs. When all the receivable channels are stored, the lowest digital channel number will be displayed.



6 Press DTV ANT on the remote control so that the TV FUNCTION indicator lights up in green momentarily.

The remote control functions for digital TV programs.



7 Verify the Language and Time Zone settings in your DTV Setup Menu. (for details, see pages 34 and 35)

To perform AUTO SET UP again

Perform as described in steps 2-7 on pages 25 and 26.

Press SET UP again to exit.

Note:

- If there are no DTV channels saved in channel memory (no DTV channels found during “Auto Program” or “DTV Auto Add”), the DTV Program Guide cannot be accessed. Similarly, the “Name & Logo” and “Skip/Add” features in the Setup Menu cannot be accessed.

Adjusting the Convergence Automatically (AUTO FOCUS)

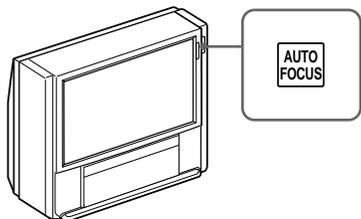
The projection tube image appears on the screen in three layers (red, green and blue). If they do not converge, the color is poor and the picture blurs.

Before you use your projection TV, be sure to adjust the convergence.

The AUTO FOCUS feature allows you to adjust the convergence automatically.



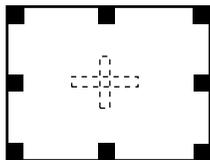
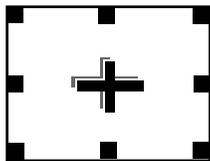
- It is recommended to perform AUTO FOCUS about 30 minutes after the projection TV is first turned on.



Press AUTO FOCUS.



The cross pattern appears and AUTO FOCUS begins to work. The adjustment is completed when the cross pattern becomes white.



To obtain an optimum convergence

The optimum convergence alignment varies with broadcasts in each wide screen mode (see page 30 for DTV programs, and page 39 for conventional TV programs). It also varies with broadcast formats for DTV programs.

Whenever you find that the picture blurs, press AUTO FOCUS.

Note:

- You cannot perform any other functions until AUTO FOCUS has completed its cycle.

Watching Digital TV

Many digital TV features can be accessed directly through the remote control. The following chart will explain the function of some buttons found on your remote control.

To use the remote control for digital TV programs

First, press DTV ANT on the remote control so that the TV FUNCTION indicator on the remote control lights up in green momentarily.

The remote control functions for digital TV programs.

At the same time the DTV indicator on the front of the projection TV lights up in green.



Make sure that the TV FUNCTION indicator lights up in green each time you press the buttons marked with an asterisk (*) that are listed in the tables.

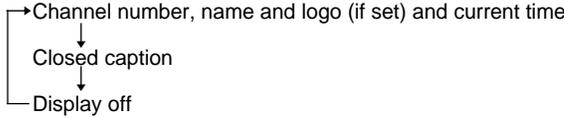


REFER TO THE ILLUSTRATION OF THE REMOTE CONTROL ON THE INSIDE FRONT COVER OF THIS MANUAL AS YOU REVIEW THIS CHART

Using the White Labeled Buttons for Projection TV Operations	
TV (FUNCTION)	Activates the remote control for use with the projection TV.
■ DTV ANT*	Activates the remote control for use with digital TV programs.
TV POWER	Turns the projection TV on and off. If a video input indication (e.g. VIDEO 1, VIDEO 2) appears on the screen, press TV/VIDEO until a channel number appears.
0-9*, .*	Use for direct digital channel selection. Digital channels are indicated by the use of a dot in the channel number. For example, to select subchannel 3 in main channel 10 (channel number 10.3), press 1, 0, • (dot), 3 and ENTER*
GUIDE*	Press to display the Program Guide. (see "Using Program Guide to Select Subchannels" on page 31)
CH +/-*	Press to scan through the channels (+ up or – down).
VOL +/-	Press to adjust the volume (+ up or – down).
JUMP*	Press to alternate or <i>jump</i> back and forth between two digital channels. The projection TV will jump between the current channel and the last channel selected using the 0–9 and • (dot) buttons, CH+/- buttons or Program Guide.

(continued)

Using the White Labeled Buttons for Projection TV Operations

WIDE MODE	Press to watch 4:3 normal broadcasts in wide screen mode (16:9 aspect ratio). (see "Using the Wide Screen Mode" on page 30)
MUTING	Press to mute the sound. "MUTING" will appear on the screen and will dim three seconds later. To restore sound, press again or press VOL +.
SLEEP	Press repeatedly until the projection TV displays the approximate time in minutes (30, 60 or 90) that you want the projection TV to remain on before shutting off automatically. Cancel by pressing until "SLEEP OFF" appears.
DISPLAY*	Each press scrolls through the following indications: 
TV/VIDEO	Press repeatedly to scroll through available video inputs: TV, VIDEO 1, VIDEO 2, VIDEO 3, VIDEO 4 and VIDEO 5.

Tip

You can adjust the picture and sound qualities using the VIDEO (page 47) and AUDIO (page 49) menus even when you are watching a digital TV program. Before operating the menu, press TV (FUNCTION) so that the TV FUNCTION indicator lights up in red. After finishing the menu operation, press TV (FUNCTION) again to make the TV FUNCTION indicator light up in green.



REFER TO THE ILLUSTRATION OF THE REMOTE CONTROL ON THE INSIDE FRONT COVER OF THIS MANUAL AS YOU REVIEW THIS CHART

PICTURE MODE

Press PICTURE MODE repeatedly to directly choose one of five different video modes that best suits the program you are watching. You can also adjust the picture quality (such as BRIGHTNESS, COLOR, etc.) for each mode to suit your taste.

First select each MODE individually before adjusting the picture quality.

VIVID: Select for enhanced picture contrast and sharpness.

STANDARD: Select to display a standard picture for normal viewing environments.

MOVIE: Select to display a finely detailed picture for low light environments.

GAME: Select to display graphics such as a video game.

PRO (Professional): Select to display a picture with minimum enhancements.

For details, see "MODE" on page 47.

Using Digital TV Features (continued)

Using the Wide Screen Mode

The wide screen mode feature lets you watch 4:3 normal broadcasts in wide screen mode (16:9 aspect ratio).

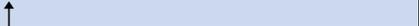
Press WIDE MODE on the remote control.

WIDE MODE



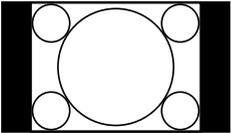
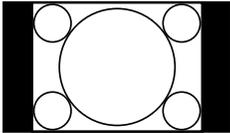
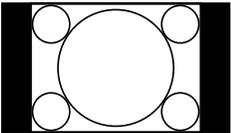
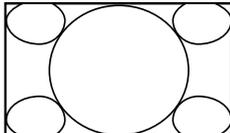
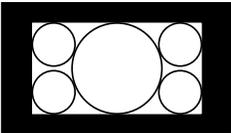
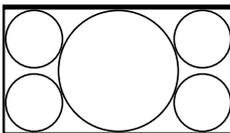
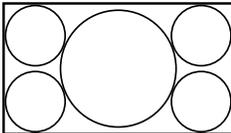
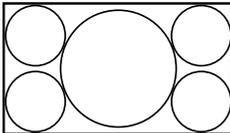
Each press scrolls through the following modes:

NORMAL → WIDE ZOOM → ZOOM → FULL



Notes:

- If you watch a 4:3 aspect ratio picture in NORMAL mode for long periods of time, the black bands on both sides of the picture may be permanently imprinted onto the screen. We recommend that you watch 4:3 pictures in WIDE ZOOM mode.
- The AUTO WIDE feature lets you select the most suitable mode automatically for a picture containing an aspect ratio signal. (see "AUTO WIDE" on page 53)
- For ZOOM and WIDE ZOOM modes you can adjust the vertical position of the picture. (see "V CENTER" on page 53)

To watch the original broadcasting screen sizes shown below	Press WIDE MODE to select the altered screen sizes shown below
DTV 4:3 aspect ratio picture 	NORMAL Select to return the 4:3 picture to normal mode. 
DTV 4:3 aspect ratio picture 	WIDE ZOOM Select to enlarge the 4:3 picture, while the upper and lower parts of the picture are condensed to fit the 16:9 screen. 
Letter box movie 	ZOOM Select to enlarge the 4:3 picture horizontally and vertically to an equal aspect ratio that fills the 16:9 screen. 
DTV 16:9 aspect ratio picture 	FULL No change (DTV 16:9 aspect ratio picture is always displayed in FULL mode.) 

Using the Program Guide to Select Subchannels

The Program Guide lets you select subchannels from an on-screen list. Subchannels are additional channels of programming that are broadcast simultaneously by a single network. For example, channel 2, a main channel, might include four subchannels (2.1, 2.2, 2.3 and 2.4) that are showing programs at the same time.

1 Press GUIDE.

If the projection TV is tuned to a DTV channel, the program guide appears. The currently selected subchannel is highlighted.

GUIDE



CH 2.2	
30 PBS	.1 Drew Carey
2 ABC	2 ABC movie
3 CBS	.3 News @ 8:00
5 FOX	.4 Ellen
16 UPN	
20 WB	
25 NBC	

Channels that include subchannels include a dot, followed by the number of the subchannel, such as "2.1," etc.

To check the channel number, press DISPLAY.

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

2 Move the joystick left to select the main channel list.



CH 2.2	
30 PBS	.1 Drew Carey
2 ABC	2 ABC movie
3 CBS	.3 News @ 8:00
5 FOX	.4 Ellen
16 UPN	
20 WB	
25 NBC	

3 Move the joystick up or down to select the desired main channel number. The tuning indicator appears. When the selected main channel is tuned in, all of the subchannels are listed. The first subchannel is highlighted and its program information appears at the top of the screen.



CH 5.1	
3 CBS	
5 FOX	.1 The X-files
16 UPN	.2 Party of five
20 WB	.3 Ally Mc Beal
25 NBC	.4 Simpsons
30 PBS	
2 ABC	

4 Move the joystick up or down to select the desired subchannel, and press GUIDE.

The program guide will disappear.

To clear the program guide without changing channels

Press GUIDE.

Note:

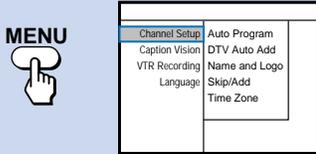
- If there are no DTV channels saved in channel memory (no DTV channels found during "Auto Program" or "DTV Auto Add"), the DTV Program Guide cannot be accessed.

Using Digital TV Features (continued)

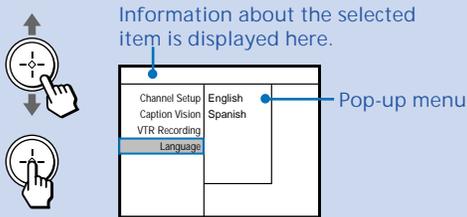
Learning Setup Menu Selection

Use the MENU button to access the setup menu and use the joystick to alter settings. Use the following example to learn how to modify settings.

- 1 Press the MENU button.
The setup menu appears.

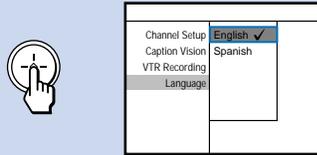


- 2 Move the joystick up or down to select the desired setup item.



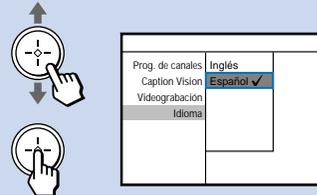
Options for your selection (pop-up menu on the right) will be displayed.

- 3 Press \oplus (press down on the center of the joystick) to activate the selected item.
The currently selected option is highlighted and marked with a check mark (\checkmark).



You may also move the joystick right to activate a selection.

- 4 Move the joystick up or down to select the desired option, and press \oplus .
The selected option is highlighted and marked with a check mark. The current selection is displayed at the top of the on-screen menu.



Some options may require further operations.

For details, see each menu option.

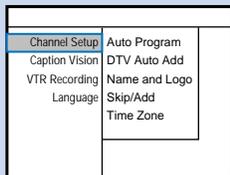
- 5 Once you have completed all menu settings, press MENU to exit the menu screens.



