

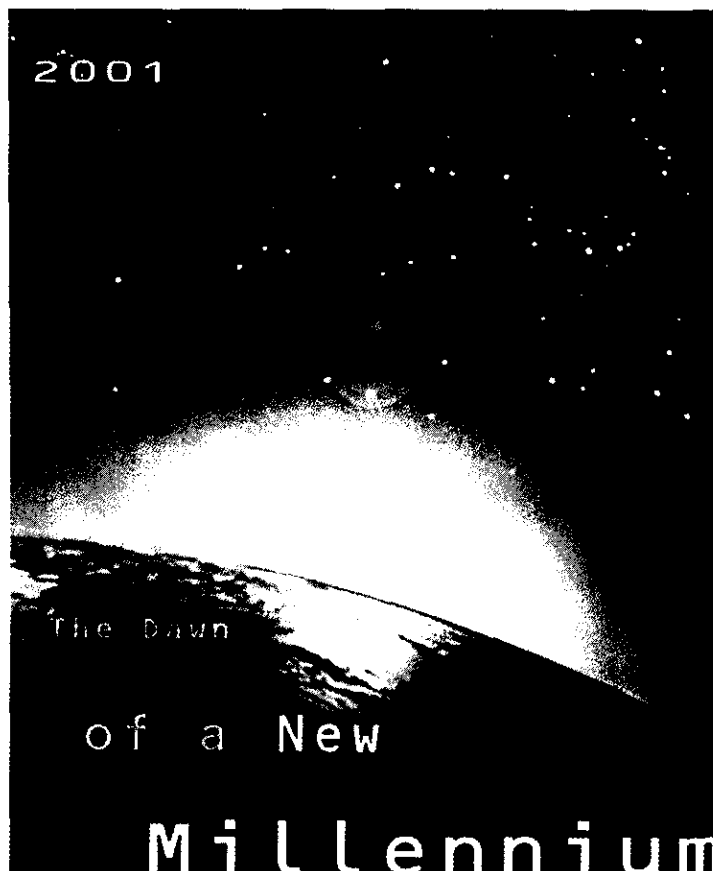
Panasonic®

Color Video Projection System Operating Instructions

PT-51HX41

PT-56HX41

PT-61HX41



For assistance, please call: 1-888-VIEW-PTV or send
e-mail to: consumerproducts@panasonic.com

TQB2AA0381 10316
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WARNING

To move set, push from left side of set. Casters on right side do not pivot in all directions. Set can tip over if moved from right side, with risk of personal injury.

ADVERTENCIA

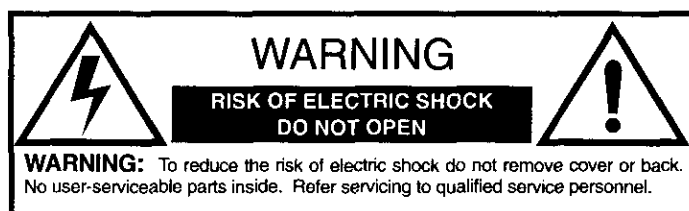
Para mover el conjunto, empuje desde el lado izquierdo de mismo. Los rolanas de la derecha no son pivotantes en todas las direcciones. El conjunto se puede tumbar si se lo mueve desde el lado derecho, corriendo así el riesgo de sufrir daños personales.

Mise en garde

Lors du déplacement du téléviseur, le pousser sur son côté gauche. Les roulettes du côté droit ne pouvant tourner dans toutes les directions, l'appareil pourrait tomber s'il est poussé de ce côté et causer ainsi de risques de blessure.

警告

移動本機時，請從本機左側推動。推車右側不能旋轉。如從右側移動，則機體可能傾倒並造成傷害。



The lightning flash with arrow head within a triangle is intended to tell the user that parts inside the product are a risk of electric shock to persons.



The exclamation point within a triangle is intended to tell the user that important operating and servicing instructions are in the papers with the appliance.

WARNING: To prevent fire or shock hazard, do not expose this appliance to rain or moisture.

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Read these instructions completely before operating PTV.

Contents are subject to change without notice or obligation.

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Feature Chart

MODELS		PT-51HX41	PT-56HX41	PT-61HX41
FEATURES				
SPECIAL FEATURES	MENU LANGUAGE ENG/SPAN/FR	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	2 TUNER SPLIT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	VIDEO INPUT SKIP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	CLOSED CAPTIONING	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	V-CHIP CAPABILITY	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	DIGITAL SCAN RATE	1080i, 480p	1080i, 480p	1080i, 480p
	NTSC LINE - DOUBLER	480p	480p	480p
	VIDEO NORM	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
AUDIO	AUDIO NORM	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	STEREO	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	AI SOUND	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	BASS/BALANCE/TREBLE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	SURROUND	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
AV JACKS	DOLBY CENTER CHANNEL IN	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	A/V PROGRAM OUT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	A/V IN (REAR/FRONT)	4 (3/1)	4 (3/1)	4 (3/1)
	AUDIO OUT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	S-VHS INPUT (REAR/FRONT)	2/1	2/1	2/1
COMPONENT INPUT	2	2	2	

IMPORTANT INFORMATION REGARDING THE USE OF VIDEO GAMES, COMPUTERS, OR OTHER FIXED IMAGE DISPLAYS.

WARNING: The marking or retained image on the picture tube resulting from viewing fixed image is not an operating defect and as such is not covered by Warranty.

The projection television is designed to display constantly moving images on the screen. Continuous viewing of stationary images such as letterbox pictures on standard screen TVs (with top/bottom bars), non-expanded standard (4:3) pictures on wide screen TVs (with side bars shown on each side of an image), stock market report bars (ticker running at the bottom of the screen), video game patterns, fixed scoreboards, bright station logos, on-line (internet) or repetitive computer style patterns should be limited.

The extended use of fixed image program material can cause a permanent picture tube damage, shown as a "shadow image" viewable on normal programs. This type of irreversible picture tube deterioration can be limited by performing the following steps:

- Limit the display of fixed image program material to no more than 15% of total viewing time per week.
- Turn the power off when not in use.

CONGRATULATIONS

Congratulations

Your new Projection Television (PTV) features state-of-the-art technology for high quality picture and sound with complete audio/video connections for your home theater system. Your PTV is designed to give you many years of enjoyment. It was thoroughly tested and tuned at the factory for best performance.

Customer Record

The model and serial number of this product are located on the back of the PTV. You should note the model and serial number in the space provided and retain as a permanent record of your purchase. This will aid in identification in the event of theft or loss. Product registration for U.S. customers is available at: www.prodreg.com/panasonic.

Model
Number

Serial
Number

Care and Cleaning

Projection Screen (Turn PTV Off)

The projection screen is a high precision lens system which has a protective screen. The protective screen is fully washable with the following precautions:

- Use a mild soap solution or window cleaner and a clean cloth.
 - DO NOT USE ABRASIVE CLEANERS.
 - Do not use laundry detergent or automatic dishwasher soap.
 - Do not use alcohol, ammonia, or petroleum based products.
- Avoid excessive moisture and wipe dry.
 - Prevent solution from running into the receiver below.
- Avoid bumping or scraping the screen.

Cabinet and Remote Control

- For cabinets and remote control, use a soft cloth dampened with water or a mild detergent solution. Avoid excessive moisture and wipe dry.
- Do not use benzene, thinner or other petroleum based products.

