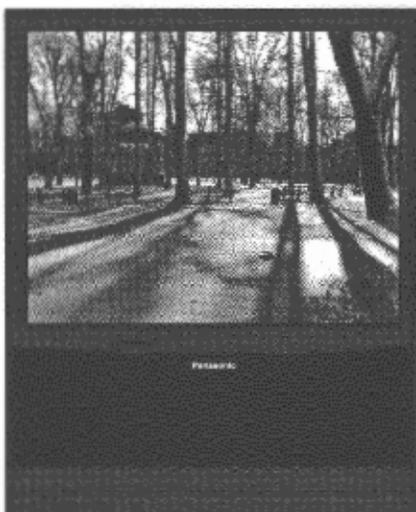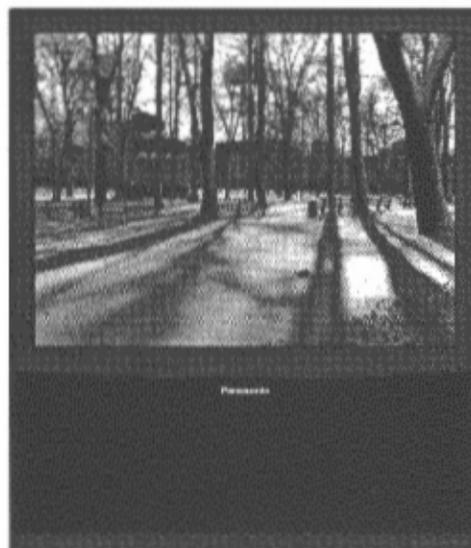# Panasonic®

Color Video Projection System

Operating Instructions
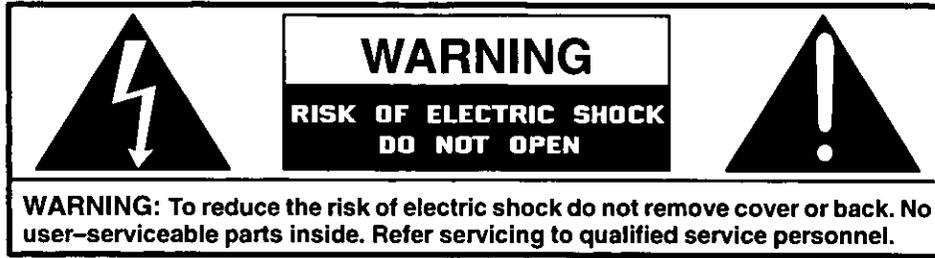
PT–51G42
PT–51G42C

PT–61G42
PT–61G42C

Read these instructions completely before operating.
Contents subject to change without notice or obligation.

Safety Instructions

WARNING

**RISK OF ELECTRIC SHOCK
DO NOT OPEN**

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

The lightning flash with ar-row–head within a triangle is intended to tell the user that parts inside the product are a risk of electric shock to persons.
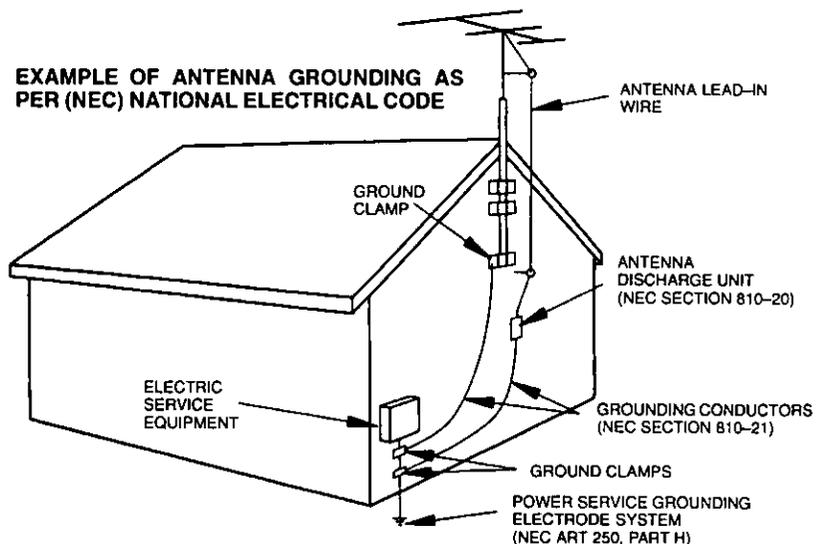
The exclamation point within a triangle is intended to tell the user that important oper-ating and servicing instruc-tions are in the papers with the appliance.

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.

Safety Instructions For Television Receivers

1. Read and apply the operating instructions provided with your television receiver.
2. Read all of the instructions given here and retain them for later use.
3. Unplug this television receiver from the wall outlet before cleaning. Do not use liquid or aerosol cleaners. Use a damp cloth for cleaning.
4. Do not use attachments not recommended by the television receiver manufacturer as they may cause hazards.
5. Do not use this television receiver near water. For example: Avoid placing it near a bathtub, washbowl, kitchen sink, or laundry tub, in a wet basement, or near a swimming pool, etc.
6. Do not place this television receiver on an unstable cart, stand or table. The television receiver may fall, causing serious injury to a child or adult, and serious damage to the appliance. Use only with a cart or stand recommended by the manufacturer, or sold with the television receiver. Wall or shelf mounting should follow the manufacturer's instructions, and should use a mounting kit approved by the manufacturer.
6A. An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.
7. Slots and openings in the cabinet and the back or bottom are provided for ventilation, and to insure reliable operation of the television receiver and to protect it from overheating. These openings must not be blocked or covered. The openings should never be blocked by placing the television receiver on a bed, sofa, rug or other similar surface. This television receiver should never be placed near or over a radiator or heat register. This television receiver should not be placed in a built–in installation such as a bookcase unless proper ventilation is provided.
8. Operate only from the type of power source indicated on the marking label. If you are not sure of the type of power supplied to your home consult your television dealer or local power company. For television receivers designed to operate from battery power, refer to the operating instructions.
9. This television receiver is equipped with a polarized alternating–current line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug.
10. Do not allow anything to rest on the power cord. Do not locate this television receiver where the cord will be abused by persons walking on it.
11. Follow all warnings and instructions marked on the television receiver.
12. Do not overload wall outlets and extension cords as this can result in fire or electric shock.
13. Never push objects of any kind into this television receiver through cabinet slots as they may touch dangerous voltage points or short out parts that could result in a fire or electric shock. Never spill liquid of any kind on the television receiver.

EXAMPLE OF ANTENNA GROUNDING AS PER (NEC) NATIONAL ELECTRICAL CODE

ANTENNA LEAD–IN WIRE

GROUND CLAMP

ANTENNA DISCHARGE UNIT (NEC SECTION 810–20)

ELECTRIC SERVICE EQUIPMENT

GROUNDING CONDUCTORS (NEC SECTION 810–21)

GROUND CLAMPS

POWER SERVICE GROUNDING ELECTRODE SYSTEM (NEC ART 250, PART H)

–2–

14. If an outside antenna is connected to the television equipment, be sure the antenna system is grounded so as to provide some protection against voltage surges and built up static charges. In the U.S. Section 810 of the National Electrical Code and in Canada Part 1 of the Canadian Electrical Code provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead–in wire to an antenna discharge unit, size of grounding conductors, location of antenna–discharge unit, connection to grounding electrodes, and requirements for the grounding electrode. See Figure.
15. For added protection for this television receiver during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna. This will prevent damage to the receiver due to lightning and power–line surges.
16. An outside antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can fall into such power lines or circuits. When installing an outside antenna system extreme care should be taken to keep from touching such power lines or circuits as contact with them might be fatal.
17. Unplug this television receiver from the wall outlet, and refer servicing to qualified service personnel under the following conditions:
   a. When the power cord or plug is damaged or frayed.
   b. If liquid has been spilled into the television receiver.
   c. If the television receiver has been exposed to rain or water.
   d. If the television receiver does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the television receiver to normal operation.
   e. If the television receiver has been dropped or the cabinet has been damaged.
   f. When the television receiver exhibits a distinct change in performance – this indicates a need for service.
18. Do not attempt to service this television receiver yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.
19. When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer that have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, or other hazards.
20. Upon completion of any service or repairs to this television receiver, ask the service technician to perform routine safety checks to determine that the television is in safe operating condition.
21. **WARNING: To prevent fire or shock hazard, do not expose this appliance to rain or moisture.**
22. **CAUTION:** TO PREVENT ELECTRIC SHOCK DO NOT USE THIS (POLARIZED) PLUG WITH A RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.