You may also move the joystick left to return to the previous screen.

To exit from the menus at any time Press MENU.

Using the Setup Menu



For detailed information on using the remote control to modify menu settings, refer to “Learning Setup Menu Selection” on page 32.

Note:

- If there are no DTV channels saved in channel memory (no DTV channels found during “Auto Program” or “DTV Auto Add”), the “Name & Logo” and “Skip/Add” features in the Setup Menu cannot be accessed.

Channel Setup

Basic channel and display options

Auto Program: Select to scan and preset digital channels automatically. Before “Auto Program” process, a dialog box pops up with the message “Are you sure you want to clear your existing channel list?” Move the joystick left or right to select OK, and press \oplus to activate “Auto Program.” A tuning indicator appears and the projection TV starts scanning and presetting digital channels automatically. When all the receivable channels are stored, the lowest channel is displayed and the tuning indicator disappears.

Note:

- If you currently have a list of programmed channels, or “Name and Logo” or “Skip/Add” setting, they will be erased when you perform “Auto Program.”

DTV Auto Add: Select to preset additional digital channels as they become available without erasing original channels (after you use Auto Program). During the “DTV Auto Add” process, a tuning indicator appears and the projection TV starts scanning and adding new digital channels. When scanning is complete, the indicator disappears and the current channel re-appears.

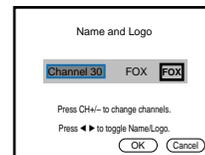
Name and Logo: Select to add or change the station name and logo.

When selected, a dialog box pops up.

- 1 Press CH +/- to select the desired channel.
- 2 Move the joystick left or right to select the station name and the corresponding logo.
- 3 Move the joystick up or down—and then left or right—to select OK, and press \oplus .

To clear the dialog box without changing the name and logo for the current channel, move the joystick up or down—and then left or right—to select “Cancel,” and press \oplus .

Dialog box



(continued)

Using Digital TV Features (continued)

Channel Setup

Basic channel and display options

Skip/Add: Select to erase or add channels from/to your channel list.

When selected, a dialog box pops up.

- 1 Press CH +/- to select the desired channel.
- 2 Move the joystick left or right to select **Skip** to erase a channel, or select **Add** to add a channel.
- 3 Move the joystick up or down—and then left or right—to select OK, and press \oplus .

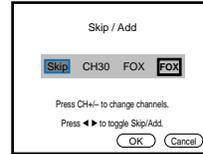
To clear the dialog box without erasing/adding a channel, move the joystick up or down—and then left or right—to select “Cancel” and press \oplus .

Time Zone: Digital channels include time signals based on the time zone. Select to choose a time zone for your area.

When selected, the time zone dialog box pops up.

- 1 Move the joystick up, down, left or right to choose your time zone.
A check mark will be given to your selection.
- 2 Move the joystick left or right to select OK, and press \oplus .

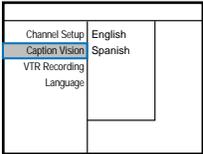
Dialog box



Dialog box



(continued)

<p>Caption Vision <i>Television closed caption display</i></p>	<p>Some programs are broadcast with Caption Vision (closed caption). To display closed caption</p> <ol style="list-style-type: none"> 1 Select your language (English or Spanish) and then press \oplus on the remote control. 2 Press DISPLAY until the Caption Vision appears. 
<p>VTR Recording <i>Available for VCR recording</i></p>	<p>Normally, set to Off. Select On to record a digital program on a VCR</p> <p>Notes:</p> <ul style="list-style-type: none"> • Since digital VCRs are not available at this time, you must set "VTR Recording" to On before recording a digital TV program. This feature converts the digital program to a standard broadcast for recording purposes. Once you have finished recording your digital program, you will need to turn this feature Off. • Do not press the GUIDE, MENU or DISPLAY button on the remote control while recording a digital program, otherwise the on-screen display information will also be recorded.
<p>Language <i>User's preferred language</i></p>	<p>Select from available languages (English or Spanish) to display the DTV Setup menus in your language of choice.</p>

Using Conventional TV Features

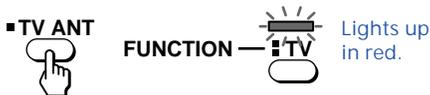
Watching Conventional TV

Many Conventional TV features can be accessed directly through the remote control. The following chart will explain the function of some buttons found on your remote control.

To use the remote control for conventional TV programs (VHF/ UHF and AUX inputs)

First, press TV ANT on the remote control so that the TV FUNCTION indicator on the remote control lights up in red momentarily.

The remote control functions for conventional TV programs.



Make sure that the TV FUNCTION indicator lights up in red each time you press the buttons listed in the tables.



REFER TO THE ILLUSTRATION OF THE REMOTE CONTROL ON THE INSIDE FRONT COVER OF THIS MANUAL AS YOU REVIEW THIS CHART

Using the White Labeled Buttons for Projection TV Operations	
TV (FUNCTION)	Activates the remote control for use with the projection TV.
■ TV ANT (AUX input)	Press once to activate the remote control for use with conventional TV programs. Next, each further press changes operation between the VHF/ UHF input and the AUX input. (for detailed connection information, see "Cable and antenna" on page 7 or "Cable box and cable" on page 8)
TV POWER	Turns the projection TV on and off. If a video input indication (e.g., VIDEO 1, VIDEO 2) appears on the screen, press TV/VIDEO until a channel number appears.
⓪ - ⑨ and ENTER	Use for direct conventional TV channel selection. Press 0-9 to select a channel (for example, to select channel 10, press 1 and 0). The channel will change after 2 seconds, or you can press ENTER for immediate selection.
CH +/-	Press to scan through the channels (+ up or - down).
VOL +/-	Press to adjust the volume (+ up or - down).

(continued)

Using the White Labeled Buttons for Projection TV Operations

JUMP	Press to alternate or <i>jump</i> back and forth between two conventional TV channels. The projection TV will jump between the current channel and the last channel selected using the 0-9 buttons.
WIDE MODE <i>(Wide screen mode)</i>	Press to watch 4:3 normal broadcasts in wide screen mode (16:9 aspect ratio). (see "Using the Wide Screen Mode" on page 39)
MUTING	Press to mute the sound. "MUTING" will appear on the screen and will dim three seconds later. To restore sound, press again or press VOL +.
FREEZE <i>(yellow labeled button)</i>	This is useful when you need to copy down information that appears on the TV's screen. Press to <i>freeze</i> the picture. Press again or press OFF to cancel. If you select TWIN as a FREEZE MODE in the SET UP menu, you can freeze the desired scene and display it on the left while viewing the normal picture on the right. (see "FREEZE MODE" on page 63) Note: If the frozen picture mode is not canceled for more than an hour, the normal picture is resumed automatically.
SLEEP	Press repeatedly until the projection TV displays the approximate time in minutes (30, 60, or 90) that you want the projection TV to remain on before shutting off automatically. Cancel by pressing until "SLEEP OFF" appears.
DISPLAY	Press to display the channel number, current time, channel caption (if set), and MTS mode (if SAP is selected). The SAP indication disappears and the other indications dim three seconds later. To turn the display off, press DISPLAY again.

(continued)

PICTURE MODE

Press PICTURE MODE repeatedly to directly choose one of five different video modes that best suits the program you are watching.

You can also adjust the picture quality (such as BRIGHTNESS, COLOR, etc.) for each mode to suit your taste.

First select each MODE individually before adjusting the picture quality.

VIVID: Select for enhanced picture contrast and sharpness.

STANDARD: Select to display a standard picture for normal viewing environments.

MOVIE: Select to display a finely detailed picture for low light environments.

GAME: Select to display graphics such as a video game.

PRO (Professional): Select to display a picture with minimum enhancements.

For details, see "MODE" on page 47.

Using Conventional TV Features (continued)

Using the White Labeled Buttons for Projection TV Operations

CC	<p>Press repeatedly to scroll through available displays:</p> <p>Caption Vision Displayed on the screen if the broadcaster offers this service. (see "CAPTION VISION" on page 59)</p> <p>XDS (Extended Data Service) Displays a network name, program name, program type, program length, program description, call letters and time of the show if the broadcaster offers this service.</p> <p>No display "OFF" appears and the display is canceled.</p>
TV/VIDEO	<p>Press repeatedly to scroll through available video inputs:</p> <p>TV, VIDEO 1, VIDEO 2, VIDEO 3, VIDEO 4 and VIDEO 5</p> <p>If you select SKIP as a VIDEO LABEL in the SET UP menu, your projection TV will skip the video input you selected. (see "VIDEO LABEL" on page 61)</p>
MTS	<p>Press to scroll through the Multi-channel TV Sound (MTS) options. (see "MTS" on page 49)</p>



REFER TO THE
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REMOTE CONTROL ON THE
INSIDE FRONT COVER OF
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Note:

- The GUIDE button does not function for conventional TV programs.

Using the Wide Screen Mode

The wide screen mode feature lets you watch 4:3 normal broadcasts in wide screen mode (16:9 aspect ratio).

Press WIDE MODE on the remote control.

WIDE MODE



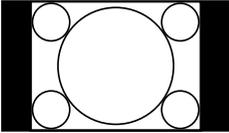
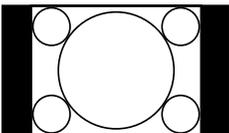
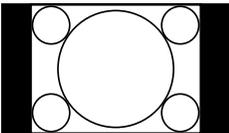
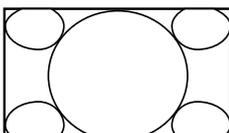
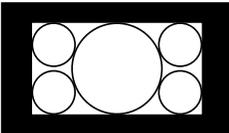
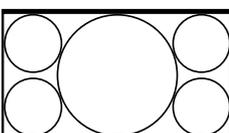
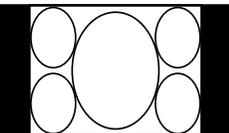
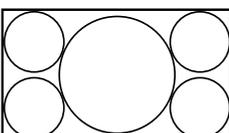
Each press scrolls through the following modes:

NORMAL → WIDE ZOOM → ZOOM → FULL



Notes:

- If you watch a 4:3 aspect ratio picture in NORMAL mode for long periods of time, the black bands on both sides of the picture may be permanently imprinted onto the screen. We recommend that you watch 4:3 pictures in WIDE ZOOM mode.
- The AUTO WIDE feature lets you select the most suitable mode automatically for a picture containing an aspect ratio signal. (see “AUTO WIDE” on page 53)
- For ZOOM and WIDE ZOOM modes you can adjust the vertical position of the picture. (see “V CENTER” on page 53)

To watch the original broadcasting screen sizes shown below	Press WIDE MODE to select the altered screen sizes shown below
<p>Normal 4:3 aspect ratio picture</p> 	<p>NORMAL Select to return the 4:3 picture to normal mode.</p> 
<p>Normal 4:3 aspect ratio picture</p> 	<p>WIDE ZOOM Select to enlarge the 4:3 picture, while the upper and lower parts of the picture are condensed to fit the 16:9 screen.</p> 
<p>Letter box movie of a video tape or a DVD disc</p> 	<p>ZOOM Select to enlarge the 4:3 picture horizontally and vertically to an equal aspect ratio that fills the 16:9 screen.</p> 
<p>4:3 squeezed video camera or DVD picture</p> 	<p>FULL Select to enlarge the 4:3 picture horizontally only, to fill the 16:9 screen.</p> 

Using Conventional TV Features (continued)

Watching Two Programs at One Time — PIP

The Picture-in-Picture (PIP) feature allows you to view two channels simultaneously, one in the full size “main” picture and one in a smaller “window” picture.

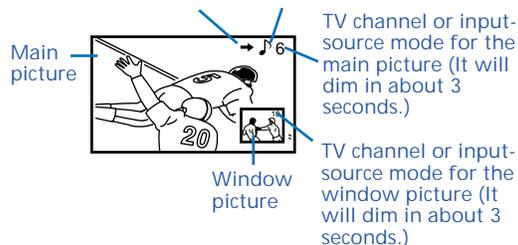
You can move the window picture to any location on the screen.