Specifications

Power Source PT-51HX41 (4.2A) PT-56HX41 (4.2A) PT-61HX41 (4.2A)	120V AC, 60Hz
Channel Capability - 181	VHF-12; UHF-56; Cable-113
Video Input Jacks	1Vp-p, 75 Ohm, Phono Jack Type
Audio Input Jacks	500mV RMS 47K Ohm
Video Output Jack	1Vp-p, 75 Ohm, Phono Jack Type
Audio Output Jacks	0-2.0V RMS 4.7K Ohm
Component Input (Y / P_B / P_R)	75 Ohm, Phono Jack Type
S-Video Input Jacks	S-Video (Y-C) Connector

Specifications are subject to change without notice or obligation.

Installation

Television Location

This unit can be used as an entertainment center. Consult your dealer for available options.

- Avoid excessive sunlight or bright lights, including reflections.
- Keep away from excessive heat or moisture. Inadequate ventilation may cause internal component failure.
- Fluorescent lighting may reduce remote control transmitting range.
- Keep away from magnetic equipment, including motors, fans and external speakers.

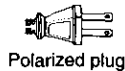
Optional Cable Connections

Shielded audio and video cables should be used between components. For best results:

- Use 75-ohm coaxial shielded cables.
- Use appropriate input and output connectors, that match your component connectors.
- Avoid long cables to minimize interference.

AC Power Supply Cord

CAUTION: TO PREVENT ELECTRIC SHOCK, MATCH WIDE BLADE OF PLUG TO WIDE SLOT OF AC OUTLET AND FULLY INSERT. DO NOT USE A PLUG WITH A RECEPTACLE OR OTHER OUTLET UNLESS THE BLADE CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.



Polarized plug

PROTECT POWER CORDS FROM BEING WALKED ON, ROLLED OVER, CRIMPED, BENT, OR PINCHED, PARTICULARLY AT PLUGS, CONVENIENCE RECEPTACLES, AND THE POINT WHERE THEY EXIT FROM THE APPARATUS.

Cable / Antenna Connection

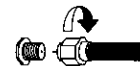
For proper reception, either a cable or antenna connection is required.

Cable Connection

Connect the cable supplied by your local cable company to ANT1 connection on back of television. Select cable mode and ANT1 in SET UP menu under Prog Chan (Program Channels).

Note: A cable converter box may be required for proper reception. Check with your local cable company for compatibility requirements.

Incoming Cable from Cable Company

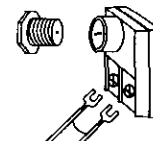



75 Ohm VHF/UHF on back of PTV

Antenna Connections

- For proper reception of VHF/UHF channels, an external antenna is required. For best reception, an outdoor antenna is recommended.
- Connect home antenna to ANT1 connection on back of television. Select TV mode and ANT1 in the SET UP menu under Prog Chan.

Incoming Cable from Home Antenna





Cable Preset

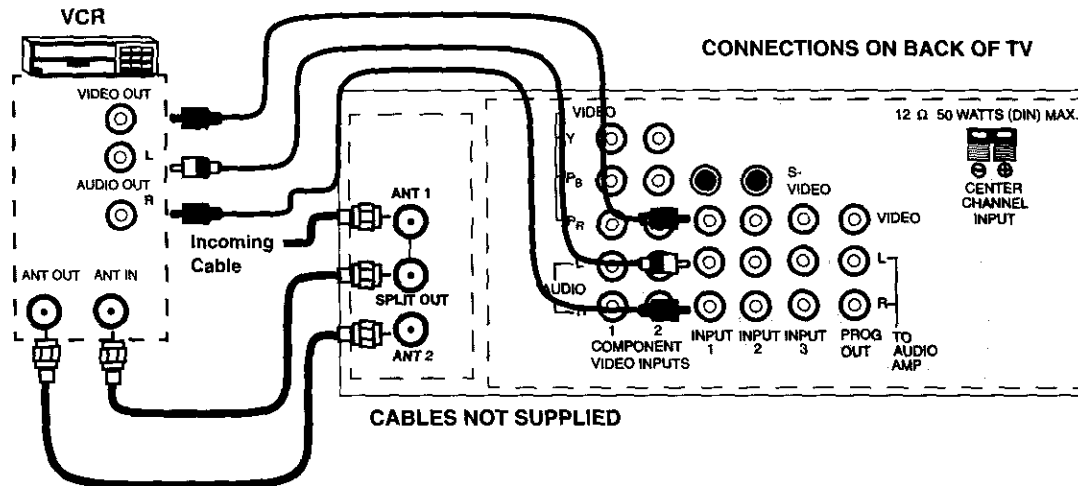
Cable Mode is preset at the factory. Antenna users must change to TV Mode and ANT 1 in the Set Up menu.

INSTALLATION

Optional Equipment Connections

VCR Connection

Follow this diagram when connecting your television to a VCR only.



Note: The remote control must be programmed with supplied codes to operate the VCR. See Programming the Remote Control in the **Remote Control Quick Reference Guide**.

Viewing a television program

Procedure

1. Select ANT1 in the SET UP menu under Prog Chan (Program Channels).
2. Tune the television to the television program you want to view.

Viewing a video

Procedure

- Option A
 1. Select ANT1 in the SET UP menu under Prog Chan (Program Channels).
 2. Press the **TV/VIDEO** button on the remote control to select the video input (VIDEO 1, VIDEO 2, etc.) connected to your VCR.
 3. Begin the video.
- Option B
 1. Select ANT2 in the SET UP menu under Prog Chan (Program Channels).
 2. Tune the television to Channel 3 or 4, depending on your VCR.
 3. Begin the video.

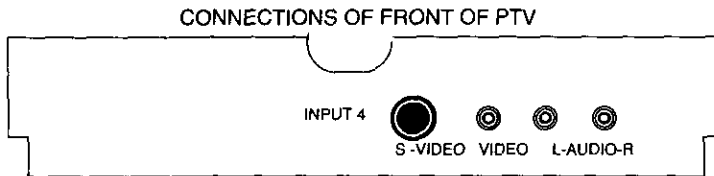
Recording a television program

Procedure

- Option A (Recording and viewing the same program)
 1. Select ANT2 in the SET UP menu under Prog Chan (Program Channels).
 2. Tune the television to Channel 3 or 4, depending on your VCR.
 3. Using the VCR, tune to the television program you want to record.
 4. Begin recording.
- Option B (Recording one program while viewing another program)
 1. Select ANT1 in the SET UP menu under Prog Chan (Program Channels).
 2. Press the **TV/VIDEO** button on the remote control to select the video input (VIDEO 1, VIDEO 2, etc.) connected to your VCR.
 3. Using the VCR, tune to the television program you want to record.
 4. Begin recording.
 5. Press the **TV/VIDEO** button on the remote control to switch back to TV mode.
 6. Tune the television to the television program you want to view.

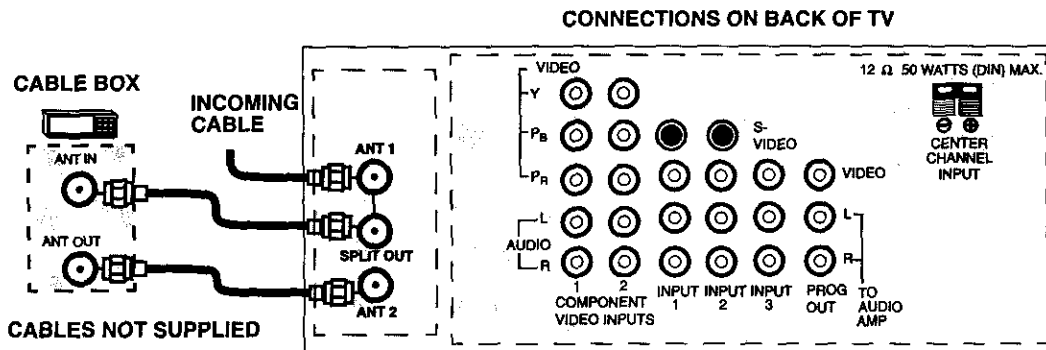
Optional Equipment Connections (Cont.)