NOTE: This equipment is designed to operate in the U.S.A., Canada and other countries where the broadcasting system and AC house current is exactly the same as in the U.S.A. and Canada.

Important Information Regarding Use of Video Games, Computers, DSS or Other Fixed Image Displays.

The extended use of fixed image program material can cause a permanent "shadow image" on the picture tube. This background image is viewable on normal programs in the form of a stationary fixed image. This type of irreversible picture tube deterioration can be limited by observing the following steps:
A. Reduce the brightness/contrast setting to a minimum viewing level.
B. Do not display the fixed image for extended periods of time.
C. Turn the power off when not in actual use.

NOTE: The marking or retained image on the picture tube resulting from fixed image use is not an operating defect and as such is not covered by Warranty. This product is not designed to display fixed image patterns for extended periods of time.

Specifications

Power Source:	120V, 60Hz, AC
Channel Capability:	181 channels (See chart)
	VHF 2~13, UHF 14~69, Cable 125 channels
Video Input Jacks (2):	1V p–p, 75 ohm, phono jack type
Audio Input Jacks (2):	500mV rms 47K ohm
To Audio AMP Jacks:	0~2.0V rms 4.7K ohm
S–VHS Input Jack:	S–Video (Y–C) Connector
Stereo Sound	
Surround Sound	
Closed Caption Display	
Picture In Picture:	One Tuner

Channel Capability Chart

BAND	CHANNELS
VHF	12
UHF	56
CABLE (Mid–Band)	15
CABLE (Super Band)	14
CABLE (Hyper Band)	28
CABLE (Ultra Band)	56
TOTAL CHANNELS	**181**

Specifications are subject to change without notice or obligation.

Introduction
Congratulations on Your New Purchase

Your new video component features an all solid state chassis which is designed to give you many years of enjoyment. It was thoroughly tested and adjusted at the factory for best performance.

In order for you to take full advantage of your new video component, please read and follow the installation and operating instructions supplied with this product.

Customer's Record

The model and serial number of this product may be found on its back cover. You should note the model and serial number in the space provided and retain this book as a permanent record of your purchase to aid in identification in the event of theft or loss.

Model Number: _____   Serial Number: _____

Table of Contents

Care and Cleaning

Plastic Cabinets

Wipe the cabinet with a soft cloth dampened with water or a mild detergent solution and wipe dry with a soft clean cloth. Avoid excessive moisture. Do not use benzene, thinners or other petroleum based cleaners.

Wood Cabinets

When dusting or polishing the cabinet, use a clean soft cloth and stroke straight with the grain. An occasional coat of furniture polish will help preserve the finish. Do not use benzene, thinners or other petroleum based cleaners. Do not place objects made of plastic or rubber directly on top of the cabinet. A chemical reaction could result causing permanent marring of the finish.

Remote Control Transmitter

Do not use benzene, thinners or other petroleum based cleaners to clean the Remote Control Transmitter. To clean, wipe with a soft cloth slightly moistened with a mild detergent and then wipe dry with a soft clean cloth.

Screen Caution

Your Projection screen may be marred by accidental contacts or improper cleaning.
Avoid BUMPING or SCRAPING the screen BY ANY OBJECTS.

Screen Cleaning

The projection screen has a protective shield which is fully washable by using the following precautions. Use a mild soap solution or window cleaner and a clean cloth. Do not use laundry detergent, automatic dishwasher soap, abrasive cleaners, products containing alcohol, ammonia or petroleum distillates. Avoid excessive moisture and wipe dry.

Installation

Receiver Location

This unit is intended to be used with an optional stand or entertainment center. Consult your dealer for available options.

Locate for comfortable viewing. Avoid placing where sunlight or other bright light (including reflections) will fall on the screen.

Use of some types of fluorescent lighting can reduce remote control transmitter range.

Adequate ventilation is essential to prevent internal component failure. Keep away from areas of excessive heat or moisture.

To insure optimum color purity do not position magnetic equipment (motors, fans, other speakers, etc.) nearby.

Optional External Equipment Connections

The Video/Audio connections between components can be made with shielded video and audio cables. For best performance, video cables should utilize 75 ohm coaxial shielded wire. Cables are available from your dealer or electronic supply house.

Before you purchase any cables, be sure you know what type of output and input connectors your various components require. Also determine the length of cable you'll need.

Condensation

When the set is moved into a warm room from a cold area, the picture may become out of focus because of condensation on the lens surface due to the temperature change. Picture will become clear when the set reaches the same temperature of the surrounding area.

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 THIS (POLARIZED) PLUG WITH A RECEPTACLE OR OTHER OUTLET UNLESS THE BLADE CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE. FOR SOME MODELS THAT ARE NON-POLARIZED, THE USE OF AN AC ADAPTOR CONNECTOR MAY BE NECESSARY.
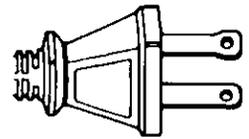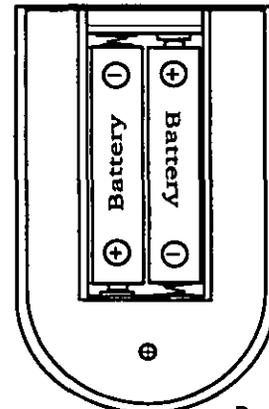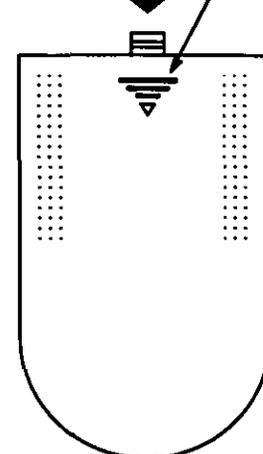

Polarized Plug

Remote Control Battery Installation

Batteries: Use two "AA" batteries.

1. Install the batteries as shown in the battery compartment. (Polarity (+) or (–) must be correct.)

Helpful Hints:
For frequent Remote Control users, replace old batteries with Alkaline batteries for longer life.

CAUTION: Incorrect installation can cause battery leakage and corrosion that will damage the Remote Control Transmitter.

Press Down Here and Slide Cover Back

Observe the Following Precautions:

1. Batteries should be replaced as a pair. Always use new batteries.
2. Do not combine a used battery with a new one.
3. Do not mix battery types (Example: "Zinc Carbon" with "Alkaline").
4. Do not attempt to charge, short-circuit, disassemble, heat or burn used batteries.
5. Battery replacement is necessary when Remote Control reacts sporadically or stops operating the Receiver.
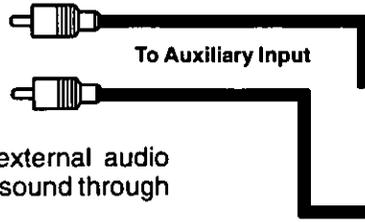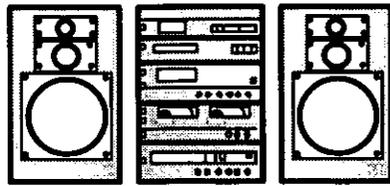
Helpful Hints:
Whenever you remove the batteries to replace them, **you may need to reset the Remote Control Infrared Codes.**

Installation (cont.)

Antenna/Cable Connections

Antenna Connection – For proper reception of VHF/UHF channels, an external antenna is required. For best reception an outdoor antenna is recommended. **Antenna Mode must be set to TV.** (Refer to Antenna Mode section.)