Note:

- The PIP feature is not available for the inputs from VIDEO 5 IN and for digital TV programs.

The symbol “➔” or “➜” indicates which picture’s TV channel or input source can be changed.

The symbol “♪” indicates which picture’s sound is being received.



Tip 

If you press **RESET** in PIP mode, the window picture will move to the bottom right (factory-preset location).

Using the Yellow Labeled Buttons for PIP Operations

	<p>Press to display a window picture.</p> <p>Each time you press this button, the picture size will change (1/4 → 1/9 → 1/16).</p> <p>Press OFF to close the window picture.</p>
<p>POSITION</p> 	<p>Press to change the location of the window picture (counterclockwise) around the main picture.</p>
<p>ACTIVE</p> 	<p>Press to select either the main or window picture in order to change the TV channel or video source using the white labeled buttons below. The symbol “➔” (or “➜”) will appear to indicate which picture’s channel or input mode can be changed.</p>
 <p>(white labeled button)</p>	<p>To change the location of the window picture, move the joystick in any direction and release it when the picture is in the desired location.</p>
<p>TV/VIDEO</p>  <p>(white labeled button)</p>	<p>Press repeatedly to scroll through the available video inputs for the picture on which the symbol “➔” (or “➜”) is displayed. (see “TV/VIDEO” on page 38)</p>

(continued)

Using the Yellow Labeled Buttons for PIP Operations

<p>CH  or 0-9 or JUMP and ENTER <i>(white labeled button)</i></p>	<p>Press to select the TV channel on which the symbol "➤" (or "➤") is displayed. (for details, see "Watching Conventional TV" on page 36)</p>
<p>TV ANT  <i>(white labeled button)</i></p>	<p>Press to change between the VHF/UHF input and the AUX input for the picture on which the symbol "➤" (or "➤") is displayed.</p>
<p>AUDIO </p>	<p>Press to alternate sound between the main picture and the window picture. The symbol "♪" will appear for a few seconds to indicate which picture's sound is being received.</p>
<p>FREEZE </p>	<p>This is useful when you need to copy down information that appears on the TV's screen. Press to freeze the main and window pictures. Press again to resume PIP viewing. Press OFF to cancel and resume normal TV viewing.</p>
<p>SWAP </p>	<p>Press to switch the audio and video of the main picture and the window picture. Each time you press SWAP, the picture and sound of the two will be exchanged.</p>
<p></p>	<p>Press to access CHANNEL INDEX for direct channel selection. (see "Using CHANNEL INDEX" on page 44)</p>
<p>OFF </p>	<p>Press to cancel the PIP function and return to normal viewing.</p>



REFER TO THE ILLUSTRATION OF THE REMOTE CONTROL ON THE INSIDE FRONT COVER OF THIS MANUAL AS YOU REVIEW THIS CHART

Notes:

- If one of the pictures received through PIP is snowy, the entire screen may become unstable. In this case, erase the snowy channel. (see "CHANNEL SKIP" on page 54)
- You can change the wide screen mode of the main picture only. The mode is not available for the window picture.
- The 16:9 aspect ratio picture with ID-1 or S1 is always displayed in FULL mode, even when it is shown as the window picture.

Using Conventional TV Features (continued)

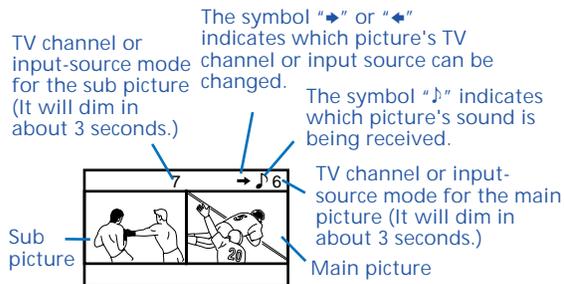
Watching Two Programs at One Time — P&P (Twin View™)

The Picture-and-Picture (P&P) feature allows you to view two channels simultaneously, both in a reduced size screen. The main picture will appear on the right.

You can change the size of both pictures to suit your personal preference.

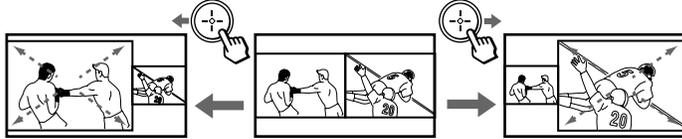
Note:

- The P&P feature is not available for the inputs from VIDEO 5 IN and for digital TV programs.



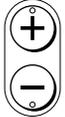
Tip

If you press RESET in P&P mode, the right and left pictures will be reset to the same size (factory-preset size.)

Using the Yellow Labeled Buttons for P&P Operations	
	Press to display right (main) and left pictures. Press OFF to close the sub picture.
 <i>(white labeled button)</i>	Move the joystick right to zoom in on the right picture, and left to zoom in on the left picture. Release at the desired size. The other picture will be zoomed out simultaneously. 
ACTIVE 	Press to select either the right or left picture in order to change the TV channel or video source using the white labeled buttons below. The symbol "→" (or "←") will appear to indicate which picture's channel or input mode can be changed.
TV/VIDEO  <i>(white labeled button)</i>	Press repeatedly to scroll through the available video inputs for the picture on which the symbol "→" (or "←") is displayed. (see "TV/VIDEO" on page 38)

(continued)

Using the Yellow Labeled Buttons for P&P Operations

<p>CH</p>  <p>or 0-9 or JUMP and ENTER</p> <p><i>(white labeled button)</i></p>	<p>Press to select the TV channel on which the symbol "➡" (or "⬅") is displayed. (for details, see "Watching Conventional TV" on page 36)</p>
<p>TV ANT</p>  <p><i>(white labeled button)</i></p>	<p>Press to change between the VHF/UHF input and the AUX input for the picture on which the symbol "➡" (or "⬅") is displayed.</p>
<p>AUDIO</p> 	<p>Press to alternate sound between the right and left pictures. The symbol "♪" will appear for a few seconds to indicate which picture's sound is being received.</p>
<p>FREEZE</p> 	<p>This is useful when you need to copy down information that appears on the TV's screen.</p> <p>Press to freeze both the right and left pictures.</p> <p>Press again to resume P&P viewing or press OFF to cancel and resume normal TV viewing.</p>
<p>SWAP</p> 	<p>Press to switch the audio and video of the right and left pictures.</p> <p>Each time you press SWAP, the picture and sound of the two will be exchanged.</p>
<p>OFF</p> 	<p>Press to cancel the P&P function and return to normal viewing.</p>



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Notes:

- If one of the pictures received through P&P is snowy, the entire screen may become unstable. In this case, erase the snowy channel. (see "CHANNEL SKIP" on page 54)
- The right and left pictures (except for the 16:9 aspect ratio signals with ID-1 or S1) are always displayed in an aspect ratio of 4:3. The WIDE MODE button on the remote control does not function with the P&P mode.
- HD programs are always displayed in an aspect ratio of 16:9.

Using Conventional TV Features (continued)

Using CHANNEL INDEX

You can use the CHANNEL INDEX feature to display multiple channels and select one directly.

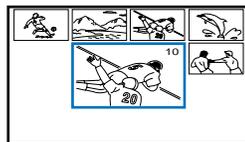
Channels used for CHANNEL INDEX will come directly from the TV's list of receivable channels (those set during AUTO PROGRAM or through the CHANNEL SET UP menu).

Note:

- The CHANNEL INDEX feature is not available for the inputs from VIDEO 5 IN and for digital TV programs.

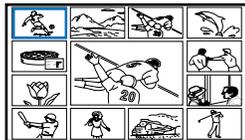
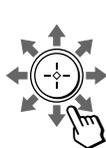
1 Press .

The current channel will be reduced in size and displayed in the center of the screen in normal motion picture format in FULL wide screen mode. The first twelve receivable channels, displayed in FULL wide screen mode, will appear one after another, clockwise, around the center picture. These small pictures are updated in intervals of one second. The channel number and channel caption (if set) on the second and later appearances will dim.



A cyan-colored frame will appear to indicate current channel selection.

2 Move the joystick in any direction to move the cyan frame to the picture that you wish to view, and press .



The selected channel will zoom in and move to the center, and the sound of that channel will be heard.



3 If you wish to view another channel, repeat step 2.

To view the normal picture of the selected channel, proceed to step 4.

4 Press .

The center picture will be enlarged for normal viewing.

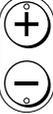


Notes:

- You cannot move the cyan frame until all of the surrounding pictures appear.
- The projection TV will continually update each of the surrounding pictures while the CHANNEL INDEX screen is displayed.
- Sound will only be heard from the center picture.
- If one of the pictures received through CHANNEL INDEX is snowy, the entire screen may become unstable. In this case, erase the snowy channel. (see "CHANNEL SKIP" on page 54)
- If you leave the CHANNEL INDEX screen displayed for an hour without any additional operation, CHANNEL INDEX is canceled and the normal picture reappears.



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Using the Yellow Labeled Buttons for CHANNEL INDEX Operations	
	Press to display the next twelve receivable channels.
	Press to cancel the current operation and return to normal TV viewing.
FREEZE 	Press to freeze the center picture. Press again to cancel the frozen picture and resume normal center picture viewing.
Using the White Labeled Buttons for Center Picture Operations	
TV/VIDEO 	Press to scroll the center picture through the video inputs. The surrounding channels will not change.
TV ANT 	Press to switch the center picture between the VHF/UHF input and the AUX input.
CH  or 0-9 or JUMP and ENTER	Press to select a channel for the center picture. (for details, see "Watching Conventional TV" on page 36)

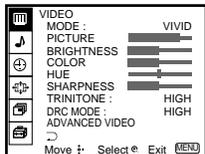
Using Conventional TV Features (continued)

Learning Menu Selection

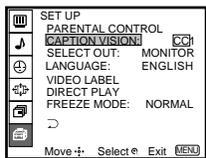
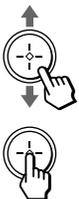
Use the MENU button to access a menu and use the joystick to alter the settings. Use the following example to learn how to modify settings.

- 1 Press the MENU button.

The main menu appears.

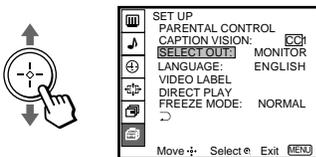


- 2 Move the joystick up or down to highlight the desired menu and press \oplus (press down on the center of the joystick) to activate it.



You may also move the joystick right to activate your selection.

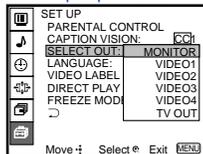
- 3 Move the joystick up or down to highlight the desired option.



- 4 Press \oplus (press down on the center of the joystick).

Options for your selection (Pop-up menu or Adjusting menu) will be displayed.

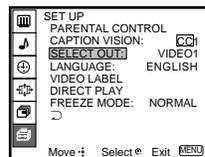
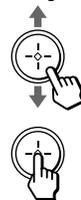
Pop-up menu



Adjusting menu



- 5 Move the joystick up or down to make your selection and press \oplus to activate it. The previous screen will reappear.



Some adjustment menus may require further operations. For details, see each menu option.

To return to the previous screen (except for the slider adjustment menus), choose \curvearrowright at the bottom of the menu and press \oplus or move the joystick left.

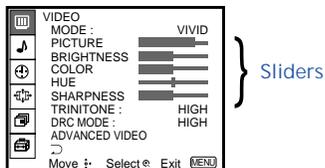
- 6 Once you have completed all menu corrections, press MENU to exit the menu screens.



To exit from the menus at any time

Press MENU.

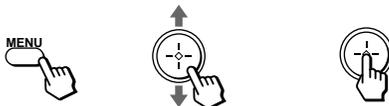
Using the VIDEO Menu



For detailed information on using the remote control to modify menu settings, refer to “Learning Menu Selection” on page 46.