Open the door on the PTV front panel to use the connections for your optional equipment (Palmcorder, VCR, or other video components). Select input 4 mode by pressing **TV/VIDEO** button.



Cable Box Connection

Follow this diagram when connecting your television to a cable box only.



Note: The remote control must be programmed with supplied codes to operate the cable box. See *Programming the Remote Control in the Remote Control Quick Reference Guide.*

Viewing a premium (scrambled) cable channel

Procedure

1. Select ANT2 in the SET UP menu under Prog Chan (Program Channels).
2. Tune the television to Channel 3.
3. Using the cable box, tune to the premium cable channel you want to view.

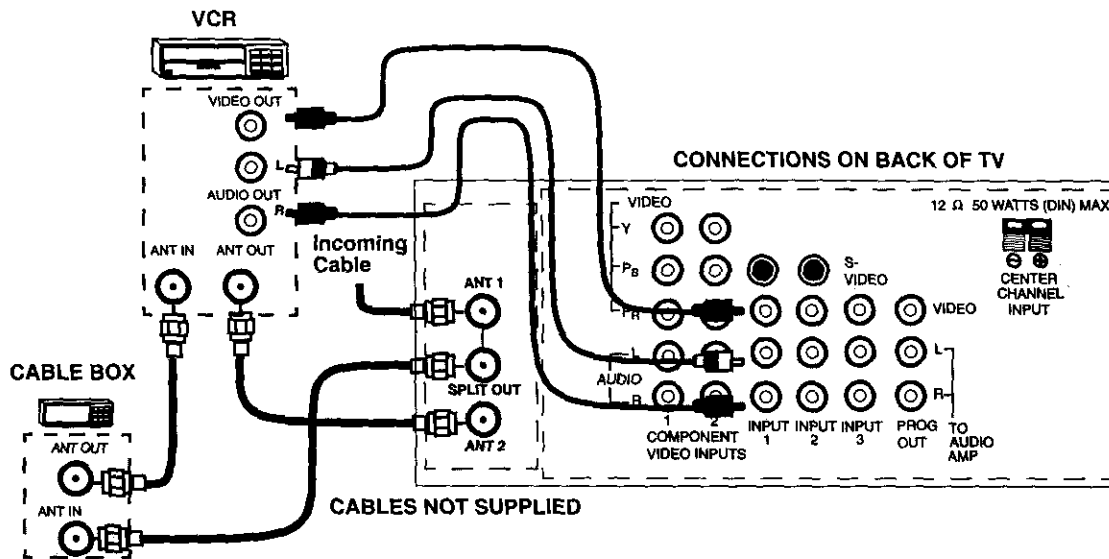
Note: To use special features such as *Favorite Channels* and *Channel Captions* (see *Special Features* section for more information), ANT1 must be selected in the SET UP menu under Prog Chan.

INSTALLATION

Optional Equipment Connections (Cont.)

VCR and Cable Box Connection

Follow this diagram when connecting your television to both a VCR and a cable box.



Note: The remote control must be programmed with supplied codes to operate the VCR and cable box. See Programming the Remote Control in the **Remote Control Quick Reference Guide**.

Viewing a premium (scrambled) cable channel

Procedure

1. Select ANT2 in the SET UP menu under Prog Chan (Program Channels).
2. Tune the television to Channel 3.
3. Using the cable box, tune to the premium cable channel you want to view.

Note: To use special features such as Favorite Channels and Channel Captions (see Special Features section for more information), ANT1 must be selected in the SET UP menu under Prog Chan.

Recording a premium (scrambled) cable channel

Procedure

1. Select ANT2 in the SET UP menu under Prog Chan.
2. Press the **TV/VIDEO** button on the remote control to select the video input (VIDEO 1, VIDEO 2, etc.) connected to your VCR.
3. Turn the VCR ON.
4. Tune the VCR to Channel 3 or 4, depending on your VCR.
5. Using your cable box, tune to the premium cable channel you want to record.
6. Begin recording.

Note: To view a different channel while recording:

- Select ANT1 in the SET UP menu under Prog Chan.
- Press the **TV/VIDEO** button on the remote control to select TV mode.
- Tune the television to a television program (except another premium cable channel).

Optional Equipment Connections (Cont.)

Amplifier Connection (TO AUDIO AMP)

To listen through a separate stereo system, connect an external audio amplifier TO AUDIO AMP outputs on back of television.

Note: TO AUDIO AMP terminals cannot be connected directly to external speakers.

Audio Adjustments

1. Select SPEAKERS ON located in the on screen AUDIO menu .
2. Set amplifier volume to minimum.
3. Adjust PTV volume to desired level.
4. Adjust amplifier volume to match the PTV.
5. Select SPEAKERS OFF & VARIABLE AUDIO OUT from AUDIO menu to control speakers from the PTV or select FIXED AUDIO OUT to control speakers from the external amplifier.
6. Volume, mute, bass, treble and balance are now controlled from the PTV, if you select VARIABLE AUDIO OUT mode.

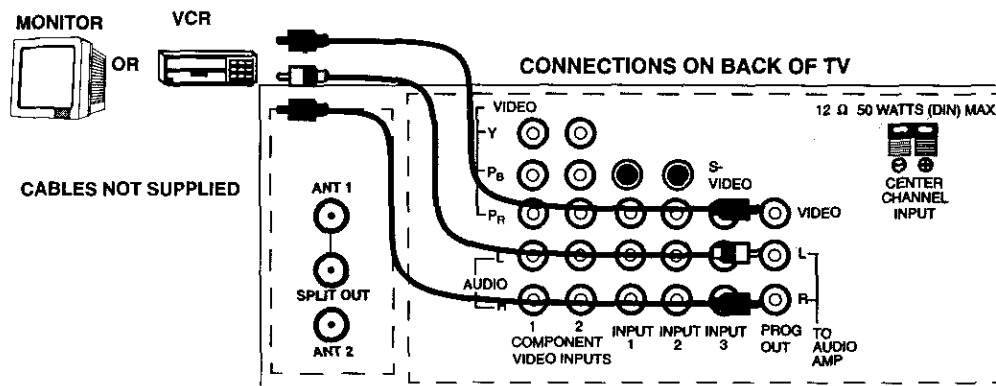
Program Out Connection (PROG. OUT)

To use the PTV audio and video with optional video equipment, use PROG. OUT and TO AUDIO AMP terminals on the back of the PTV.

Procedure

1. Connect optional video equipment to PROG. OUT video and TO AUDIO AMP R/L Audio terminals.
2. PROG OUT terminal display is the same as the on screen display.