Indoor   **Outdoor**

Typical VHF/UHF Antenna

Incoming Cable from Home Antenna

75 Ohm

300 Ohm

VHF/UHF
on Back of Set

VHF/UHF
on Back of Set

or

300 to 75 ohm Matching
Transformer (Not Included)

Cable Connection – For reception of cable channels, connect the cable supplied by your local cable company. **Antenna Mode must be set to CABLE.** (Refer to Antenna Mode section.)

Incoming Cable from Cable Company

75 Ohm

VHF/UHF
on Back of Set

Note: Certain cable systems offset some channels to reduce interference or have Premium (scrambled) channels. A cable converter box is required for proper reception. Check with your local Cable company for compatibility requirements.

Other Video Equipment

VCRs, Video Disc Players, Computers, TV games, and DSS equipment can also be connected to the antenna input connection.

Optional Equipment Connection and Operation

To Audio AMP Connection (Stereo)

To Auxiliary Input

Connect **To Audio AMP** to an external audio amp auxiliary input for monitoring sound through a stereo system.

**NOTE:** "TO AUDIO AMP" terminals cannot be used for external speakers.

Adjustment – When an audio amp is connected to "TO AUDIO AMP" terminals:

1. Select SPEAKER "ON" Mode. (Refer to the Audio Menu TV Speakers section.)
2. Set volume of audio amp to near minimum.
3. Adjust volume of TV to desired listening level.
4. Adjust volume of audio amp to match the level of TV.
5. Select TV SPEAKERS "OFF&VAO" (Variable Audio Output) Mode. (Refer to the Audio Menu Speaker section.)
6. Audio bass, treble, balance, volume, and mute can now be controlled by the TV Remote Control. When "OFF&FAO" (Fix Audio Output) mode is selected in the Audio Menu, the external amplifier speakers are controlled by the Audio Amplifier.
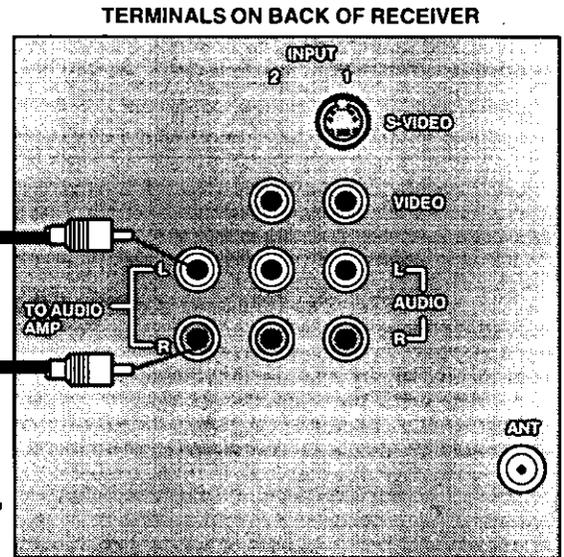
Audio/Video Connection

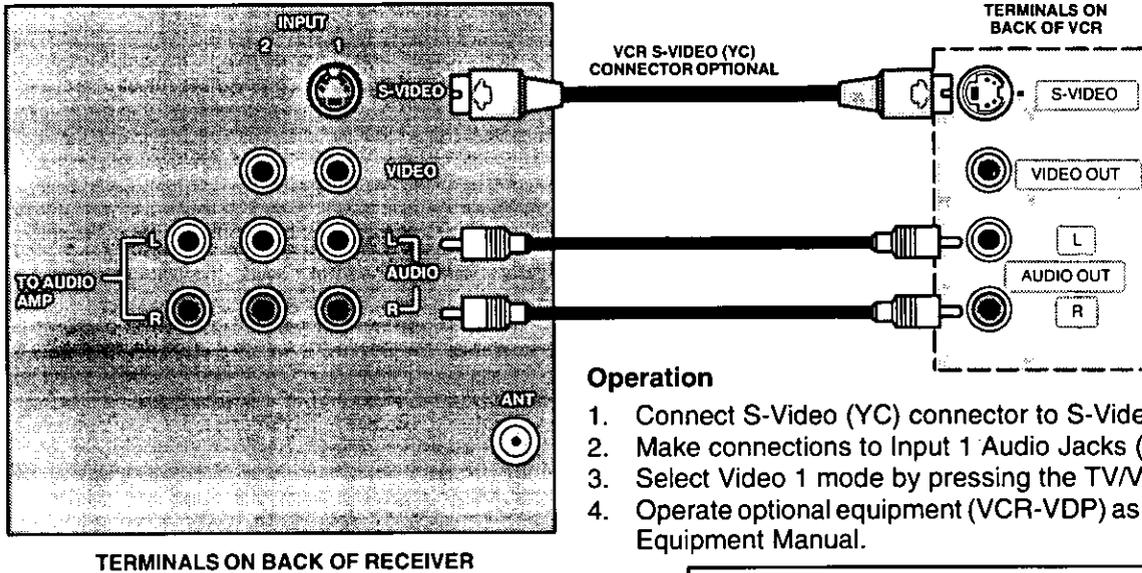**TERMINALS ON BACK OF RECEIVER**

TERMINALS ON BACK OF VCR
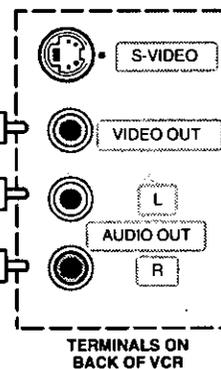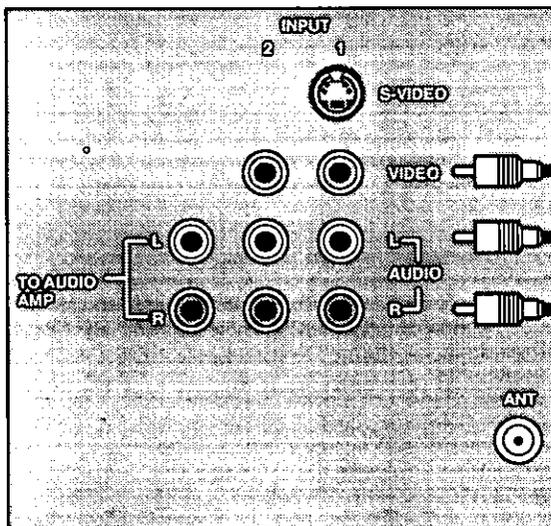
Operation

1. Connect optional equipment as shown to INPUT 1 or 2.
2. Select the same Video mode that the equipment is connected to, by pressing the TV/VIDEO button.
3. Operate optional equipment (VCR-VDP) as instructed in Optional Equipment manual.

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S-Video Connection

TERMINALS ON BACK OF RECEIVER

Operation

1. Connect S-Video (YC) connector to S-Video Terminal 1.
2. Make connections to Input 1 Audio Jacks (L and R).
3. Select Video 1 mode by pressing the TV/VIDEO button.
4. Operate optional equipment (VCR-VDP) as instructed in Optional Equipment Manual.

Helpful Hints:

The user must select the same VIDEO Mode that the equipment is connected to.
Connection of optional S-VIDEO jack automatically disconnects the normal Video Input 1 jack.

Picture in Picture External Video and Antenna Connection

This Receiver has the "PICTURE IN PICTURE" feature. For the proper operation of this feature a second video source is required (such as a VCR). We recommend that you make your antenna and External Video connection as shown below when a second video source is available.