To select the VIDEO menu:

Display → Highlight → Select



While in the VIDEO menu, move the joystick down to scroll down to ADVANCED VIDEO to adjust additional items, “DYNAMIC PICTURE,” “NR,” “COLOR CORRECTION” and “DC TRANSMISSION.” (see page 48)

To restore the factory settings Press RESET on the remote control while the VIDEO menu is selected. To restore each MODE to the factory setting, press RESET after selecting the mode to be reset.

MODE <i>Customized picture viewing</i>	You can choose one of five different video modes that best suits the program you are watching. You can also adjust the picture quality (such as BRIGHTNESS, COLOR, etc.) for each mode to suit your taste. First select each MODE individually before adjusting the picture quality. VIVID: Select for enhanced picture contrast and sharpness. STANDARD: Select to display a standard picture for normal viewing environments. MOVIE: Select to display a finely detailed picture for low light environments. GAME: Select to display graphics such as a video game. PRO (Professional): Select to display a picture with minimum enhancements. Press PICTURE MODE on the remote control for direct selection of a MODE setting.
PICTURE <i>Picture Adjustment</i>	Adjust slider right (up) to increase picture contrast. Adjust slider left (down) to decrease picture contrast.
BRIGHTNESS <i>Picture Adjustment</i>	Adjust slider right (up) to brighten the picture. Adjust slider left (down) to darken the picture.
COLOR <i>Picture Adjustment</i>	Adjust slider right (up) to increase color intensity. Adjust slider left (down) to decrease color intensity.
HUE <i>Picture Adjustment</i>	Adjust slider right (up) to increase the green tones. Adjust slider left (down) to increase the red tones.
SHARPNESS <i>Picture Adjustment</i>	Adjust slider right (up) to sharpen the picture. Adjust slider left (down) to soften the picture.
TRINITONE <i>White Intensity Adjustment</i>	HIGH: Select to give the white colors a blueish tint. MEDIUM: Select to give the white colors a neutral tint. NTSC STD: Select to give the white colors a reddish tint.

(continued)

Note:

- The items, “NR,” “COLOR CORRECTION” and “DC TRANSMISSION” are not reset to the factory settings even if you press RESET.

Using Conventional TV Features (continued)

<p>DRC MODE <i>Digital Reality Creation</i></p>	<p>The DRC feature doubles both the vertical and horizontal information of the conventional NTSC signal, allowing you to obtain a fine-detailed, realistic picture with four-times higher density than the conventional NTSC picture. HIGH: Use when viewing DVD, Hi8, Laser Disc, or DBS source. LOW: Use when viewing VCR, CATV or ANT source. GAME: Use when viewing graphics such as a video game.</p>
<p>DYNAMIC PICTURE <i>Black Intensity Adjustment</i></p>	<p>Select ON to emphasize the black level and to produce a bolder dynamic picture. Select OFF to cancel the feature.</p>
<p>NR <i>Noise Reduction</i></p>	<p>Select ON to reduce picture noise. Select OFF to cancel the feature.</p>
<p>COLOR CORRECTION <i>Color Ratio Adjustment</i></p>	<p>Select ON to emphasize reds and blues. Select OFF to reproduce skin tones.</p>
<p>DC TRANSMISSION <i>Black Level Adjustment</i></p>	<p>Select ON to automatically improve the contrast ratio. Select OFF to reproduce the black level with no compensation.</p>

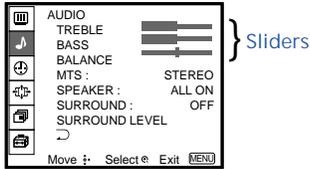
Tip

Since the fine-detailed DRC activated pictures contain information four times larger than conventional pictures, picture noise may appear. In this case, set NR to ON in the ADVANCED VIDEO menu.

Notes:

- The following items can be adjusted for each MODE setting (VIVID, STANDARD, etc.) Once the adjustments are made, the data is stored in the projection TV's memory and recalled whenever the corresponding MODE setting is selected.
 - PICTURE
 - BRIGHTNESS
 - COLOR
 - HUE
 - SHARPNESS
 - TRINITONE
 - DRC MODE
 - DYNAMIC PICTURE
 The "NR," "COLOR CORRECTION," and "DC TRANSMISSION" settings, however, are set independently of the MODE setting, and remain in the ON or OFF position even if the MODE setting is changed.
- Some shooting games which involve pointing a light beam at the TV screen with an electronic gun or rifle cannot be used with this projection TV. For details, see the instruction manual supplied with the video game software.

🎵 Using the AUDIO Menu

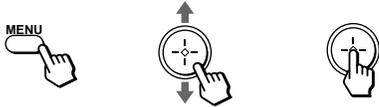


} Sliders

For detailed information on using the remote control to modify menu settings, refer to “Learning Menu Selection” on page 46.

To select the AUDIO 🎵 menu:

Display → Highlight 🎵 → Select



To restore the factory settings

Press **RESET** on the remote control while the AUDIO menu is selected.

TREBLE <i>Sound Adjustment</i>	Adjust slider right (up) to increase high pitched sounds. Adjust slider left (down) to decrease high pitched sounds.
BASS <i>Sound Adjustment</i>	Adjust slider right (up) to increase low pitched sounds. Adjust slider left (down) to decrease low pitched sounds.
BALANCE <i>Sound Adjustment</i>	Adjust slider right (up) to emphasize right speaker volume. Adjust slider left (down) to emphasize left speaker volume.
MTS <i>Enjoy stereo, bilingual and mono programs</i>	STEREO: Select for stereo reception when viewing a program broadcast in stereo. SAP: Select to listen to a bilingual broadcast. (non-SAP programs will be muted when this feature is selected) MONO: Select for mono reception. (use to reduce noise during stereo broadcasts) Quick MTS access: Press MTS on your remote control to cycle through the MTS options as follows: (STEREO → SAP → MONO → STEREO)
SPEAKER <i>Custom selection of audio output source</i>	ALL ON: Select to listen to the sound from the projection TV speakers alone. L/R OFF: Select to turn off the projection TV left and right speakers and listen to the left and right channel sounds through a separate audio system's speakers. ALL OFF: Select to turn off the projection TV speakers and listen to the projection TV's sound only through an external audio system's speakers. CENTER IN: Select to use the projection TV center speaker as center speaker when you connect an amplifier with a Dolby Pro Logic/Dolby Digital decoder. (see “Connecting an amplifier that supports Dolby Pro Logic/Dolby Digital decoder” on page 19)

(continued)

Using Conventional TV Features (continued)

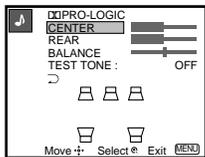
<p>SURROUND <i>Customizes surround sound effects based on the program's audio type</i></p>	<p>SURROUND can only be set when SPEAKER is set to ALL ON or L/R OFF.</p> <p>PRO LOGIC: Produces superb theater-like surround effects. Most effective for programs encoded in Dolby surround.</p> <p>3 STEREO: Produces a dynamic three dimensional sound without using the rear speakers. The sound of the rear channel is output from the front speakers.</p> <p>SIMULATED: Adds a surround-like effect to mono programs.</p> <p>LIVE: Produces surround effects with the atmosphere of a concert hall.</p> <p>GAME: Produces maximum audio impact. Most effective for video games.</p> <p>OFF: Normal stereo or mono reception.</p>
<p>SURROUND LEVEL <i>Speaker volume adjustment for surround modes</i></p>	<p>After selecting one of the surround modes, adjust the volume of each speaker so that the sound will be even and natural. (see "Adjusting the Speaker Volume for Customized Surround Mode" on page 51)</p>

Adjusting the Speaker Volume for Customized Surround Mode

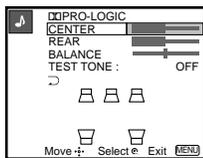
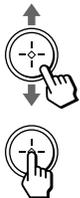
After you set SURROUND to one of the modes, adjust the volume of the front, center and rear speakers to the same level so that the projection TV's sound will be even and natural. For DOLBY PRO LOGIC and DOLBY DIGITAL STEREO, adjust the speaker volume using the test tone feature.

Adjusting the speaker volume

- 1 Select SURROUND LEVEL from the AUDIO menu. (see pages 49 and 50)



- 2 Move the joystick up or down to select the speaker for volume adjustment and press (+).



CENTER: Select to adjust the level of the center speaker. (not available for SIMULATED)

REAR: Select to adjust the level of the rear speakers. (not available for DOLBY DIGITAL STEREO)

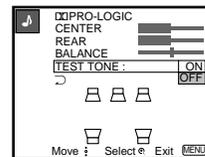
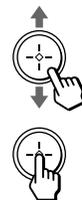
BALANCE: Select to adjust the balance between the right and left speakers.

- 3 Move the joystick up, down, left or right to adjust the volume level and press (+).
- 4 Use the joystick to select other speakers and to adjust the volume levels.

Adjusting the speaker volume using the test tone

The TEST TONE feature makes it easier to adjust the volume level. You can use this feature for DOLBY PRO LOGIC and DOLBY DIGITAL STEREO modes only.

- 1 With the SURROUND LEVEL window open, move the joystick up or down to select TEST TONE and press (+).



- 2 Move the joystick up or down to select ON.

A test tone will be output from each speaker in sequence:

Front left → Center → Front right → Rear

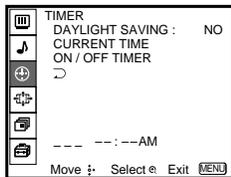


To turn off the test tone, select OFF.

- 3 Follow steps 2 through 4 in "Adjusting the speaker volume."

Using Conventional TV Features (continued)

Using the TIMER Menu



After setting the clock you can use the timer to turn the projection TV on and off.

For detailed information on using the remote control to modify menu settings, refer to “Learning Menu Selection” on page 46.

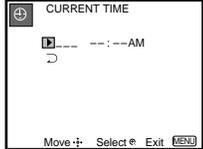
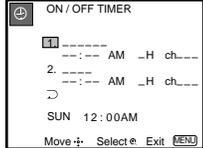
To select the TIMER menu:

Display → Highlight → Select

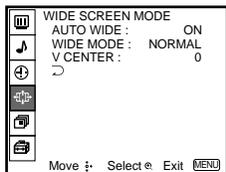


Tip

Set daylight saving time before setting the clock. Any loss of power will cause these settings to be erased.

<p>DAYLIGHT SAVING <i>Automatically adjusts the time.</i></p>	<p>Spring: Select YES to compensate for Daylight Saving Time. The current time automatically moves ahead one hour. Fall: Select NO at the end of Daylight Saving Time. The current time moves back one hour.</p>
<p>CURRENT TIME <i>Necessary for the TIMER.</i></p>	<ol style="list-style-type: none"> 1 Press \oplus, then move the joystick up or down until the current day (MON-SUN) is displayed, and press \oplus. 2 Move the joystick up or down until the current hour (01-12) and AM/PM is displayed, and press \oplus. 3 Move the joystick up or down until the current minute (00-59) is displayed, and press \oplus. The Clock has now started. Press MENU to exit. 
<p>ON/OFF TIMER <i>Wake up or scheduled viewing.</i></p>	<ol style="list-style-type: none"> 1 Select the desired timer (1 or 2). 2 Move the joystick up or down until the desired day (MON-SUN) or range of days (EVERY SUN-SAT or EVERY MON-FRI) is displayed, and press \oplus. 3 Move the joystick up or down until the time (hours and minutes) that you want the projection TV to remain on is displayed, and then press \oplus. 4 Move the joystick up or down to set the time duration (maximum of 6 hours) and press \oplus. 5 Move the joystick up or down to select the desired channel and press \oplus. The timer is now set. The TIMER/STAND BY indicator on your projection TV will be lit. Press MENU to exit. To cancel your timer setting, select timer 1 or 2 and press RESET while in the ON/OFF TIMER window. Performing AUTO PROGRAM will erase all TIMER settings. 

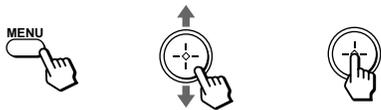
Using the WIDE SCREEN MODE Menu



For detailed information on using the remote control to modify menu settings, refer to “Learning Menu Selection” on page 46.