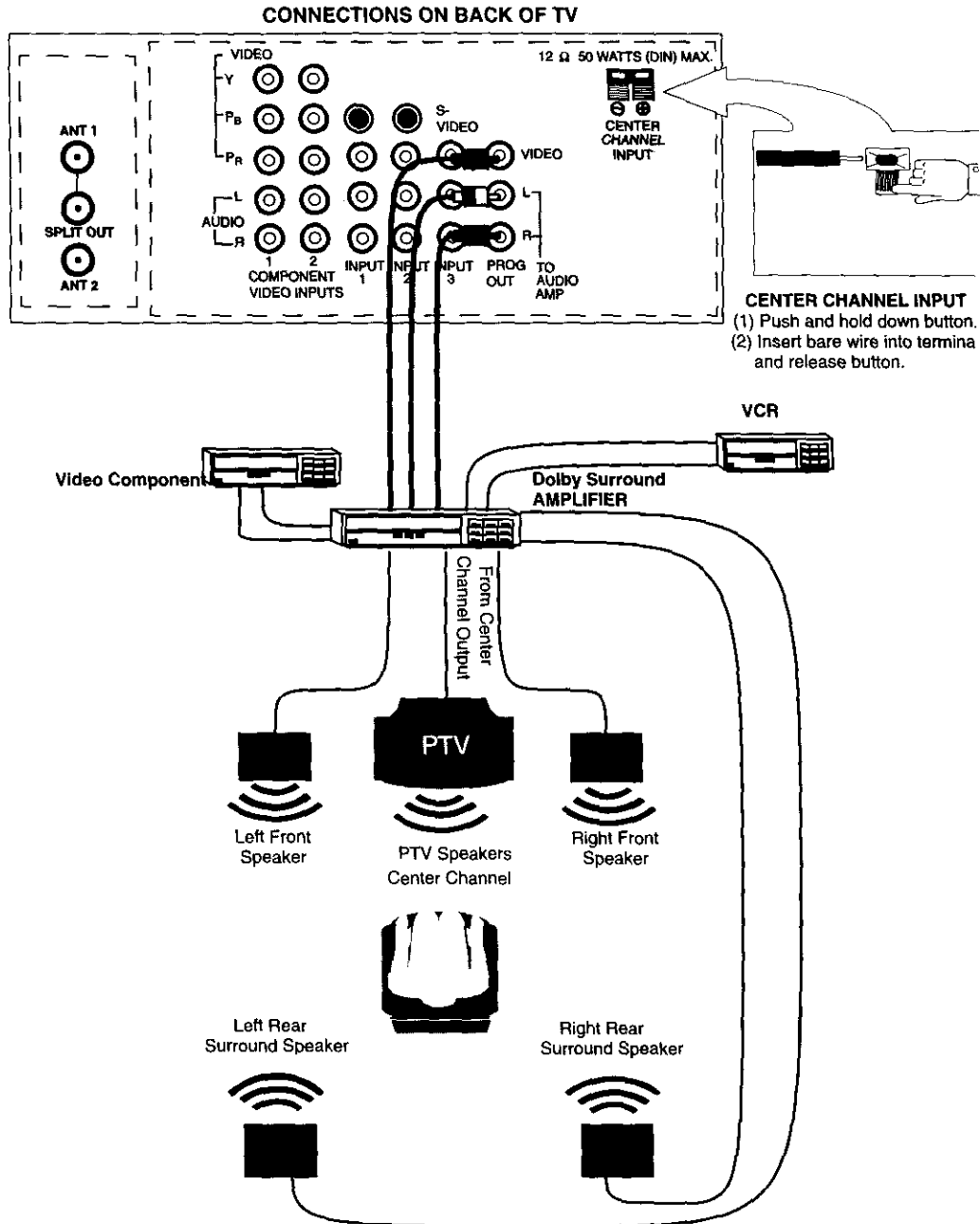
See optional equipment manual for further instructions for recording or monitoring.



DOLBY CENTER CHANNEL INPUT CONNECTION

Dolby Center Channel Input Connection

Your PTV can be configured to use the PTV speakers as center channel speakers in Dolby* surround sound transmission. Connect a Dolby surround amplifier to CENTER CHANNEL INPUT on the back of the PTV as shown. DOLBY CENTER MODE & FIXED AUDIO OUT must be selected in the AUDIO Roller Guide™** menu under SPEAKERS.



*"Dolby" and "Pro-logic" are the trademarks of Dolby Laboratories Licensing Corporation.

**U.S. Patent Pending

Picture In Picture (PIP) Operation

This television includes a two tuner Picture In Picture (PIP) feature. This allows watching two (2) live broadcasts at the same time without or with an external video source (VCR).

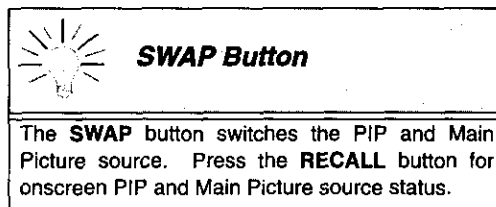
Basic PIP Operation

Procedure

Press the **PIP** button on the remote control to display the *PIP* frame onscreen.

Note: *The audio is for the Main Picture only.*

1. Choose channels for the *PIP* frame by pressing the remote control **PIP CHANNEL** up/down buttons.
2. Choose channels for the *Main Picture* by pressing the remote control **CH** up/down buttons or by using the numeric keypad.



PIP Operation with a Cable Box

Procedure

- To view premium (scrambled) cable channels through your cable box in the *Main Picture*:

Note: *Use this procedure if you want to watch premium cable channels in the Main Picture while viewing a television program or video in the PIP frame.*

1. Select ANT2 in the SET UP menu under Prog Chan (Program Channels).
2. Tune television to Channel 3.
3. Press the **PIP** button on the remote control to display the *PIP* frame onscreen.

Note: *The audio is for the Main Picture only.*

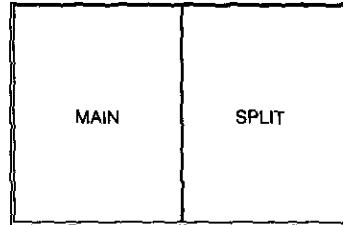
4. Verify the cable box is ON.
5. Choose channels for the *Main Picture* by tuning the cable box.
6. Choose channels for the *PIP frame* by pressing the **TV** button on the remote control and using the **PIP CHANNEL** up/down buttons.

Note: *Swap is not available when using the cable box to tune channels. If your cable box has a video output, it can be connected to the television to allow you to use all PIP functions. See the equipment manual for more information. (Tune the PIP to the video input connected to the cable box).*

SPLIT SCREEN OPERATION


Split Screen Operation

This feature lets you watch two different channels side by side with or without an external video source. The audio is from the Main picture only (left side).



Basic SPLIT Operation

Procedure

Press the  button on the remote control to display the *SPLIT* screen.

Note: *The audio is from the Main Picture only.*

1. Choose channels for the *SPLIT Picture* by pressing the remote control **PIP CHANNEL** up/down buttons.
2. Choose channels for the *Main Picture* by pressing the remote control **CH** up/down buttons or by using the numeric keypad.
3. The **SWAP** button switches the *SPLIT* and *MAIN Picture* source. Press **RECALL** button for onscreen *SPLIT* and *Main Picture* source status.