TERMINALS ON BACK OF RECEIVER
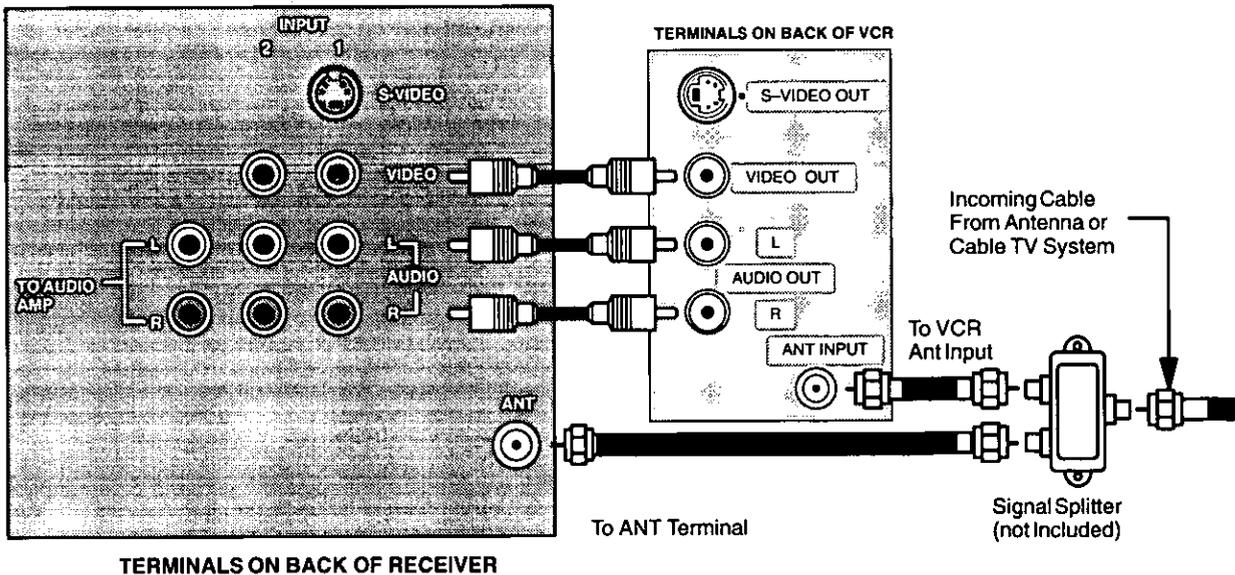
Helpful Hints:

The PIP will operate using Audio/Video input terminals. Use the TV/VIDEO button (when the PIP frame is displayed) to select proper mode.

The PIP feature will operate using S-Video input terminal 1.

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Location of Controls (Receiver)

PT-51G42
PT-51G42C

PT-61G42
PT-61G42C

Front Control Panel

POWER ◀ VOLUME ▶ ▼ CHANNEL ▲ ACTION TV/VIDEO

① ② ③ ④ ⑤
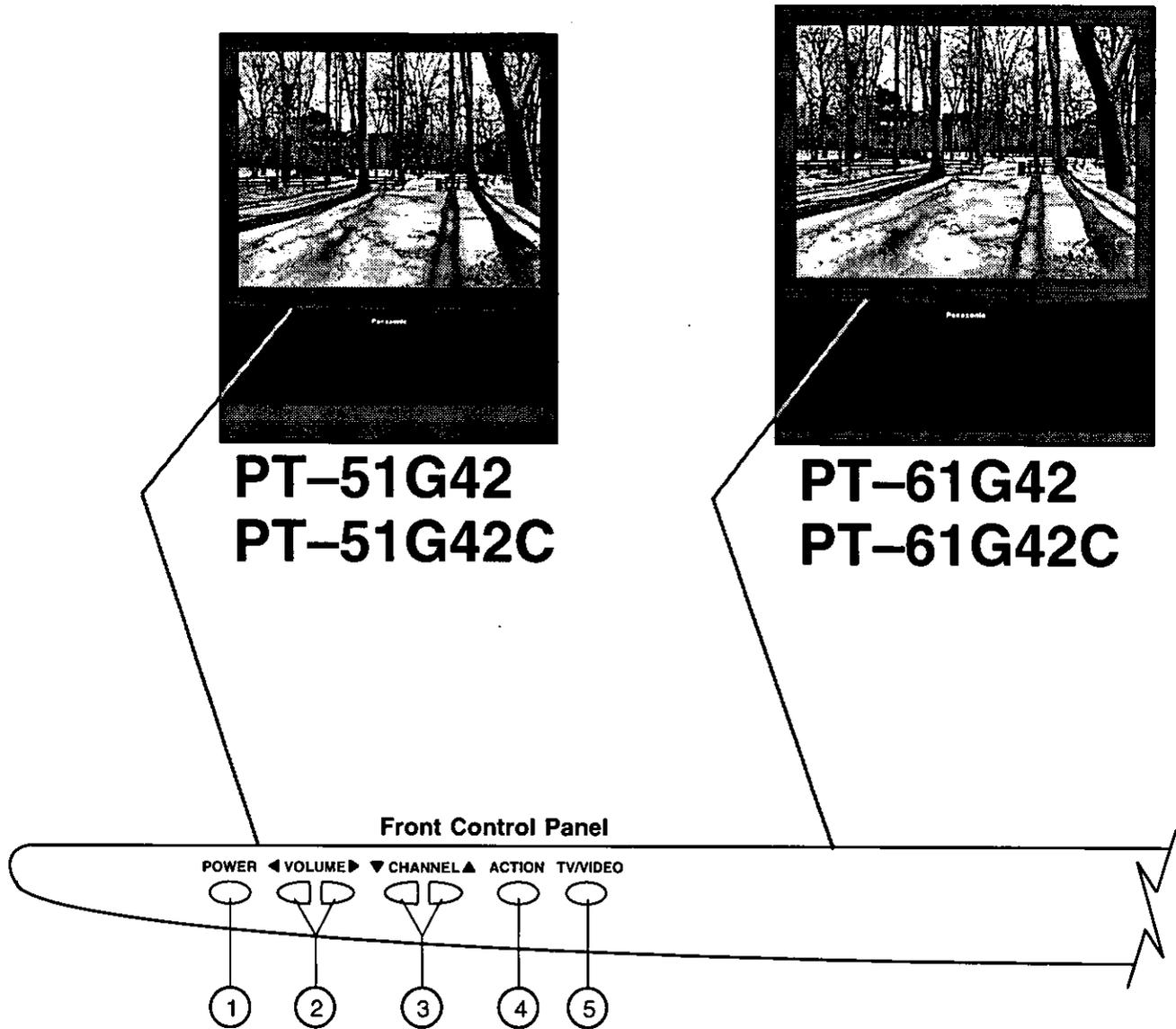
Quick Reference Control Operation

① **Power Button** – Press to turn ON or OFF.

② **Volume Buttons** – Press to adjust Sound Level. Press to adjust Audio Menus, Video Menus, and select operating features when menus are displayed.

③ **Channel Buttons** – Press to select programmed channels. Press to highlight desired features when menus are displayed.

④ **Action Button** – Press to display Main Menu and access or exit On-Screen feature and Adjustment Menus.

⑤ **TV/Video Button** – Press to select TV, or one of two Video Inputs for the Main Picture, or the PIP frame (when the PIP frame is displayed).

Location of Controls (Remote)

Basic Remote Control Functions

The following is an overview of the Remote Control unit **for television operation. Ensure the TV mode is selected by initially pressing** ✐.

Multi Button
Programmable to operate up to six Remote Control Function buttons simultaneously.

Power Button
Press to turn ON or OFF.

Mode Selection Buttons
Select the operation mode for the remote control.

Volume Buttons
Press to adjust TV sound level. Use with Channel buttons to navigate in menus.

Action Button
Press to display Main Menu and access or exit On Screen feature and Adjustment Menus.

R-Tune (Rapid Tune) Button
Press to switch to the previous channel.

PIP Move Button
Press to position PIP frame to any corner of the Main Picture (when PIP frame is displayed).

PIP Freeze Button
Press to stop action in the Main Picture or PIP frame (when the PIP frame is displayed).

PIP Size Button
Press to select size of PIP frame (when the PIP frame is displayed).

Keyboard "0 through 9" Buttons
Press desired channel number to randomly access any channel.

TV/Video Button
Press to select TV or one of two (2) Video Inputs, for the Main Picture or the PIP frame (when the PIP frame is displayed).

Mute Button
Press to mute sound. A second press resumes sound.

Channel Buttons
Press to select channels. Use with Volume buttons to navigate in menus.

Recall Button
Press to display Time, status of Sleep Timer, Channel, Video Mode, Channel Caption (Station Identifier) and Audio Mode.