To select the WIDE SCREEN MODE Menu:

Display → Highlight → Select



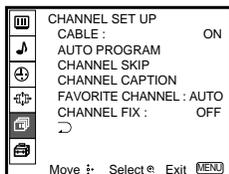
To restore the factory settings

Press RESET on the remote control while the WIDE SCREEN MODE menu is selected.

<p>AUTO WIDE <i>Automatically selects the wide screen mode</i></p>	<p>Select ON to automatically display the picture with an ID-1 or S1 (aspect ratio recorded) signal in an optimum wide screen mode; normal 4:3 picture in NORMAL, letterbox picture in ZOOM, and 4:3 squeezed picture in FULL. Select OFF if you want to choose the wide screen mode manually by pressing the WIDE MODE button.</p>
<p>WIDE MODE <i>Manually selects the wide screen mode</i></p>	<p>You can select NORMAL, WIDE ZOOM, ZOOM or FULL for the 4:3 or letterbox picture to fill the 16:9 screen manually by pressing the WIDE MODE button. (for details on each mode, see “Using the Wide Screen Mode” on page 39)</p>
<p>V CENTER <i>Adjusts the position of the picture</i></p>	<p>Allows you to move the picture vertically within the screen (available only in ZOOM and WIDE ZOOM modes). Move the joystick up or down to move the picture, and press .</p>

Using Conventional TV Features (continued)

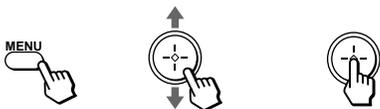
Using the CHANNEL SET UP Menu



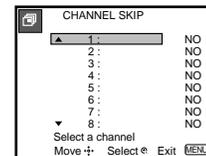
For detailed information on using the remote control to modify menu settings, refer to “Learning Menu Selection” on page 46.

To select the CHANNEL SET UP menu:

Display → Highlight → Select

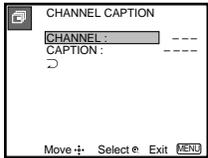


<p>CABLE <i>Cable system setting</i></p>	<p>Select ON if your projection TV is connected to a cable system. Select OFF if your projection TV is connected to an antenna. AUTO SET UP will set CABLE to OFF automatically if a cable channel is not available.</p>
<p>AUTO PROGRAM <i>Automatic channel presetting</i></p>	<p>Select YES to signal the projection TV to automatically program all receivable conventional TV channels. When all the receivable channels are stored, the lowest numbered channel is displayed. Select NO to cancel AUTO PROGRAM.</p>
<p>CHANNEL SKIP <i>Skips unnecessary channels</i></p>	<p>After AUTO SET UP, you can erase unnecessary conventional TV channels from the channel preset memory. With the CHANNEL SKIP window open:</p> <ol style="list-style-type: none"> 1 Move the joystick up or down to select the desired channel. You can view the channel that is selected with the CHANNEL SKIP menu in the center sub screen. You can also use CH +/- or 0–9 and ENTER buttons. 2 Press +. 3 Move the joystick up or down to select YES, and press +. The selected channel will be erased. <p>If you want to re-enter the skipped channel, follow the steps above and select NO.</p>



(continued)

<p>CHANNEL CAPTION <i>Easy recognition of the channel you are watching</i></p>	<p>You can add a caption for up to 32 channels of both VHF/UHF and AUX inputs.</p> <p>With the CHANNEL CAPTION window open:</p> <ol style="list-style-type: none"> 1 Press + and then move the joystick up or down to select the desired channel. You can view the channel that is selected with the CHANNEL CAPTION menu in the center sub screen. 2 Press +. 3 Move the joystick up or down to display the first letter or number of the caption and press + to select it. Repeat until up to four digits are selected. 4 Press +. <i>To erase a caption, press RESET.</i>
<p>FAVORITE CHANNEL <i>User's favorite channels</i></p>	<p>The FAVORITE CHANNEL feature enables easy access to the eight channels that you preset (or the last channel that you were watching). (for details on how to set up this feature, see "Setting and Selecting FAVORITE CHANNEL" on page 57)</p>



(continued)

Using Conventional TV Features (continued)

CHANNEL FIX

Locks selection of your projection TV's input when used in conjunction with external equipment such as a cable box, AV receiver, etc.

2-6: When the cable box is connected to the VHF/UHF input, you can fix the TV's input to one of the channels between 2 and 6. Press DBS/CABLE (FUNCTION) and then CH +/- to change the cable box channels.

AUX 2-6: Use this when a cable box is connected to AUX, and a cable or antenna is connected to VHF/UHF.

VIDEO 1: Use this when you have connected external video equipment (e.g. AV receiver) and you want the projection TV's input fixed to it.

OFF: When you want to switch CHANNEL FIX off.

If the projection TV is in the AUX mode when you turn CHANNEL FIX off, press ANT to return to UHF input mode.

TIMER settings are erased when CHANNEL FIX is set.

Note:

- You cannot change channels with the TV's tuner when you set CHANNEL FIX. If you want to use the TV's tuner while fixing the TV's input to VIDEO 1, use the SET UP menu to set SELECT OUT to TV OUT. (see "SELECT OUT" on page 60)

Setting and Selecting FAVORITE CHANNEL

The FAVORITE CHANNEL feature of your projection TV enables easy access to the eight channels that you preset (or the last channel that you were watching).

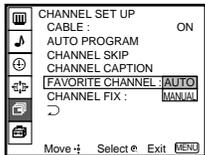
Your FAVORITE CHANNEL options can be set automatically or manually.

The factory setting for FAVORITE CHANNEL is AUTO.

When FAVORITE CHANNEL is set to AUTO, the last eight channels selected with the 0-9 buttons will be set as FAVORITE CHANNEL options. If you want to input your own selections as FAVORITE CHANNEL settings, set to MANUAL.

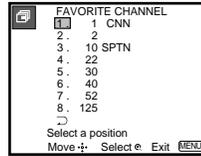
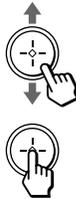
Setting FAVORITE CHANNEL manually

- 1 Select FAVORITE CHANNEL from the CHANNEL SET UP menu. (see pages 54 and 55)

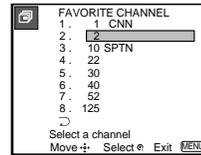
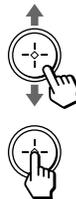


- 2 Move the joystick up or down to select MANUAL and press (+).

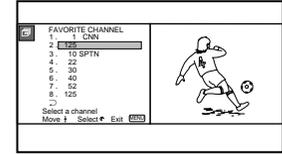
The FAVORITE CHANNEL menu will appear. If you set CHANNEL CAPTION names (e.g. CNN, HBO), they will also be displayed. (see “CHANNEL CAPTION” on page 55)



- 3 Move the joystick up or down to select a position (1-8), and press (+).



- 4 Move the joystick up or down to select a channel.
You have now selected a favorite channel.



- 5 Press (+) and use the joystick to program other favorite channels. (Follow steps 3 and 4.)
- 6 Press MENU when you have finished.
Your favorite channels are now ready for use.

(continued)

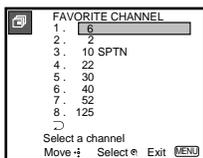
Using Conventional TV Features (continued)

Changing FAVORITE CHANNEL choices

You have the option of returning to the FAVORITE CHANNEL screen to adjust any of your favorite channel choices.

Simply proceed as described in “Setting FAVORITE CHANNEL manually” (skip step 2 if MANUAL is already selected).

When you reach step 3, select the position you want to change and press \oplus . Move the joystick up or down to select a new channel.



Press MENU when you are done.

Note:

- The FAVORITE CHANNEL feature is not available for the picture input from AUX or VIDEO 5 IN, and for digital TV programs.

Using FAVORITE CHANNEL

You can use the FAVORITE CHANNEL feature to directly select the channel you want to watch.

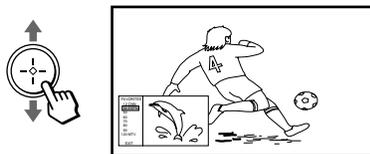
1 Press \oplus once.

The favorite channel menu and a window picture will be superimposed over the current channel. The window picture displays the channel selected from the menu.



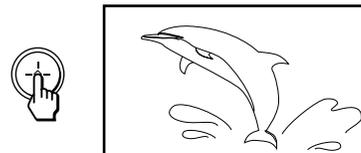
2 Move the joystick up or down to select the channel that you wish to view from the menu.

The picture of the selected channel will be displayed in the window picture.



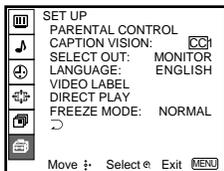
3 Press \oplus to select the channel.

The selected channel will be displayed for normal viewing.



To cancel the favorite channel menu before selecting a channel, move the joystick up or down to select EXIT at the bottom of the menu and press \oplus .

Using the SET UP Menu



For detailed information on using the remote control to modify menu settings, refer to “Learning Menu Selection” on page 46.

To select the SET UP  menu:

Display  Highlight   Select



Notes:

- When you set SELECT OUT to TV OUT, you cannot swap the main/right and window/left pictures.
- The SELECT OUT signal is only available when the projection TV is on.

PARENTAL CONTROL

Blocks programs unsuitable for children

Allows you to block TV programs that you feel are unsuitable for your children. (see “Using the PARENTAL CONTROL Feature” on page 64 for details)

PARENTAL LOCK: Select **ON** to activate PARENTAL CONTROL. Programs that match the selected ratings will be blocked.

Select **OFF** to turn off PARENTAL CONTROL. You can view all programs.

RATING: Select to choose from three Sony’s predetermined modes and one custom rating mode (**CHILD/YOUTH/YOUNG ADULT** and **CUSTOM**).

CHANGE PASSWORD: Select to change the password.

CAPTION VISION

Television closed caption display

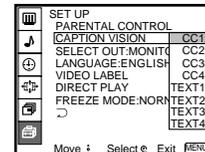
Some programs are broadcast with Caption Vision.

To display Caption Vision, select **CC**1, **CC**2, **CC**3, **CC**4, TEXT1, TEXT2, TEXT3 or TEXT4 from the menu. Then press the **CC** button until Caption Vision is displayed.

CC1, **CC**2, **CC**3 or **CC**4 displays a printed version of the dialogue or sound effects of a program. (The mode should be set to **CC**1 for most programs.) TEXT1, TEXT2, TEXT3, or TEXT4 displays network/station information presented using either half or the whole screen.

Notes:

- Poor reception of conventional TV programs can cause errors in Caption Vision and XDS. Captions may appear with a white box or other errors instead of the intended text.
- XDS, Caption Vision, and the status display cannot be used at the same time.



(continued)

Using Conventional TV Features (continued)

SELECT OUT

Output signal selection from SELECT OUT

You can select the desired output signal from the SELECT OUT jacks on the upper panel at the rear.

MONITOR: Select to edit tapes while monitoring.

SELECTOUT outputs the picture displayed on the screen.

Note:

- With this setting, the picture input from VIDEO 5 IN or digital TV programs is not output from SELECT OUT.

VIDEO1–VIDEO4: Select to edit tapes while viewing an input image different from that being recorded. SELECT OUT outputs the signal input to the projection TV regardless of the displayed picture on the screen.

TV OUT: Select if you connect an AV receiver to VIDEO 1 IN. SELECT OUT outputs the signal that the TV is tuned to, regardless of the displayed picture. (see “Connecting an AV receiver” on page 17 for connection)

If you select TV OUT, the following pop-up menu appears.

Note:

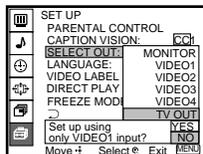
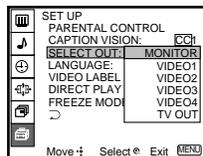
- With this setting, digital TV signal is not output from SELECT OUT.

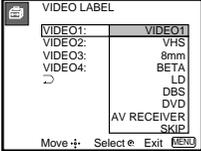
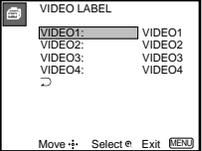
Select **YES** only if you have connected an AV receiver, with no other equipment, to your projection TV. You can always select the signal from the receiver by pressing TV/VIDEO once.