DIGITAL TV - SET-TOP BOX (DTV-STB) OR DVD CONNECTION

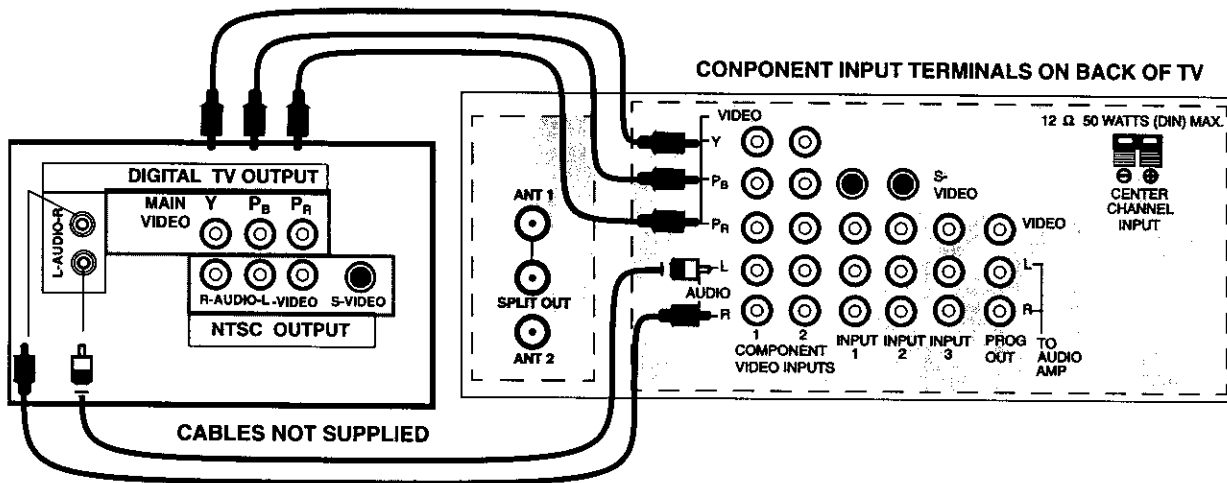
Digital TV - Set-Top Box (DTV-STB) or DVD Connection

This television is capable of displaying 1080i and 480p DTV signals when connected to a DTV Tuner set-top-box (STB). In order to view DTV programming, the STB must be connected to the component video inputs (Y, P_B, P_R) of the television. A DTV signal must be available in your area. Select the output of the STB to either 1080i or 480p.

This television also utilizes a progressive scan doubler, which de-interlaces the NTSC signal and progressively scans the image. This allows you to sit very close to the TV and not see the thin black horizontal lines (venetian blind effect) associated with interlaced TV pictures.

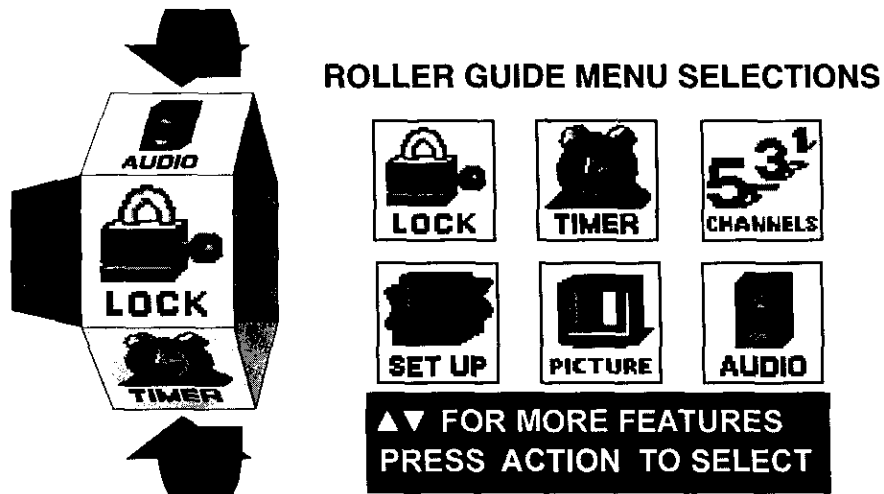
Use this diagram to connect the Panasonic DTV-STB (Digital TV-Set-Top Box) or DVD to the back of your PTV.

TERMINALS ON BACK OF DTV-STB OR DVD PLAYER



Note: There are 2 sets of three video inputs, Y, P_B, and P_R. Separate component color inputs provide luminance and color separation. Use the L (left) and R (right) audio inputs.

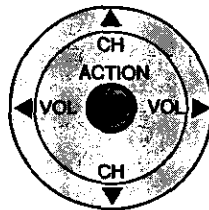
ROLLER GUIDE MENU NAVIGATION
Roller Guide Menu Navigation



Procedure

1. Press the **ACTION** button on the Remote Control to display the Roller Guide Menu.
2. Press the **CH** up/down to rotate the Roller Guide to the desired feature.
3. Press the **ACTION** button to display main menus and submenus.
4. Press the **CH** up/down buttons to highlight desired main menu feature.
5. Press the **VOL** right button to enter submenus.
6. Press the **CH** up/down buttons to highlight desired submenu feature.
7. Press the **VOL** right/left button to select or adjust feature.
8. Press the **ACTION** button twice to return to the Roller Guide Menu.
9. To exit the Roller Guide Menu, press the **VOL** left button.




Remote ACTION / Navigation Button




Remote Control Guide

The **Remote Control Quick Reference Guide** is located within the package provided with this PTV.


Roller Guide Feature Chart

MENU	DESCRIPTION
	<p align="center">SET UP</p>
<p>LANGUAGES</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Select English, Spanish, or French menu.
<p>PROG. CHAN (Program Channels)</p>	<ul style="list-style-type: none"> <input type="checkbox"/> MODE - Select Cable or TV. See Installation section in manual. <input type="checkbox"/> ANTENNA - Select ANT 1 or ANT 2. <input type="checkbox"/> AUTO PROGRAM - Automatically program channels having a signal into memory. <input type="checkbox"/> MANUAL PROGRAM - Manually add or delete channels from memory.
<p> (Closed Captioning)</p>	<ul style="list-style-type: none"> <input type="checkbox"/> CC ON MUTE - Activate C1-C4 for Closed Captioning display when the remote MUTE button is pressed. <input type="checkbox"/> CC MODE - Select T1-T4 or C1-C4 for Closed Captioning, program guides and other information.
<p>OTHER ADJ.</p>	<ul style="list-style-type: none"> <input type="checkbox"/> AUTO POWER ON - Select SET to power up the TV at the same time as the Cable Box or other components or select OFF. <input type="checkbox"/> CONVERGENCE 1 - Adjustment may be required when the PTV is moved because of the effects of the Earth's magnetic field on the projection tubes. <input type="checkbox"/> CONVERGENCE 2 - Adjustment may be required after setting Convergence 1.
	<p align="center">AUDIO</p>
<p>AUDIO ADJ. (Adjustments)</p>	<ul style="list-style-type: none"> <input type="checkbox"/> MODE - Select STEREO, SAP (Second Audio Program) or MONO. (Use MONO when stereo signal is weak.) <input type="checkbox"/> BASS - Increase or decrease the bass response. <input type="checkbox"/> TREBLE - Increase or decrease the treble response. <input type="checkbox"/> BALANCE - Emphasize the left/right speaker volume. <input type="checkbox"/> NORMAL - Reset BASS, TREBLE and BALANCE to factory default.

Roller Guide Feature Chart (Cont.)



MENU	DESCRIPTION
<p>OTHER ADJ. (Adjustments)</p>	<ul style="list-style-type: none"> <input type="checkbox"/> AI SOUND - Automatically adjust volume to maintain a comfortable listening level. (AI sound is not available in VIDEO mode). <input type="checkbox"/> BBE - Sound technology enhances speech intelligibility and restores the dynamic range of musical passages to provide outstanding natural sound.
<p>SURROUND</p>	<ul style="list-style-type: none"> <input type="checkbox"/> MODE - Enhances audio response when listening to stereo.
<p>SPEAKERS</p>	<ul style="list-style-type: none"> <input type="checkbox"/> ON - PTV speakers operate normally. <input type="checkbox"/> OFF & VARIABLE AUDIO OUT - PTV speakers off - audio adjustable by PTV. <input type="checkbox"/> OFF & FIXED AUDIO OUT - PTV speakers off — audio adjustable only by the external amplifier. <input type="checkbox"/> DOLBY CENTER MODE & FIXED AUDIO OUT - PTV speakers provide center speakers for Dolby sound transmission available on video or laser disc. (See installation section in manual.)
<div style="text-align: center;">  <p>TIMER</p> </div>	<p style="text-align: center;">TIMER</p>
<p>CLOCK SET</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Set the time and the day of the week. (Time will display onscreen after turning on the television, pressing the RECALL button or changing channels).
<p>SLEEP</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Set timer to turn off PTV in 30, 60 or 90 minutes. Select NO to turn timer off.
<p>TIMER 1 TIMER 2</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Set one or both timers to automatically turn television on and off at selected times, on selected channels, and on selected days. (Clock must be set to use Timer features).