PIP (Picture In Picture) Button
Press to display the PIP frame, press again to remove PIP frame.
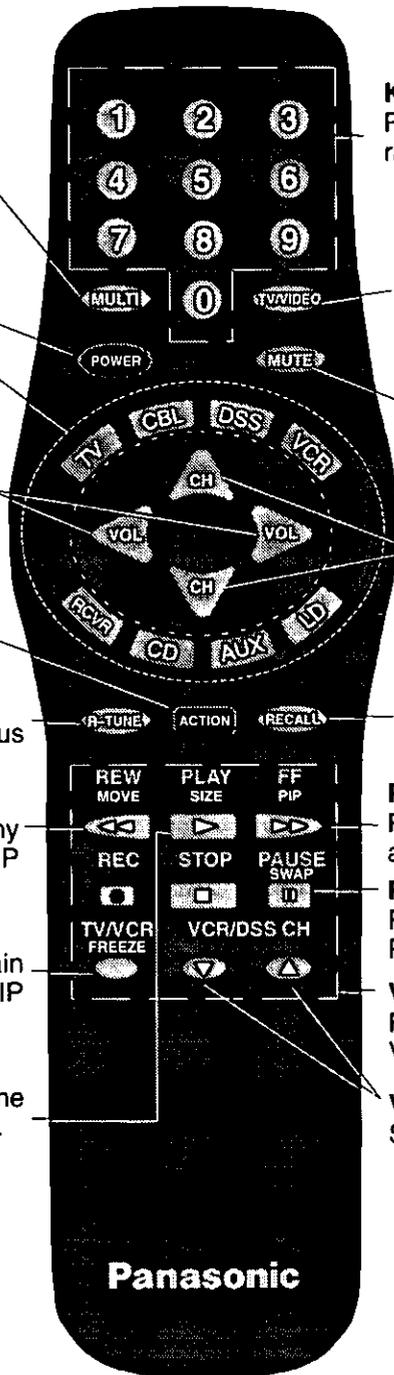
PIP Swap Button
Press to interchange PIP frame with Main Picture (when the PIP frame is displayed).

VCR Function Buttons
Programmable to operate many brands of VCR's.

VCR/DSS Channel Buttons
Select VCR or DSS Up/Down channels.

Home Theater Remote Control
TNQ2AE007-1

Note:
For more information on the Remote Control, please refer to the Remote Control Quick Reference Functional Key Chart.

Helpful Hints:
If the selected component does not respond to the remote control, ensure that the proper mode is selected. **First**, press the **Mode Selection Button** that corresponds to that component. For example, after first pressing the TV Mode Button, the remote will remain in the TV mode for the following commands. If a different mode button is pressed while operating the television, the TV mode button must be pressed again to enable the TV mode condition.

Remote Control
Quick Reference Functional Key Chart

KEY	MODE	FUNCTION
① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⓪	TV VCR, VCR 2 CABLE, DSS	Selects Channel Selects Channel Selects Channel
	RECEIVER/AMPLIFIER	④ Selects Tuner ⑤ Selects CD Player ⑥ Selects Tape Cassette Player ⑦ VCR 1 ⑧ VCR 2
	CD PLAYER	Selects Track Number
	LD PLAYER	Selects Track Number
MULTI	ALL COMPONENTS	Programmable Button That Can Operate Up To Six (6) Remote Functions At Once
TV/VIDEO	TV	Selects the TV Input Mode
POWER	ALL COMPONENTS	Turns On and Off Selected Components
MUTE	TV, DSS, VCR, VCR 2 LDP CABLE RECEIVER/AMPLIFIER	Mutes TV Audio Mutes Audio Mutes Audio
TV	TV	TV Mode Selection for Remote Control
CBL	CABLE	Cable Mode Selection for Remote Control
DSS	DSS (DIGITAL SATELLITE SYSTEM)	DSS Mode Selection for Remote Control
VCR	VCR, VCR 2	VCR Mode Selection for Remote Control
RCVR	RECEIVER/AMPLIFIER	Receiver/Amplifier Mode Selection for Remote Control
CD	COMPACT DISC	CD Mode Selection for Remote Control
AUX	CASSETTE DECK, VCR 2, DVD	AUX Mode Selection for Remote Control Enables User to Operate a Cassette Deck, Digital Video Disc or Second VCR
LD	LASER DISC PLAYER	LD Mode Selection for Remote Control
CH ▲ ▼	TV CABLE DSS LDP CD RECEIVER/AMPLIFIER DVD	Channel Up/Down, Menu Navigation Channel Up/Down DSS Guides and Menu Navigation Skip FF, REW Preset or Tuning Frequency Skip FWD/Skip REW
◄VOL VOL►	TV CABLE DSS RECEIVER/AMPLIFIER VCR, VCR 2 LDP	Volume Up/Down, Menu Navigation Volume Up/Down DSS Guides and Menu Navigation Volume Up/Down TV Volume Up/Down TV Volume Up/Down

# Remote Control
Quick Reference Functional Key Chart (cont.)

KEY	MODE	FUNCTION
(R-TUNE)	LDP TV CABLE VCR, VCR 2 DSS RECEIVER/AMPLIFIER CD AUDIO TAPE RECORDER	A/B Repeat Switches Between Two (2) Channels Switches Between Two (2) Channels Switches Between Two (2) Channels Switches Between Two (2) Channels Switches between AM and FM Selects Next Disc Selects Audio Tape Recorder A or B
(ACTION)	TV DSS	Activates TV Menus Acts as Menu Button for DSS
(RECALL)	TV DSS VCR, VCR 2 LDP	Displays Channel, Sleep Time, Channel Caption, Time, and Audio Mode Displays Current DSS Settings Displays Current VCR Settings Displays Current LDP Settings
REW MOVE	TV DSS VCR, VCR 2 LDP TAPE CD DVD	PIP Move DSS Guide Rewind Rewind Rewind Selects Previous Track Rewind
PLAY SIZE	TV DSS VCR, VCR 2 LDP TAPE CD DVD	PIP Size Enter/Select Play Play Play (in Normal Direction) Play Play
FF PIP	TV DSS VCR, VCR 2 LDP TAPE CD DVD	PIP On/Off Exit/Clear Fast Forward Fast Forward Fast Forward Selects Next Track Fast Forward
REC	DSS VCR, VCR 2 TAPE CABLE	One Touch Record in DSS Mode Record Record VCR Record
STOP	DVD VCR, VCR 2 LDP TAPE CD CABLE	Stop Stop Stop Stop Stop VCR Stop
PAUSE SWAP	DVD TV VCR, VCR 2 LDP TAPE CD CABLE	Pause PIP Swap Pause Pause Pause Pause VCR Pause
TV/VCR FREEZE	TV VCR, VCR 2 DSS CABLE	PIP Freeze Selects TV/VCR Mode Selects TV/DSS Mode Selects TV/VCR Mode
VCR/DSS CH	VCR, VCR 2 DSS	Channel Up/Down Channel Up/Down

Special Functions

Recall Button

Press the RECALL button to review:

① Audio Mode status
② Channel Caption (Station Identifier)
③ CH number or Video Input selected
④ Sleep Timer status
⑤ Clock time
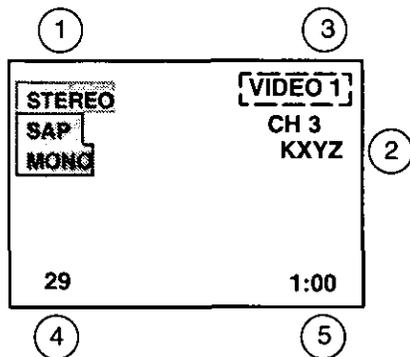
R-Tune Button

Pressing the R-TUNE (RAPID TUNE) button will switch between the last two channels selected on the numeric keypad.

Note: When scanning channels with the CHANNEL UP/DOWN buttons, pressing the R-TUNE button will switch between the last two channels scanned.