Note:

- If you select **YES**, you cannot view a digital TV program as SELECT OUT does not output a digital TV signal to the receiver.

Select **NO** if you have connected multiple components to your projection TV. You can select an input (VIDEO1 – VIDEO4) with the TV/VIDEO button.



<p>LANGUAGE <i>User's preferred language</i></p>	<p>Select from available languages (English or Spanish) to display all menus in your language of choice.</p>
<p>VIDEO LABEL <i>Easy recognition of connected equipment (e.g. DBS, VHS, etc.).</i></p>	<p>This feature allows you to label each input mode so that you can easily identify the connected equipment (e.g. you can label VIDEO 1 IN as VHS). With the VIDEO LABEL window open:</p> <ol style="list-style-type: none"> 1 Move the joystick up or down to select the input mode you want to label and press .  <ol style="list-style-type: none"> 2 Move the joystick up or down to select the label and press . <p>VIDEO LABEL Options: VIDEO 1: VIDEO 1, VHS, 8mm, BETA, LD, DBS, DVD, AV RECEIVER, SKIP VIDEO 2–4: VIDEO 2–4, VHS, 8mm, BETA, LD, DBS, DVD, SKIP <i>If you select SKIP, your projection TV will skip this connection when you scan through video sources using the TV/VIDEO button.</i></p> 

(continued)

Using Conventional TV Features (continued)

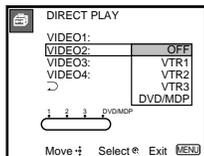
DIRECT PLAY

Easy operation of a connected VCR

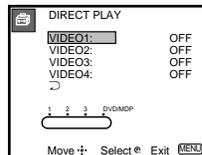
This feature allows you to switch the input mode from the TV to a Sony VCR (MDP or DVD) and start playing by only pressing the ► (playback) button on the remote control. You have to set the VTR 1/2/3/DVD/MDP switch on the remote control (e.g., you connect your VCR to the VIDEO 3 IN jacks and set the VTR 1/2/3/DVD/MDP switch to VTR 3).

With the DIRECT PLAY window open:

- 1 Move the joystick up or down to select the input to which your video equipment is connected, and press .



- 2 Move the joystick up or down to select the position of the VTR 1/2/3/DVD/MDP switch, and press .



(continued)

FREEZE MODE

Freeze picture
mode

Useful when you need to copy down information that appears on the TV's screen.

Note: The FREEZE MODE feature is not available for the inputs from VIDEO 5 IN and for digital TV programs.

NORMAL: Select to freeze the whole picture on the screen by pressing FREEZE.

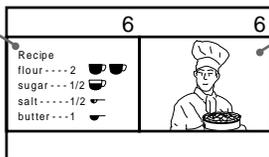


The current picture freezes.

TWIN: Select to freeze the desired scene and display it on the left of the screen while viewing the normal picture of the current channel on the right by pressing FREEZE.

This mode is not available for PIP, P&P or CH INDEX screens.

Frozen picture



Normal motion picture

Press FREEZE again or press **OFF** to display the normal picture.

Using Conventional TV Features (continued)

Using the PARENTAL CONTROL Feature

TV programs and movies shown on TV are given a rating signal based on one of two rating systems. One is the Television Parental Guidelines to rate television programs (TV ratings), and the other is the Motion Picture Association of America (MPAA) Guidelines to rate movies including those shown on TV (movie ratings).

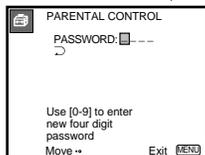
To block programs you feel are unsuitable for your children, you need to set the TV for both rating systems. Sony's predetermined ratings are also available.

See pages 70 and 71 for a description of the ratings.

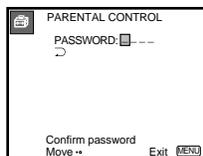
Activating the PARENTAL CONTROL Feature

First, set a password, then select your desired rating from Sony's predetermined ratings.

- 1 Select PARENTAL CONTROL from the SET UP menu. (see page 59)



- 2 Enter a four digit password* using the 0-9 buttons.

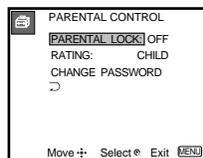


* Do not enter "4357" corresponding to "HELP" on the phone number pad. (see page 69)

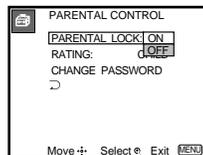
- 3 To confirm the password, re-enter the same password with the 0-9 buttons.

Your password is stored and the PARENTAL CONTROL menu automatically appears.

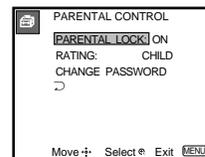
If you want to change the password, see page 69.



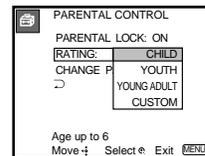
- 4 Make sure that PARENTAL LOCK is highlighted, and press \oplus .



- 5 Move the joystick up or down to select ON, and press \oplus .



- 6 Move the joystick up or down to select RATING, and press \oplus .



- 7 Move the joystick up or down to select a desired rating (CHILD, YOUTH and YOUNG ADULT), and press \oplus .

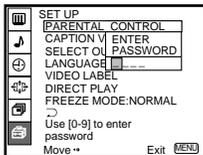
If you want to select the ratings from CUSTOM, go to step 4 of "Selecting a Custom Rating" on page 66.

- 8 Press MENU to exit the menu.

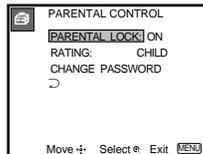
To deactivate the PARENTAL CONTROL feature

If you set PARENTAL LOCK in the PARENTAL CONTROL menu to OFF, the PARENTAL CONTROL feature will not work and you can view all TV programs and movies shown on TV.

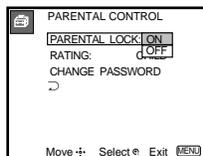
- 1 Select PARENTAL CONTROL from the SET UP menu. (see page 59)



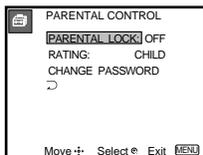
- 2 Enter your four digit password using the 0-9 buttons.



- 3 Move the joystick up or down to select PARENTAL LOCK, and press (+).



- 4 Move the joystick up or down to select OFF, and press (+).



- 5 Press MENU to exit the menu.

To unlock the PARENTAL CONTROL feature temporarily

When you select a PARENTAL CONTROL program, no sound or picture except for a channel number will appear. The indicator is displayed. To view the program, follow the steps below.

- 1 Press ENTER to display the "Password" screen.
- 2 Enter your password using the 0-9 buttons. The PARENTAL CONTROL feature will be canceled (PARENTAL LOCK set to OFF) until you turn your projection TV off.

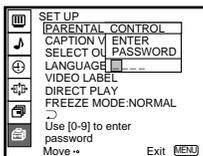
Using Conventional TV Features (continued)

Selecting a Custom Rating

If you want to select the ratings to be blocked from CUSTOM once you have activated the PARENTAL CONTROL feature (page 64), follow the procedure below.

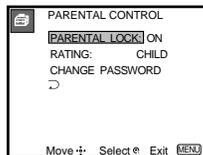
For a detailed description of each rating, see “What the Ratings Mean” on pages 70 and 71.

- 1 Select PARENTAL CONTROL from the SET UP menu. (see page 59)

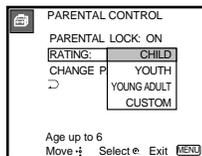
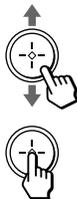


- 2 Enter your four digit password using the 0–9 buttons.

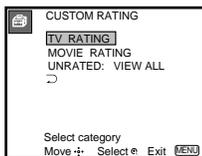
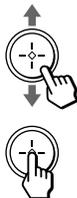
The PARENTAL CONTROL menu appears.



- 3 Move the joystick up or down to select RATING, and press \oplus .

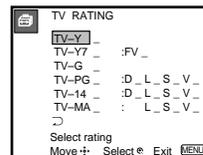
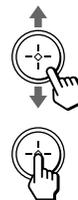


- 4 Move the joystick up or down to select CUSTOM, and press \oplus .

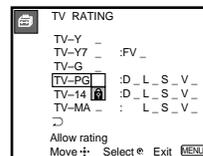


First, select a TV rating.

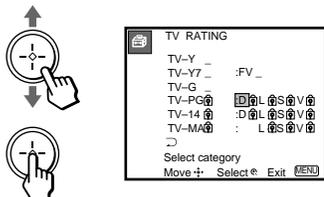
- 5 Move the joystick up or down to select TV RATING, and press \oplus .



- 6 Move the joystick up or down to select the TV rating to be blocked, and press \oplus .



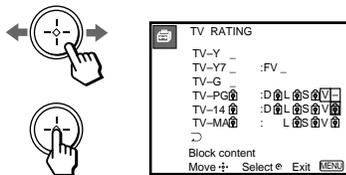
- 7 Move the joystick up or down to select , and press . The  indicator automatically appears beside the selected rating and all “higher” ratings, indicating that the programs that match the ratings will be blocked.



Some ratings have additional content ratings called “extenders.” The extenders are defined as follows: D (sexually suggestive Dialog), FV (Fantasy Violence), L (coarse Language), S (Sexual situations) and V (Violence). By setting the extenders, you can define additional viewing limits. For more details of extenders, see page 71.

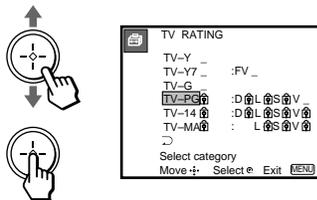
All of the extenders included in the selected ratings will be blocked. If you wish to allow any of them to be viewed, go to step 8.

- 8 Move the joystick left or right to select the extender to be viewed, and press .



- 9 Move the joystick up or down to select “-,” and press . “-” appears beside the selected extender, indicating that the programs that match the extender can be viewed.

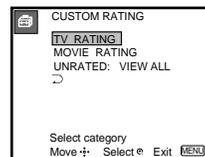
If you select ,  is displayed to show that the programs that match the extender will be blocked again.



- 10 Repeat steps 8 and 9 for other extenders.

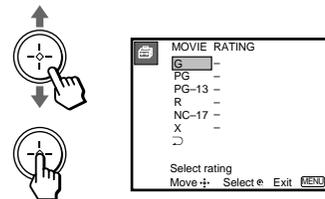
All programs that match the ratings you select and higher, except for the extenders that were canceled, will be blocked.

- 11 After setting of the TV rating is complete, move the joystick up or down to select , and press .



Second, select a movie rating.

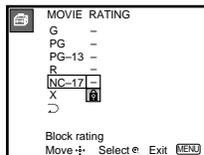
- 12 Move the joystick up or down to select MOVIE RATING, and press .



(continued)

Using Conventional TV Features (continued)

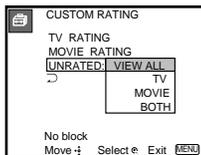
- 13 Move the joystick up or down to select the movie rating to be blocked, and press



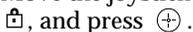
To block TV programs and/or movies for which a rating signal is not given (NR and N/A)

For a description of the NR and N/A ratings, see pages 70 and 71.

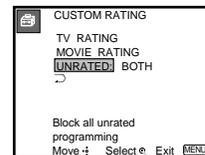
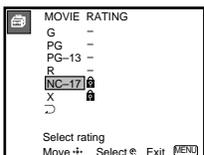
- 1 Perform steps 1–4 of “Selecting a Custom Rating” on page 66.
- 2 Move the joystick up or down to select UNRATED, and press



- 14 Move the joystick up or down to select



The  indicator automatically appears beside the selected rating and all “higher” ratings, indicating that the programs that match the ratings will be blocked.