Roller Guide Feature Chart (Cont.)

MENU	DESCRIPTION
 <p>PICTURE</p>	<p>PICTURE</p>
<p>VIDEO ADJ1 (Adjustments)</p>	<ul style="list-style-type: none"> <input type="checkbox"/> COLOR - Adjust desired color intensity. <input type="checkbox"/> TINT - Adjust natural flesh tones. <input type="checkbox"/> BRIGHTNESS - Adjust dark areas for crisp detail. <input type="checkbox"/> PICTURE - Adjust white areas of picture. <input type="checkbox"/> SHARPNESS - Adjust clarity of outline detail. <input type="checkbox"/> NORMAL - Reset all picture adjustments to factory default settings.
<p>VIDEO ADJ2 (Adjustments)</p>	<ul style="list-style-type: none"> <input type="checkbox"/> COLOR TEMP NORMAL - Adjust white balance to COOL (blue), WARM (red) or NORMAL. <input type="checkbox"/> NATURAL COLOR - Expands the color reproduction range resulting in vivid pictures with natural color gradation and highly delicate hues. <input type="checkbox"/> VIDEO NR - Reduces noise in the channel, commonly called snow. Remains off when receiving strong signal. <input type="checkbox"/> 3D Y/C FILTER - Minimize noise and cross color in the picture. <input type="checkbox"/> ASPECT - Select 16:9 or 4:3 with 1080i input signal from STB.
<p>OTHER ADJ (Adjustments)</p>	<ul style="list-style-type: none"> <input type="checkbox"/> SCAN MODE - Select TV mode (frame doubling) for optimum detail and clarity. Select Game mode (line doubling) to optimize picture when playing complex, fast action video games. <input type="checkbox"/> COLOR MATRIX - Select HD or SD to automatically adjust color parameters for HD (high definition) and SD (standard definition) transmissions.

ROLLER GUIDE FEATURE CHART

Roller Guide Feature Chart (Cont.)

MENU	DESCRIPTION
	<p align="center">CHANNELS</p>
<p align="center">FAVORITES</p>	<ul style="list-style-type: none"> <input type="checkbox"/> CHANNEL SCAN - Select FAV (16 favorites) or ALL channels to scan channels using the up/down CH buttons.
<p align="center">CAPTION</p>	<ul style="list-style-type: none"> <input type="checkbox"/> PRESET CAPTION - Enter channel numbers for preset captions. <input type="checkbox"/> MANUAL CAPTION - Enter channel numbers and captions manually. <input type="checkbox"/> INPUT LABEL - Label video connections for onscreen display of optional equipment. <p><i>Note: This receiver has a video input skip feature, which will allow the user to skip Input modes when pressing TV/VIDEO button.</i></p>
	<p align="center">LOCK</p>
<p align="center">MODE</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Lock All, Channels or Game with a secret code. <p><i>Note: For more information about Block Programs, see the V-CHIP Parental Lock manual provided with the TV package.</i></p>
<p align="center">HOW LONG?</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Select the period of time (12, 24, 48 hours or ALWAYS) for your option to be locked.

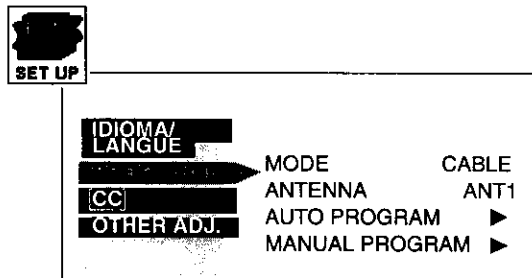
Special Features

SET UP

Prog Chan (Program Channels)

In SET UP menu under PROG CHAN select:

- MODE to select TV (antenna) or CABLE mode depending on the signal source.
- ANTENNA to select either ANT1 or ANT2.
- AUTO PROGRAM to automatically program all channels with a signal.
- MANUAL PROGRAM to manually add or delete channels.



CC (Closed Captioning)

This television contains a built-in decoder that displays **CC** (Closed Captioned) text across the screen (white or colored letters on black background). It allows the viewer to read the dialogue of a television program or other information. The program viewed must include Close Captioning for the feature to work.

CC Mode

- In SET UP Menu, select **CC** (Closed Caption).
- Select **CC** MODE.
- Select OFF, C1, C2, T1, T2, C3, C4, T3 or T4:
 - OFF - When Closed Caption is not desired.
 - C1 - For video related information to be displayed, up to 4 lines onscreen at a time. (It does not block relevant parts of the picture). Text may be in any language.
 - C2 to C4 - For other modes of video related information.
 - T1 - For program guide and other information to be displayed, when available. (Blocks a large portion of the picture on the television screen).
 - T2 to T4 - For other modes of information. (Blocks a large portion of the picture on the television screen).
- Press ACTION to return to submenu options, and exit menus.

CC On Mute

Activates the onscreen Closed Caption feature when the MUTE button on the remote control is pressed.

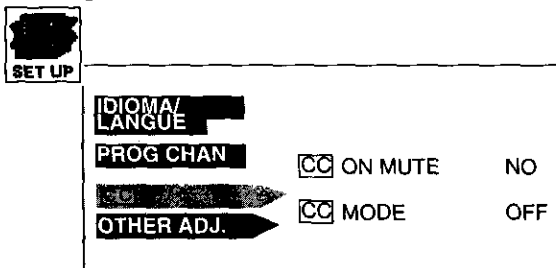
Note: This feature only functions when the Closed Caption Mode is OFF. The program being viewed must be broadcast with Closed Captioning. (Refer to your local TV guide).

- In SET UP Menu, select **CC** (Closed Caption).
- Select NO, C1, C2, C3, or C4.
- Recommended set up for Closed Caption when using the MUTE button:
 - **CC** ON MUTE: C1
 - **CC** MODE: OFF
- Press ACTION to return to submenu options, and exit menus.

SPECIAL FEATURES

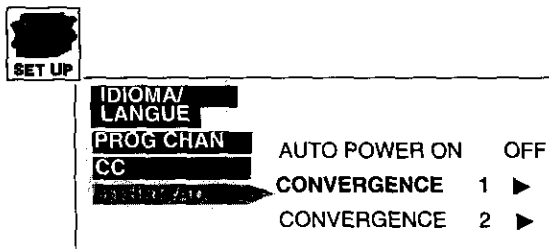
CC On Mute (cont.)

- Press the MUTE button to activate the Closed Caption feature.
- Press the MUTE button again to deactivate the feature.



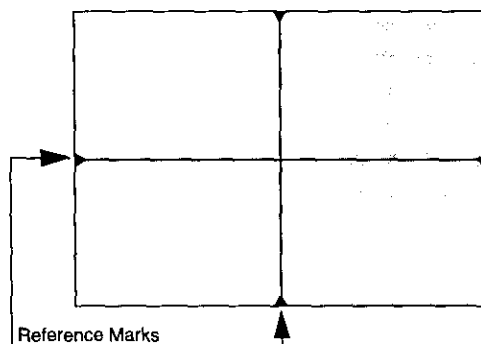
Convergence 1

In SET UP menu select CONVERGENCE under OTHER ADJ. only after moving the PTV to adjust for the effects of the earth's magnetic field on the projection tubes.