CHANNEL NOW BEING VIEWED		CHANNEL TUNED IMMEDIATELY BEFORE
	Press Button →	
	← Press Button Again	
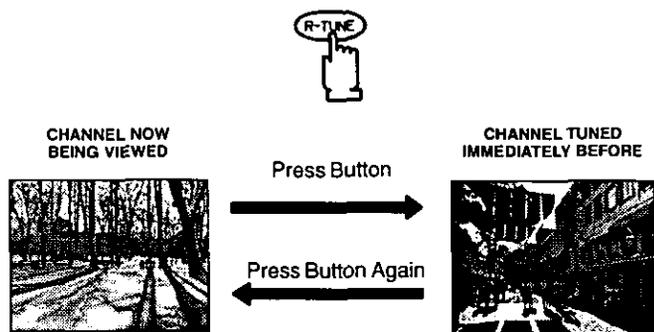
Helpful Hints:

Press the TV Mode Selection button to operate TV Remote functions, if necessary.
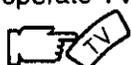
Multi Button

The MULTI button can be programmed to operate up to six (6) Remote function buttons at the same time. For Example: TV Power/On, VCR Power/On, and Cable box Power/On (selected brands) can be operated at the same time with one press of the MULTI button. **(The VCR Mode button should be programmed before starting procedure).**

Procedure

1. Program the Remote for the selected device Infrared access code. Confirm that the Remote Control is compatible with the device.
2. Face the Remote Control transmitter away from all equipment remote sensors.
3. Press and hold the Remote POWER button, then press and hold the ACTION button down at the same time for three seconds. (All previous commands are erased.)

   PRESS AT THE SAME TIME FOR THREE SECONDS
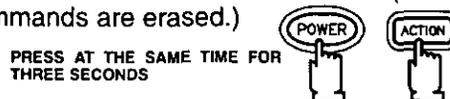
4. After three seconds, release the POWER and ACTION buttons.
5. Press the MULTI button. (Waiting more than 30 seconds without pressing another button will exit the programming mode.)
6. Press a maximum of six (6) function buttons on the Remote Control.

   Each button you press is equal to one function. If six (6) Remote button functions are entered, all will register in the MULTI button memory in the sequence entered. When finished, press the MULTI button to exit the programming mode.

The following is an example flow chart of Remote functions that can be programmed into the MULTI button.
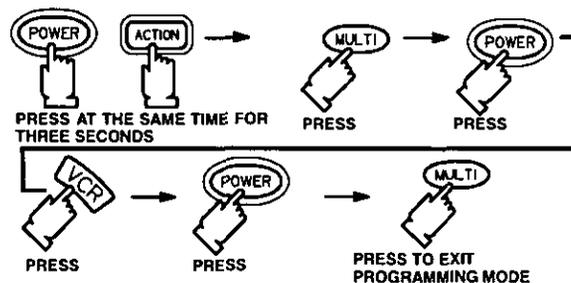
You can now turn the TV and VCR ON/OFF at the same time with one press of the MULTI button.

To delete entered functions – Press and hold the Remote POWER button, then press and hold the ACTION button down at the same time for three seconds. You can now enter from one to six different Remote functions.

Note: You can also program the MULTI button to perform most individual Remote Control button functions. Buttons which continuously perform a function as long as pressed (Volume Up/Down, Channel Up/Down, etc.) cannot be programmed; only those buttons which perform a function when initially pressed (Power On/Off, Mute, Direct Channel Entry, etc.) can be programmed.

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Special Functions (cont.)

PIP (Picture in Picture) Button

This feature allows the viewer to monitor one channel program while watching another. The monitored source (PIP) must be a different video source (such as a VCR) when connected to the input jacks.

- S-Video connection will also operate the PIP feature (refer to OPTIONAL S-VIDEO VHS CONNECTION section).
- When the Main Picture is in Video mode with no signal, the PIP will not operate properly.

PIP Operation

1. Turn VCR ON and select a desired channel.
2. Press the TV Mode Selection button to operate TV Remote functions, if necessary.

3. Press the PIP button (set must be ON). The PIP frame will appear at the position it was last displayed. The Main Picture Video Source and PIP Video Source will display on screen momentarily. Audio will be that of Main Picture.

Main Picture with Audio — CH 2 — Main Picture Channel

PIP VIDEO 1 — Picture in Picture Video Source

Picture in Picture Frame
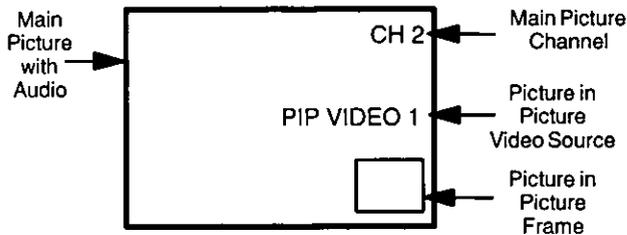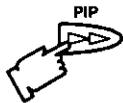
4. Press the PIP button again to cancel PICTURE IN PICTURE feature (if desired).

Note: For PIP Video source connection, refer to the PIP External Video and Antenna Connections section.

Swap Button

Press the SWAP button (when the PIP frame is displayed) to interchange what is being viewed on the Main Picture with that of the PIP frame.

CH 2 — PIP VIDEO 1 ⟷ VIDEO 1 — PIP CH 2
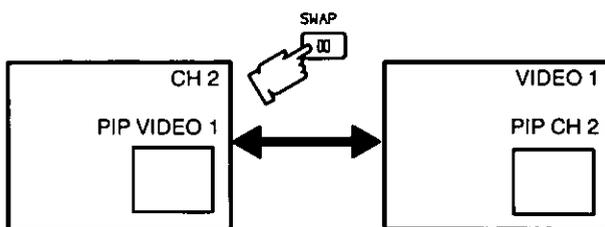
Note: Audio will be that of Main Picture.

Size Button

Press the SIZE button (when the PIP frame is displayed) to choose either the large or small PIP frame.

Large PIP Frame   Small PIP Frame
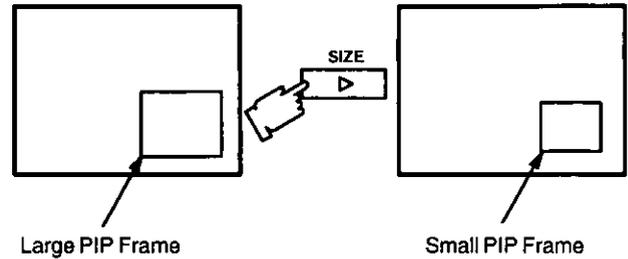
Freeze Button

Press the FREEZE button to stop action in the PIP frame.

Main Picture
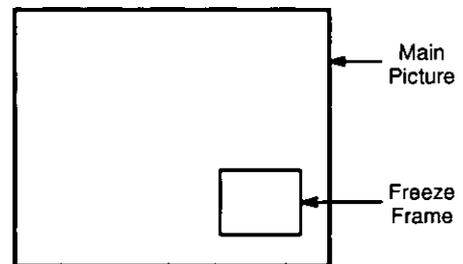
Freeze Frame

Notes:

- Pressing the FREEZE button when the PIP frame is not displayed, will stop action in the Main Picture and display it within the PIP frame.
- Pressing the FREEZE button when PIP frame is displayed, will stop action in the PIP frame. Press the FREEZE button again to continue action.
- Press the PIP button to delete PIP frame.
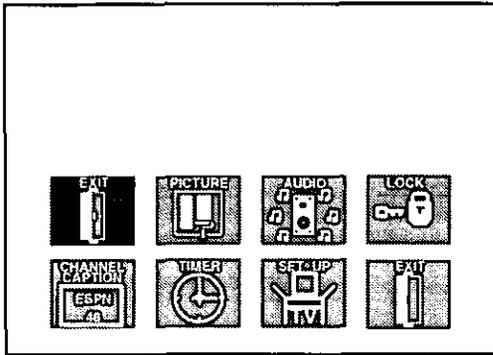
Move Button

The PIP frame may be located at any corner of the Main Picture by pressing the PIP MOVE button (when the PIP frame is displayed).
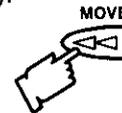
Note: Each time MOVE button is pressed (when the PIP frame is displayed), the PIP frame will move counterclockwise as illustrated.
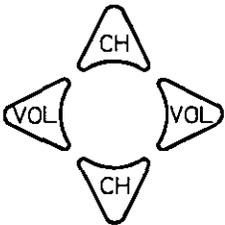
– 15 –
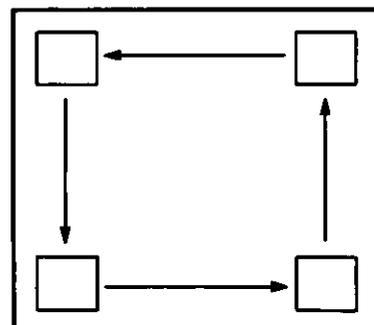
Main Menu

NOTE: When Auto Power On feature is activated, Timer Icon will change to Exit Icon.