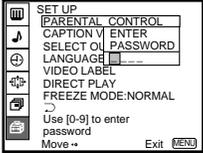
To block ...	Select ...
No program (to view any unrated TV program and movie)	VIEW ALL
Unrated TV programs	TV
Unrated movies	MOVIE
Unrated TV programs and movies	BOTH

- 3 Move the joystick up or down to select the type of programs to be blocked, and press

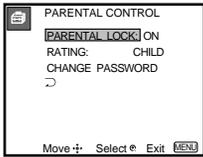
- 15 Press MENU to exit the menu.

Changing the Password

- 1 Select PARENTAL CONTROL from the SET UP menu. (see page 59)



- 2 Enter your four digit password using the 0-9 buttons.
The PARENTAL CONTROL menu appears.



- 3 Move the joystick up or down to select CHANGE PASSWORD, and press .



- 4 Enter a new four digit password using the 0-9 buttons.



- 5 Enter the password set in step 4 again to confirm.
If you entered it incorrectly, “Password incorrect” appears.
Re-enter the correct password.
- 6 Press MENU to exit the menu.

If you have forgotten your password

In step 2 of “Changing the Password” above, enter the master password “4357” (corresponding to “HELP” on the phone number pad). You can then store a new password.

Notes

- If you entered “4357” as your password the first time, you cannot store a new password. (see step 2 of “Activating the PARENTAL CONTROL Feature” on page 64)
- When you select a PARENTAL CONTROL program and the indicator is displayed on the screen, you cannot view that program even if you enter “4357.” (see “To unlock the PARENTAL CONTROL feature temporarily” on page 65)

Using Conventional TV Features (continued)

What the Ratings Mean

Sony's predetermined ratings

These are original ratings that Sony predetermined according to the viewer's age. Each rating allows you to view the certain programs, as follows.

See pages 70 and 71 for a description of TV and movie ratings.

CHILD: Suitable for children under the age of 6.

Viewable movie ratings: G, NR, and N/A
Viewable TV ratings: TV-Y, TV-G, and TV-NR

YOUTH: Suitable for children aged 7 and older.

Viewable movie ratings: G, PG, NR, and N/A
Viewable TV ratings: TV-Y, TV-Y7, TV-G, TV-PG, and TV-NR

YOUNG ADULT: Suitable for children aged 14 and older.

Viewable movie ratings: G, PG, PG-13, NR, and N/A
Viewable TV ratings: TV-Y, TV-Y7, TV-G, TV-PG, TV-14, and TV-NR

Movie ratings

Movie ratings are for movies (including those shown on TV) rated according to the Motion Picture Association of America (MPAA) Guidelines.

G (General Audiences—All Ages Admitted): In G-rated films no strong words are used, the violence is at a minimum, nudity and sex scenes are not present, nor is there any drug use.

PG (Parental Guidance Suggested. Some Material May Not Be Suitable For Children): This is a film which may need to be monitored first by parents.

PG-13 (Parents Strongly Cautioned. Some Material May Be Inappropriate For Children Under 13): Parents are alerted to be very careful about the attendance of their under-teenage children when viewing.

R (Restricted, Under 17 Require Accompanying Parent Or Adult Guardian): This film includes hard language, tough violence, nudity, drug abuse or other elements of concern.

NC-17 or X (No One 17 Or Under Admitted.): This is a film that most parents would consider not suitable for children aged 17 and under. There may be violence, sex, aberrational behavior, drug abuse or other elements of concern.

NR (Not Rated): This is a film that a producer has not rated, intending to have his film widely released.

N/A (Not Applicable): This is a film that a producer considers outside the scope of the MPAA ratings.

Note:

- NR and N/A ratings are shown together as UNRATED in the menu.

TV ratings

TV ratings are for TV programs rated according to the Television Parental Guidelines.

TV-Y (All Children): This program is designed for young children aged 2–6 and is appropriate for all children.

TV-Y7 (Directed to Older Children): This program is designed for children aged 7 and above. Themes and elements in this program may include mild fantasy violence or slapstick violence, or may frighten children under the age of 7.

TV-G (General Audience): Most parents would find this program suitable for all ages. It contains little or no violence, no strong language and little or no sexual dialog or situations.

TV-PG (Parental Guidance Suggested): This program contains some material that parents may find unsuitable for younger children.

TV-14 (Parents Strongly Cautioned): This program contains some material that many parents would find unsuitable for children under the age of 14.

TV-MA (Mature Audience Only): This program is specifically designed to be viewed by adults and therefore may be unsuitable for children under the age of 17.

TV-NR (Not Rated/Unrated): This is a program broadcast without any rating, such as news, news flashes or sports.

This setting is shown as UNRATED in the menu.

Note:

TV-Y7, TV-PG, TV-14 and TV-MA ratings have additional content ratings called “extenders” to define additional viewing limits. The extenders are defined as follows:

D (sexually suggestive Dialog): Programs containing suggestive dialog, or sexual innuendo

FV (Fantasy Violence): Programs containing cartoon violence occurring in TV-Y7 programs only

L (coarse Language): Programs containing coarse language

S (Sexual situations): Programs containing sexual content

V (Violence): Programs containing violence

There may be some profanity, violence or brief nudity in these programs.

Operating Video Equipment

Setting the Manufacturer's Code

You can use the supplied remote control to operate Sony or non-Sony video equipment that has an infrared sensor.

- 1 Set the VTR 1/2/3/DVD/MDP switch to the input through which you would like to access your video equipment.

The following Sony equipment is preset to each input as shown below:

VTR1 (303)	Beta, ED Beta VCRs
VTR2 (302)	8 mm VCR
VTR3 (301)	VHS VCR
DVD/MDP (751)	DVD Player

- 2 Press CODE SET, DVD/VTR (FUNCTION), and the 0-9 buttons to enter the manufacturer's code number (see the following chart), then press ENTER.

For example, to operate a Sony 8mm VCR:



If the remote control doesn't work

- See page 74.

VCR manufacturer code numbers

Manufacturer	Code
Sony	301, 302, 303
Aiwa	338
Admiral (M. Ward)	327
Audio Dynamic	314, 337
Bell & Howell (M. Ward)	330, 343
Broksonic	319, 317
Canon	309, 308
Citizen	332
Craig	315, 302, 332
Criterion	315
Curtis Mathis	304, 338, 309
Daewoo	341, 312, 309
DBX	314, 336, 337
Dimensia	304
Emerson	319, 320, 316, 317, 318, 341
Fisher	330, 334, 335, 333
Funai	338
General Electric	329, 304, 309
Go Video	340, 339, 322
Goldstar	332
Hitachi	306, 304, 305, 338
Instant Replay	309, 308
JC Penney	309, 305, 304, 330, 314, 336, 337
JVC	314, 336, 337
Kenwood	314, 336, 332, 337
LXI (Sears)	332, 305, 333, 334, 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
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, 329, 312, 313, 310
Realistic	309, 330, 328, 335, 324, 338
Sansui	314
Singer	315
Samsung	322, 313, 321
Sanyo	330, 335
Scott	312, 313, 321, 335, 323, 324, 325, 326
Sharp	327, 328
Shintom	315
Signature 2000 (M. Ward)	338, 327
Sylvania	308, 309, 338, 310
Symphonic	338
SV2000	338
Tashiro	332
Tatung	314, 336, 337
Teac	314, 336, 338, 337
Technics	309, 308
Teknica	342, 338
Toshiba	312, 311
Wards	327, 328, 335, 331, 332
XR-1000	315
Yamaha	330, 314, 336, 337
Zenith	331

MDP manufacturer code numbers

Manufacturer	Code
Sony	701
Panasonic	704
Pioneer	702

DVD Player manufacturer code numbers

Manufacturer	Code
Sony	751
Panasonic	753
Pioneer	752
RCA	755
Toshiba	754

Tips

- In some rare cases, you may not be able to operate your non-Sony video equipment with the supplied remote control. In this case, please use the equipment's own remote control.
- When you remove the batteries, the code number may revert to the factory setting.

To operate video equipment

- 1 Set the VTR1/2/3/DVD/MDP switch to the input through which you would like to access your video equipment.
- 2 Press DVD/VTR (FUNCTION).
- 3 Use the VCR/DVD/MDP buttons indicated in the following tables.

Operating a VCR using the remote control

To turn On/Off	Press DVD/VTR (POWER). [Green Button]
To select a channel	Press the 0 – 9 buttons.
To change channels	Press CH +/-.
To record	Press  (REC) while pressing  (lower).
To play	Press  .
To stop	Press  .
To fast forward	Press  .
To rewind the tape	Press  .
To pause	Press  . Press again to resume normal playback.
To search the picture forward or backward	Press  or  during playback. Release to resume normal playback.
To change input mode	Press TV/VTR.

Operating an MDP using the remote control

To turn On/Off	Press DVD/VTR (POWER). [Green Button]
To play	Press  .
To stop	Press  .
To pause	Press  . Press again to resume normal playback.

To search the picture forward or backward	Press  or  during playback. Release to resume normal playback.
---	--

To search a chapter forward or backward	Press CH +/-.
---	---------------

Operating a DVD Player using the remote control

To turn On/Off	Press DVD/VTR (POWER). [Green Button]
To play	Press  .
To stop	Press  .
To pause	Press  . Press again to resume normal playback.
To step through different tracks of an audio disc	Press  to step forward or  to step backward.
To step through different chapters of a video disc	Press CH+ to step forward or CH- to step backward.
To display the Title menu	Press TITLE.
To display the DVD menu	Press DVD MENU.
To select tracks directly	Press 0-9 buttons.
To display the menu (Set up)	Press MENU.

Operating a Cable Box or DBS Receiver

Setting the Manufacturer's Code

You can program the supplied remote control to operate a cable box or DBS receiver.

Press CODE SET, DBS/CABLE (FUNCTION), and the 0-9 buttons to enter the manufacturer's code number (see the following chart), then press ENTER.

For example, to operate a Sony DBS receiver:



Manufacturer code numbers
(cable box)

Manufacturer	Code
Gemini	233
Hamlin/Regal	222, 223, 224, 225, 226
Jerrold/G. I.	201, 202, 203, 204, 205, 222, 206, 207, 208, 218
Macom	230, 231, 232
Magnavox	234
Oak	227, 228, 229
Panasonic	219, 220, 221
Philips	236, 237, 238, 239, 240, 241
Pioneer	214, 215
Samsung	235
Scientific Atlanta	209, 210, 211
Tocom	216, 217
Zenith	212, 213

Manufacturer code numbers
(DBS receiver)

Manufacturer	Code number
Sony	801 (preset code for remote control)
General Electric	802
RCA/PROSCAN	802

To operate the cable box or DBS receiver

- 1 Press DBS/CABLE (POWER) (green labeled button) to turn on/off the cable box or DBS receiver.
- 2 Press DBS/CABLE (FUNCTION).
- 3 For other operations, refer to the operating instructions that come with the equipment.

If the remote control doesn't work

- Try repeating the set up procedures using the other codes listed for your equipment.

To operate the projection TV

Press TV (FUNCTION). Then use the projection TV control buttons to control the projection TV.

Tips

- 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 rare cases, you may not be able to operate your equipment with the supplied remote control. In this case, use the equipment's own remote control unit.
- Whenever you remove the batteries — to replace them, for example — if too much time is taken, the code numbers may revert to the factory setting and must be reset.

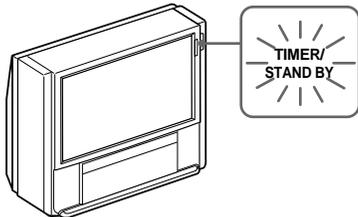
If, after reading the following instructions, you have additional questions related to the use of your Sony projection TV, please call one of the following numbers (English only).

Customers in the continental United States contact the Direct Response Center at:
1-800-222-SONY (7669)

Customers in Canada contact the
Customer Relations Center at:
(416) 499-SONY (7669)

The picture turns off and the TIMER/STAND BY indicator on the front panel flashes (self-diagnosis function)

- The projection TV is equipped with a self-diagnosis function. If there is a problem with your projection TV, the TIMER/STAND BY indicator on the front panel will flash repeatedly. Counting the number of flashes helps you inform qualified Sony personnel of the projection TV's condition.