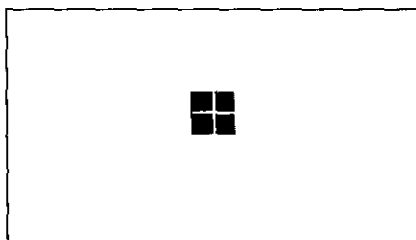


Note: Convergence seldom needs adjusting except after moving the PTV.

Use the navigation buttons to align the horizontal and vertical green lines on screen with the outside reference marks, as shown below. Press the **ACTION** button to move the RED CONVERGENCE screen.

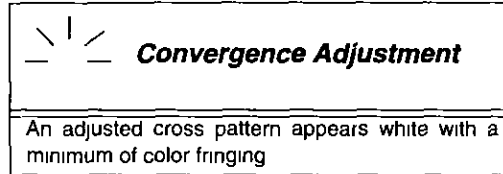


Use the navigation buttons to align the red cross with the white cross pattern at the center of the screen. Press the **ACTION** button to continue to the blue convergence adjustment screen and repeat.



Convergence 1 (cont.)

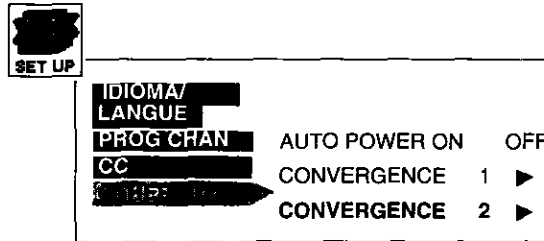
Note: To prevent picture tube damage do not leave test pattern on for an extended period of time



Convergence 2

In SET UP menu select CONVERGENCE 2 under OTHER ADJ

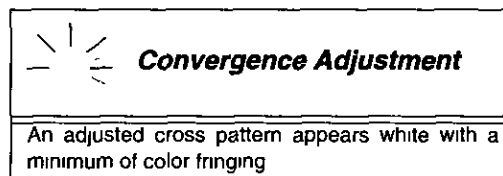
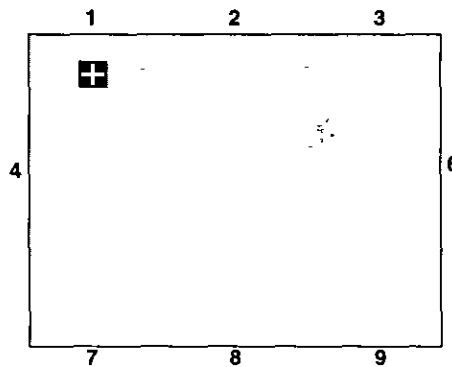
Note: Only converge this after CONVERGENCE 1 is adjusted properly



Procedure

- Press the 1 through 9 keyboard buttons on the remote control to select the desired convergence point
- Use the navigation buttons to align the RED cross with the white cross pattern
- Press the **ACTION** button to continue to the BLUE convergence adjustment screen and repeat

Note: Remote Control must be in TV mode

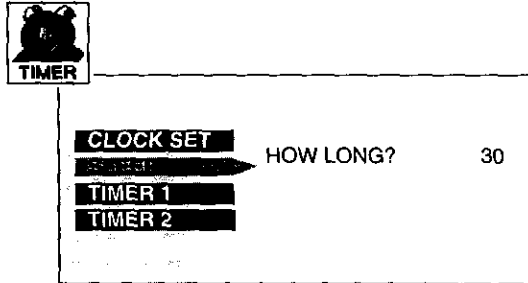


SPECIAL FEATURES

TIMER

Sleep

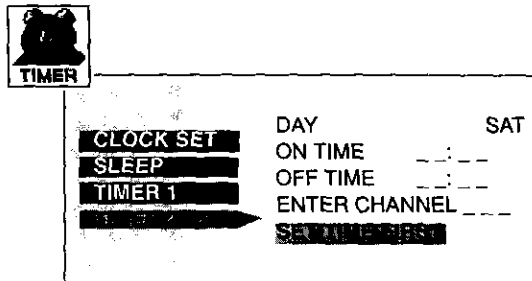
In TIMER menu, select SLEEP to turn PTV off in 30, 60 or 90 minutes. Select NO to turn off timer.



Timer 1 and Timer 2

In TIMER menu, select one or both timers to turn the television on and off at selected times, on selected channels, and on selected days.

Note: TIME must be entered in CLOCK SET to operate TIMER features.



Turn Off After 90 Minutes

The PTV automatically turns OFF after 90 minutes when turned on by the TIMER. If the OFF time is selected or if a key is pressed, the automatic OFF after 90 minutes will be cancelled.



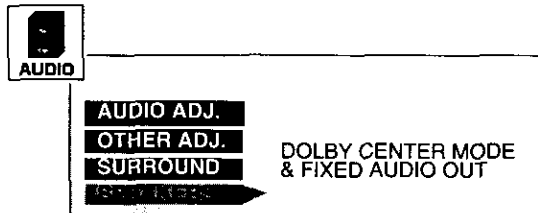
TIMER Activation

The TIMER is active when the PTV is OFF or ON. The PTV will switch to the selected channel at the selected time set in the TIMER.

AUDIO

Dolby Center Mode & Fixed Audio Out

In AUDIO menu under SPEAKERS, select DOLBY CENTER MODE & FIXED AUDIO OUT to operate PTV speakers as center speakers for Dolby sound transmission. (See Installation section in the manual.)

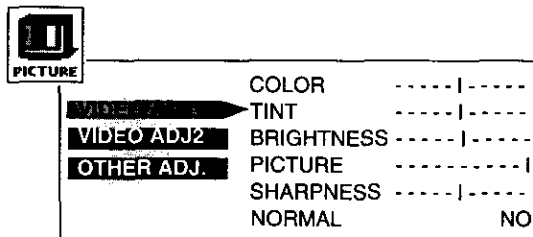


PICTURE

VIDEO ADJ1

In Picture menu under VIDEO ADJ1 select:

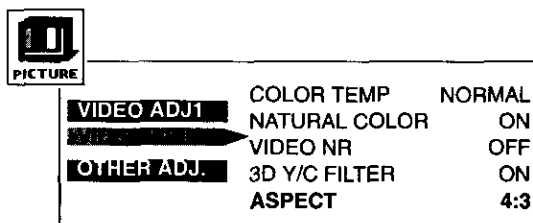
- COLOR - Adjust desired color intensity.
- TINT - Adjust natural flesh tones.
- BRIGHTNESS - Adjust dark areas for crisp detail.
- PICTURE - Adjust white areas of picture.
- SHARPNESS - Adjust clarity of outline detail.
- NORMAL - Reset all picture adjustments to factory default settings.



VIDEO ADJ2

In Picture menu under VIDEO ADJ2. select:

- COLOR TEMP (temperature) - To increase or decrease WARM (red) and COOL (blue) colors to suit personal preferences.
- NATURAL COLOR - To increase the color reproduction range with natural color gradation and highly delicate hues.
- VIDEO NR - Reduces noise in the channel, commonly called snow. Remains off when receiving strong signal.
- 3D Y/C FILTER - Minimizes noise and cross color in the picture.
- ASPECT - Select 16:9 or 4:3 with 1080i input signal from STB. Refer to SELECTABLE 16:9 MODE FEATURE CHART on page 24 for picture display parameters.