Display and Exit Menus

CH BUTTONS
Highlight Desired
Feature when
Menu is Displayed

VOL BUTTONS
Selects or Adjusts
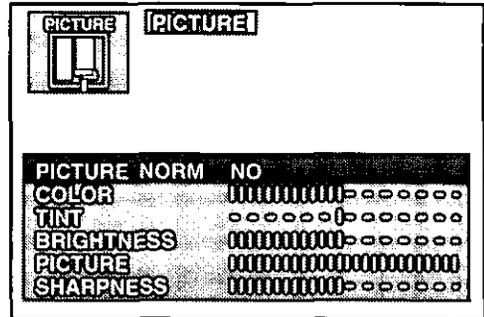Features when
Menu is Displayed

Located On Remote Control

Picture Adjustments

Picture Norm

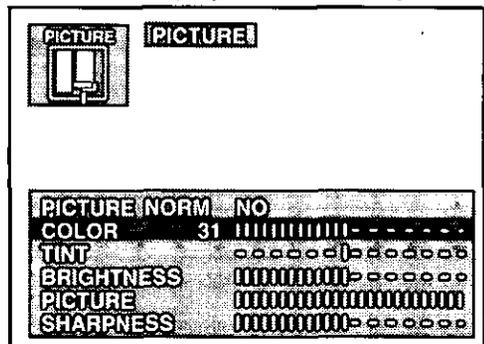Use to reset Color, Tint, Brightness, Picture, and Sharpness adjustments back to a factory preset level.

1. Press (ACTION) .
2. Press 🔺 or 🔻 and 🞀 or 🞂 to highlight the Picture Icon.
3. Press (ACTION) to display the Picture Adjustment Menu.

4. Press 🔺 or 🔻 to highlight PICTURE NORM.
5. Press 🞀 or 🞂 to select "SET" to normalize Color, Tint, Brightness, Picture, and Sharpness.
6. Press (ACTION) twice to exit menus.

Color, Tint, Brightness, Picture, and Sharpness Adjustments

1. Press (ACTION) .
2. Press 🔺 or 🔻 and 🞀 or 🞂 to highlight the Picture Icon.
3. Press (ACTION) to display the Picture Adjustment Menu.

4. Press 🔺 or 🔻 to select the desired Picture Adjustment (Color, Tint, Brightness, Picture, or Sharpness).
5. Press 🞀 or 🞂 to adjust your selection. (The Selected Picture Adjustment will be displayed.)
6. Repeat steps 4 and 5 for the remaining Picture Adjustments.
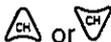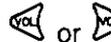7. Press (ACTION) twice to exit menus.
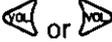
Audio Adjustments

Audio Norm

This feature is used to reset BASS, TREBLE, and BALANCE back to a factory preset level. **NOTE:** Bass and Treble is automatically set when AI Sound is ON.

1. Press (ACTION).
2. Press △ or ▽ and ◁ or ▷ to highlight the Audio Icon.
3. Press (ACTION) to display the Audio Adjustment Menu.
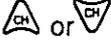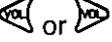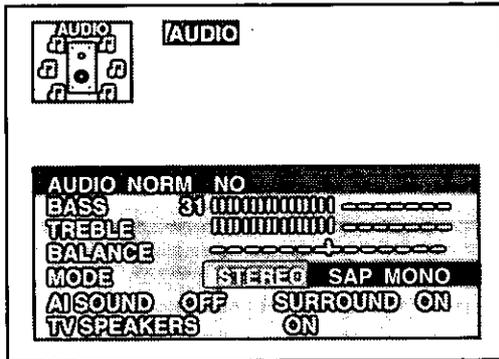
4. Press △ or ▽ to highlight AUDIO NORM.
5. Press ◁ or ▷ to select SET to normalize Bass, Treble, and Balance.
6. Press (ACTION) twice to exit menus.

Bass, Treble, and Balance

1. Press (ACTION).
2. Press △ or ▽ and ◁ or ▷ to highlight the Audio Icon.
3. Press (ACTION) to display the Audio Adjustment Menu.
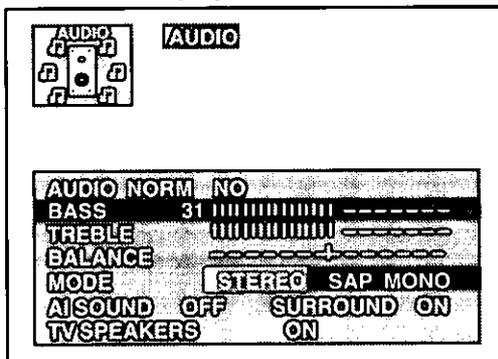

4. Press △ or ▽ to highlight BASS, TREBLE, or BALANCE.
5. Press ◁ or ▷ to adjust for desired audio response.
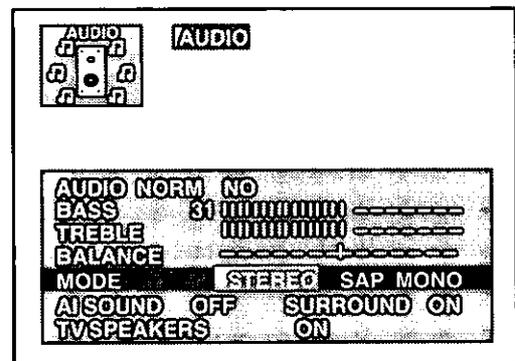6. Press (ACTION) twice to exit menus.
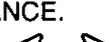
Helpful Hints:

BASS – To increase or decrease the Bass response.
TREBLE – To increase or decrease the Treble response.
BALANCE – To emphasize the LEFT/RIGHT speaker volume.

Mode

When Audio is broadcast in Stereo or SAP, an On-Screen display will appear on initial "Turn On" and "Channel Change". The available choices will be highlighted.

1. Press (ACTION).
2. Press △ or ▽ and ◁ or ▷ to highlight the Audio Icon.
3. Press (ACTION) to display the Audio Adjustment Menu.
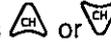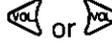
4. Press △ or ▽ to highlight MODE.
5. Press ◁ or ▷ to select STEREO, SAP (Second Audio Programming), or MONO. The selected mode will be highlighted.
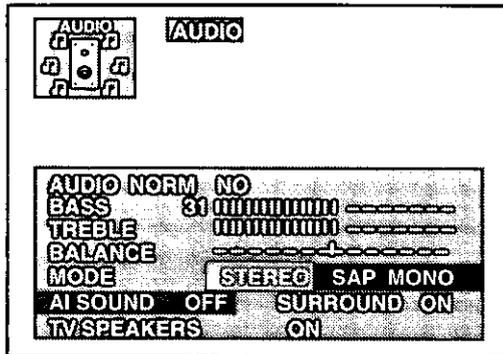6. Press (ACTION) twice to exit menus.

Helpful Hints:

STEREO – Two channel Audio reception.

SAP – Second Audio Programming (typically used for bilingual audio).

MONO – Use when stereo signal is weak.

AI Sound

This feature regulates the volume between programs and commercial audio to maintain a constant sound output level.

1. Press ⏺.
2. Press △ or ▽ and ◁ or ▷ to highlight the Audio Icon.
3. Press ⏺ to display the Audio Adjustment Menu.

4. Press △ or ▽ to highlight AI SOUND.
5. Press ◁ or ▷ to select ON or OFF.
6. Press ⏺ twice to exit menus.

Surround

Use the Surround Feature to enhance audio response when listening to Stereo broadcasts.