- 1 Count how many times the TIMER/STAND BY indicator flashes in total. It flashes twice at 3 seconds' intervals. If, for example, the indicator flashes twice, stops flashing for 3 seconds, and flashes twice again, that counts as twice.
- 2 Press POWER on the projection TV to turn it off, then inform qualified Sony personnel or the above Direct Response Center of the number of flashes.

No picture (screen not lit), no sound

- Make sure the power cord is plugged in.
- Operate with the buttons on both the projection TV and the remote control.
- Check to see if the TV/VIDEO setting is correct: when watching TV, set to TV, and when watching video tapes, set to VIDEO 1, 2, 3, 4 or 5.
- Try another channel. *It could be station trouble.*
- Perform AUTO SET UP again using "Auto Program" for digital channels, or using the SET UP button for conventional TV channels to return to the factory preset condition. (see "To perform AUTO SET UP again" on page 26)
- The PARENTAL CONTROL feature is activated. (see "To unlock the PARENTAL CONTROL feature temporarily" on page 65)

Remote control does not operate

- Batteries could be weak. Replace the batteries.
- Press TV (FUNCTION) when operating your projection TV.
- Make sure the projection TV's power cord is connected securely to the wall outlet.
- Locate the projection TV at least 3-4 feet away from fluorescent lights.
- Check the S-Link connection. (see "Using the S-Link/CONTROL S Function" on page 20)
- Check the polarity of the batteries.

Dark, poor or no picture (screen lit), good sound

- Adjust PICTURE in the VIDEO menu. (see "PICTURE" on page 47)
- Adjust BRIGHTNESS in the VIDEO menu. (see "BRIGHTNESS" on page 47)
- Check antenna/cable connections.
- Perform AUTO SET UP again using "Auto Program" for digital channels, or using the SET UP button for conventional TV channels to return to the factory preset condition. (see "To perform AUTO SET UP again" on page 26)
- Adjust the convergence again using the AUTO FOCUS button. (see "Adjusting the Convergence Automatically (AUTO FOCUS) on page 27")

(continued)

Troubleshooting (continued)

Good picture, no sound

- Press MUTING so that “MUTING” disappears from the screen. (see “MUTING” on pages 29, 37)
- Check the MTS setting in the AUDIO menu. (see “MTS” on page 49)
- Make sure SPEAKER is set to ALL ON or L/R OFF in the AUDIO menu. (see “SPEAKER” on page 49)
- Perform AUTO SET UP again using “Auto Program” for digital channels, or using the SET UP button for conventional TV channels to return to the factory preset condition. (see “To perform AUTO SET UP again” on page 26)

No picture on a digital channel

- Switch to a different digital channel.

Cannot receive digital channels

- Press DTV ANT on the remote control so that the TV (FUNCTION) indicator lights up in green momentarily.
- Make sure that VHF/UHF antenna is connected to both VHF/UHF IN and VHF/UHF (DTV) IN on the projection TV. You cannot receive digital channels unless you connect an analog terrestrial antenna. This is true even if you normally receive your programming through cable or satellite.

- Use “DTV Auto Add” in the Channel Setup menu to add receivable DTV channels that are not presently in DTV memory.
- Make sure that the DTV I/O cable is connected to both the lower and upper panels at the rear of the projection TV.
- Check your local listings to find out if you can receive digital broadcasts in your area.

Unable to select a digital channel

- Use “DTV Auto Add” in the “Channel Setup” menu to add receivable DTV channels that are not presently in DTV memory.

Cannot receive conventional TV channels

- Press TV ANT on the remote control so that the TV (FUNCTION) indicator lights up in red momentarily.

Cannot receive upper channels (UHF) when using an antenna

- Make sure CABLE is OFF in the CHANNEL SET UP menu. (see “CABLE” on page 54)
- Use AUTO PROGRAM to add receivable channels that are not presently in the TV’s memory. (see “AUTO PROGRAM” on page 54)

No color

- Adjust the COLOR in the VIDEO menu. (see “COLOR” on page 47)
- Black and white programs cannot be seen in color.
- Perform AUTO SET UP again using “Auto Program” for digital channels, or using the SET UP button for conventional TV channels to return to the factory preset condition. (see “To perform AUTO SET UP again” on page 26)

Only snow and noise appear on the screen

- Check the CABLE setting in the CHANNEL SET UP menu. (see “CABLE” on page 54)
- Check the antenna/cable connections.
- Make sure the channel is broadcasting programs.
- Press TV ANT to change the input mode. (see “TV ANT” on page 36)

Dotted lines or stripes

- Adjust the antenna.
- Keep the projection TV away from noise sources such as cars, neon signs or hair-dryers.

Noisy picture (when DRC is set to HIGH in the VIDEO menu)

- Soften the sharpness using SHARPNESS in the VIDEO menu.

TV is fixed to one channel

- Use AUTO PROGRAM to add receivable channels that are not presently in conventional TV's memory. (see "AUTO PROGRAM" on page 54)
- Try turning CHANNEL FIX off. (see "CHANNEL FIX" on page 56)

Double images or ghosts

- Use a highly directional outdoor antenna or a cable (when the problem is caused by reflections from nearby mountains or tall buildings).

Cannot operate the menu

- If the item you want to choose appears in gray, you cannot select it.
- Press the projection TV's power button off and on again.

Cannot receive any channels when using cable TV

- Make sure CABLE is ON in the CHANNEL SET UP menu. (see "CABLE" on page 54)
- Use AUTO PROGRAM to add receivable channels that are not presently in the TV's memory. (see "AUTO PROGRAM" on page 54)

Cannot gain enough volume when using a cable box

- Increase the volume at the cable box. Then press TV (FUNCTION) and adjust the projection TV's volume.

Projection TV malfunctions when using the S-Link function

- Make sure the projection TV's power cord is connected securely to the wall outlet.
- Check the S-Link connection. (see "Using the S-Link/CONTROL S Function" on page 20)

CHANNEL INDEX does not display all available channels

- Make sure CABLE is ON in the CHANNEL SET UP menu. (see "CABLE" on page 54)
- Use AUTO PROGRAM to add receivable channels that are not presently in the TV's memory. (see "AUTO PROGRAM" on page 54)

FAVORITE CHANNEL does not display your choices

- Verify that FAVORITE CHANNEL is set to MANUAL in the CHANNEL SET UP menu. (see "Setting FAVORITE CHANNEL manually" on page 57)

Some video sources do not appear when you press TV/VIDEO

- Ensure that VIDEO LABEL is not set to SKIP. (see "VIDEO LABEL" on page 61)

Recording through SELECT OUT does not function properly when recording in PIP or P&P mode

- SELECT OUT will not record both images in PIP or P&P. Only the main picture will be recorded.
- If you are recording the main picture and you switch to the sound of the sub picture using the AUDIO button, the main picture will be recorded with sound from the other program.

Cannot play shooting games

- Some shooting games which involve pointing a light beam at the TV screen with an electronic gun or rifle cannot be used with this projection TV. For details, see the instruction manual supplied with the video game software.

The picture blurs

- Press AUTO FOCUS on the projection TV. (see "Adjusting the Convergence Automatically (AUTO FOCUS)" on page 27)

Convergence is not adjusted correctly even though you performed AUTO FOCUS

- Press AUTO FOCUS on the projection TV again. (see "Adjusting the Convergence Automatically (AUTO FOCUS)" on page 27)

Specifications

Projection system

3 picture tubes, 3 lenses, horizontal in-line system

Picture tube

7-inch high-brightness monochrome tubes (6.3 raster size), with optical coupling and liquid cooling system

Projection lenses

High performance, large diameter hybrid lens F1.05

Television system

American TV standard

Channel coverage

DTV: 2-69/VHF: 2-13/UHF: 14-69/CATV: 1-125

Antenna

75 ohm external terminal for VHF/UHF

Screen size (measured diagonally)

65 inches

Inputs/outputs on the upper panel

VIDEO 1/3 IN

VIDEO 2 INPUT

S VIDEO IN (4-pin mini DIN):

Y: 1 Vp-p, 75-ohms unbalanced, sync negative

C: 0.286 Vp-p (Burst signal), 75 ohms

VIDEO (phono jack): 1 Vp-p, 75-ohms unbalanced, sync negative

AUDIO (phono jacks): 500 mVrms (100% modulation), Impedance: 47 kilohms

VIDEO 4 IN

S VIDEO IN (4-pin mini DIN):

Y: 1 Vp-p, 75-ohms unbalanced, sync negative

C: 0.286 Vp-p (Burst signal), 75 ohms

VIDEO (phono jack): 1 Vp-p, 75-ohms unbalanced, sync negative

AUDIO (phono jacks): 500 mVrms (100% modulation), Impedance: 47 kilohms

Y: 1 Vp-p, 75 ohms, sync negative

PB: 0.7 Vp-p, 75 ohms

Pr: 0.7 Vp-p, 75 ohms

VIDEO 5 (HD) IN: Maximum scanning rate 1080i

Y: 1 Vp-p, 75 ohms, negative or tri-level sync

PB: 0.7 Vp-p, 75 ohms

Pr: 0.7 Vp-p, 75 ohms

or

G: 0.7 Vp-p

B: 0.7 Vp-p

R: 0.7 Vp-p

HD: 0.5-5 Vp-p, 2.2 kilohms

VD: 0.6-5 Vp-p, 2.2 kilohms

Note:

The VIDEO 5 (HD) IN jacks are not compatible with a computer's 5BNC (R/G/B/HD/VD) video output connectors.

AUDIO (phono jacks): 500 mVrms (100% modulation), Impedance: 47 kilohms

SELECT OUT

VIDEO (phono jack): 1 Vp-p, 75-ohms unbalanced, sync negative

AUDIO (phono jacks): 470 mVrms (100% modulation), Impedance: 4.7 kilohms

AUDIO (VAR) OUT (phono jacks): 950 mVrms (100% modulation)

AUDIO (FIX) OUT (phono jacks): 500 mVrms (100% modulation)

Inputs/outputs on the lower panel

VIDEO 1/2 OUT

S VIDEO OUT (4-pin mini DIN):

Y: 1 Vp-p, 75-ohms unbalanced, sync negative

C: 0.286 Vp-p (Burst signal), 75 ohms

VIDEO (phono jacks): 1 Vp-p, 75-ohms unbalanced, sync negative

AUDIO (phono jacks): 470 mVrms (100% modulation), Impedance: 4.7 kilohms

VIDEO 3 OUT

Analog RGB/Component (phono jacks)

Y: 1.0 Vp-p, 75 ohms, sync negative

PB: 0.7 Vp-p, 75 ohms

Pr: 0.7 Vp-p, 75 ohms

VIDEO 4 OUT

R/G/B: 0.7 Vp-p, 75 ohms

HD SYNC: 3 Vp-p, positive

VD SYNC: 3 Vp-p, positive

DOLBY DIGITAL OUTPUT (OPTICAL) (optical output connector): -18 dBm, wave length: 660 nm

S-LINK: minijacks

CONTROL S IN/OUT: minijacks

Speaker

Front (Tweeter): 70 mm (2") × 2

Front (Super Tweeter): 30 mm (1 1/4") × 2

Front (Woofer): 130 mm (5") × 2

Front (Center): 100 mm (4") × 2

Rear: 70 mm (2 3/4") × 4

Speaker output

Front: 20 W × 2

Center: 20 W × 1

Rear: 10 W × 2

Power requirement

120 V AC, 60 Hz

Power consumption

In use (Max.): 375 W

In standby: 3.4 W

Dimensions (W/H/D)

1,767 × 1,570 × 738 mm (69 5/8 × 61 7/8 × 29 1/8 inches)

Mass

217 kg (478 lbs 6 oz)

Supplied accessories

Remote control RM-Y904 (1)

Batteries (2) size AA (R6)

Rear speakers (2)

Speaker cords (2)

Optional accessories

Connecting cables

RK-C34, RK-74A, RKG-69HG, VMC-10HG,

VMC-720M, VMC-810S/820S, YC-15V/30V, Optical

digital cable

U/V mixer EAC-66

Design and specifications are subject to change without notice.

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