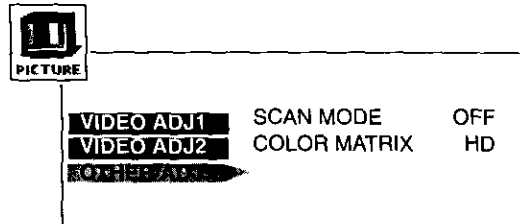


SPECIAL FEATURES

Other Adjustments

In Picture menu under OTHER ADJ. select:

- SCAN MODE** Select TV mode (frame doubling) for optimum detail and clarity. Select Game mode (line doubling) to optimize picture when playing complex, fast action video games.
- COLOR MATRIX** Select HD or SD to automatically adjust color parameters for HD (high definition) and SD (standard definition) transmissions.



Selectable 16:9 Mode Feature Chart

This feature is used to select the desired viewing format, only when 1080i input signal is coming from the STB. Refer to the chart below for possible viewing formats.

PANASONIC STB: MONITOR ASPECT SETTING	PTV: ASPECT SETTING	RESULT	IMAGE DISPLAYED ON SCREEN
4:3	4:3	1080i SCAN FULL-SCREEN LETTERBOX WITH GRAY BARS <i>RECOMMENDED</i>	
16:9	16:9	1080i SCAN IN IMAGE ONLY LETTERBOX WITH BLACK BARS	
16:9	4:3	FULL-SCREEN SCAN IMAGE STRETCHED VERTICALLY	
4:3	16:9	LETTERBOX SCAN ONLY IMAGE AND GRAY BARS COMPRESSED <i>NOT RECOMMENDED</i>	

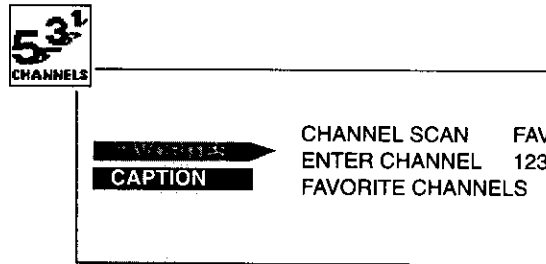
Note: PTV defaults to 4:3 when the set is turned off. Select 16:9 in the PTV picture VIDEO ADJ2 menu to change the format back to letterbox with black bars.

CHANNELS

Favorites

In CHANNELS menu under FAVORITES select:

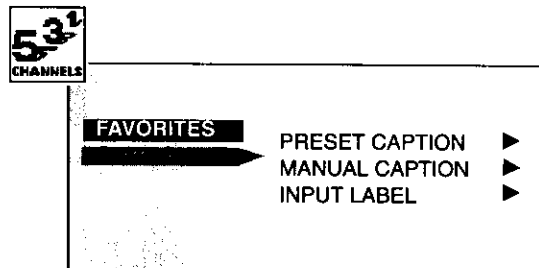
- CHANNEL SCAN FAV to enter up to 16 favorite channels.
- CHANNEL SCAN ALL to scan all channels when using the CH up/down buttons.



Caption

In CHANNELS menu under CAPTION select:

- PRESET CAPTION to enter channel numbers for popular PTV stations.
- MANUAL CAPTION to enter numbers and captions manually.
- INPUT LABEL to label video input connections for onscreen display.

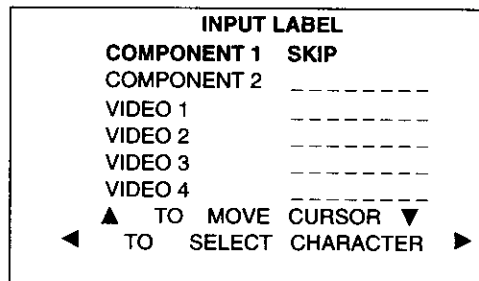


Video Input Skip

This receiver has a video input skip feature, which will allow the user to skip desired Input modes when pressing TV/VIDEO button.

- Select desired Video Input mode.
- Press the volume left button while the first character is highlighted to skip selected Video mode.

Note: To delete skip feature, press the volume right button while the desired video input mode is highlighted.



SPECIAL FEATURES

LOCK

MODE

To use LOCK options:

- ENTER CODE FIRST - Use the numeric keypad to enter a four-digit secret code. After entering your secret code for the first time, the onscreen display will change to CHANGE CODE.

Note: Use a code that is easy to remember or record it in a safe place.

In MODE submenu select:

- LOCK SET to choose:
 - OFF - To turn lock function off.
 - ALL - To lock all channels and video inputs.
 - CHANNEL - To lock up to four channels of your choice.
 - GAME - To lock channels 3, 4 and video inputs.

- BLOCK PROGRAMS^{*} - To use Block Programs Ratings.

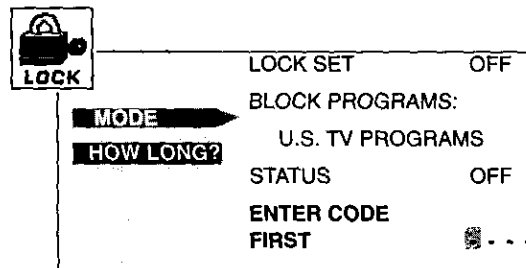
- CHANGE CODE - Use numeric keypad to change your four-digit secret code.

Note: If in CHANGE CODE you enter a different code from the one used previously, the new code becomes the controlling code.

Press the **ACTION** button to return to submenu, then select HOW LONG to choose the period of time you want your option to be locked (12, 24, 48 hours or ALWAYS).

Note: Be cautious when selecting ALWAYS. If ALWAYS is selected, and you forget your secret code, the television must be serviced by a qualified technician in order to clear the LOCK setup.

Press the **ACTION** button to return to submenu, and to exit menus.








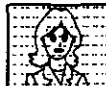



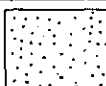










Note: If GAME, CHANNEL or ALL is selected, and if a blocked channel or video input is selected, the message PG (Parent Guard) displays in the upper right corner of the television screen

Unlock LOCK SET by reentering the same four-digit secret code and selecting OFF.

***For more information about Block Programs, see the V-CHIP Parental Lock manual provided with the PTV package.**

Troubleshooting Chart

Before calling for service, determine the symptoms and follow suggested solutions.

AUDIO	VIDEO	Solutions
 Noisy Audio	 Snowy Video	Adjust Antenna Location and Connection
 Noisy Audio	 Multiple Image	Adjust Antenna Location and Connection Check Antenna Lead-in Wire
 Noisy Audio	 Interference	Move PTV from Electrical Appliances, Lights, Vehicles, and Medical Equipment
 No Audio	 Normal Video	Increase Volume Check Mute Check PTV SPEAKERS on/off Change Channel
 Noisy Audio	 No Video with Snow	Set PTV or Cable Mode Properly Check Antenna Cables
 No Audio	 No Video / No PIP	Check Power Cord is Plugged into Active Outlet Adjust Brightness and Audio Controls Change Channel Check Cable Connections Program the Remote Control Again Check Second Video Source Operation
 Normal Audio	 No Color	Adjust Color Settings Change Channel
 Wrong Audio	 Normal Video	Check Audio Is Set To Stereo Or Mono, Not SAP
 Normal Audio	 Black Box on Screen	Change CC (Closed Captioning) from Text Mode
 Normal Audio	 Normal Video	Replace Remote Control Batteries
Intermittent Remote Control Operation		

NOTES

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