1. Press ⏺.
2. Press △ or ▽ and ◁ or ▷ to highlight the Audio Icon.
3. Press ⏺ to display the Audio Adjustment Menu.
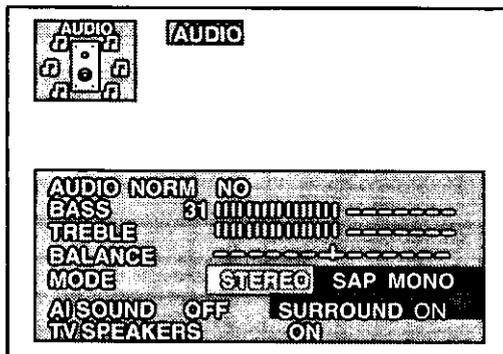
4. Press △ or ▽ to highlight SURROUND.
5. Press ◁ or ▷ to select ON or OFF.
6. Press ⏺ twice to exit menus.

TV Speakers

This feature is used to turn the internal speakers "ON" or "OFF". It is used when the TV is connected to an External Audio Amplifier. (Refer to "To Audio Amp Connection" section for further information.)

1. Press ⏺.
2. Press △ or ▽ and ◁ or ▷ to highlight the Audio Icon.
3. Press ⏺ to display the Audio Adjustment Menu.
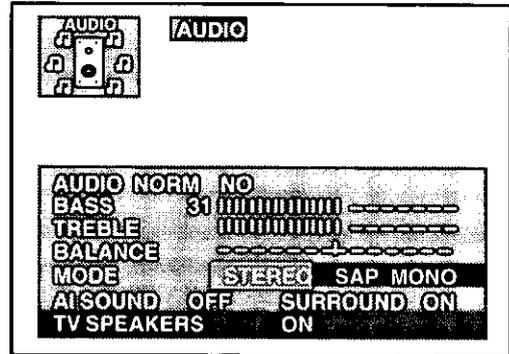
4. Press △ or ▽ to highlight TV SPEAKERS.
5. Press ◁ or ▷ to select ON, OFF&VAO or OFF&FAO.
   - ON – TV SPEAKERS operate normally.
   - OFF&VAO (Variable Audio Output) – TV SPEAKERS off, the sound output varies according to the TV volume. Use the TV remote to control the volume, muting, bass, treble, and balance of the External Amplifier System.
   - OFF&FAO (Fixed Audio Output) – TV SPEAKERS off, sound output is not adjustable. The audio is controlled by the External Amplifier System volume control.
6. Press ⏺ twice to exit menus.

Lock Game Guard

Prevents video games and other video sources from being viewed. Channel 3, 4 and video inputs are locked out for 12, 24 or 48 hours. **NOTE:** Be sure to understand this feature before attempting its use. **Use a code that you will easily remember or write down code on a piece of paper.**

1. Press ⬛ⒶⒸⓉⒾⓄⓃ .

2. Press Ⓐ or ⓥ and ◁ or ▷ to highlight the Lock Icon.

3. Press ⬛ⒶⒸⓉⒾⓄⓃ to display the Lock Menu.
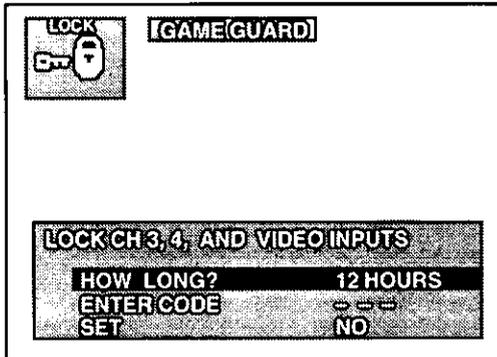
4. "HOW LONG" should already be highlighted. Press ▷ to select the desired amount of time (12, 24 or 48 hours) for Game Guard Lockout to be activated.

5. Press ⓥ to highlight ENTER CODE. Then enter a 3 digit code with the Remote Control Keypad. "SET" should be highlighted after entering the last digit. **IMPORTANT NOTE: Use a code you can easily remember or write down the code on a piece of paper.**

6. Press ▷ after entering three digit code. "Game Guard Locked" will display On Screen.
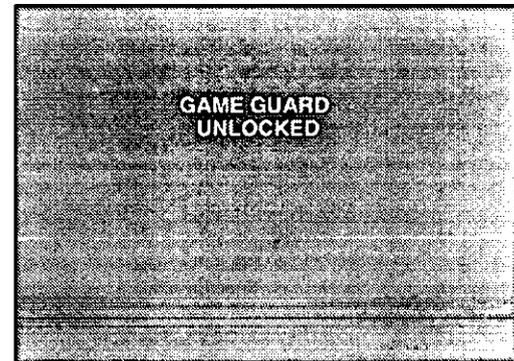
GAME GUARD
LOCKED
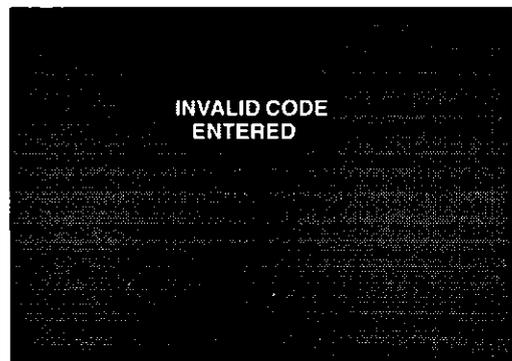
Game Guard Activated

Unlock Game Guard

To unlock the Game Guard feature, repeat steps 1 through 3. Enter the same 3 digit code previously used in step 5 with Remote Control Keypad.

GAME GUARD
LOCKED

LOCK ACTIVATED
ENTER CODE TO CHANGE SETTINGS
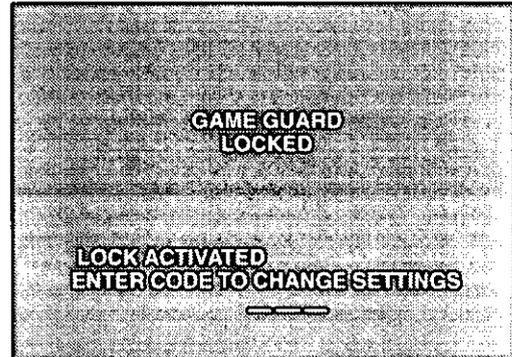
Enter Same 3 Digit Code Previously Used

GAME GUARD
UNLOCKED

If 3 Digit Code Is The Same

INVALID CODE
ENTERED

If 3 Digit Code Is Not The Same

Channel Caption

This feature allows you to enter the call names of up to 30 stations into memory (using up to 4 characters for each station). The call name will then display along with the channel number when changing channels or pressing RECALL.

CH 03
KXYZ ◄— Channel Caption (Station Identifier)
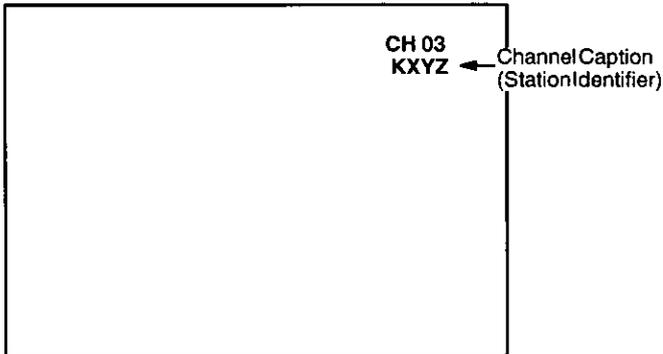
1. Press (ACTION).
2. Press △ or ▽ and ◁ or ▷ to highlight the Channel Caption Icon.
3. Press (ACTION) to display the Channel Caption Menu.

CHANNEL CAPTION
ESPN
46

ENTER CHANNEL NUMBER
3
ENTER CAPTION
○ ○ ○ ○
△ TO MOVE   ◁▷ TO SELECT
▽ CURSOR   CHANNEL
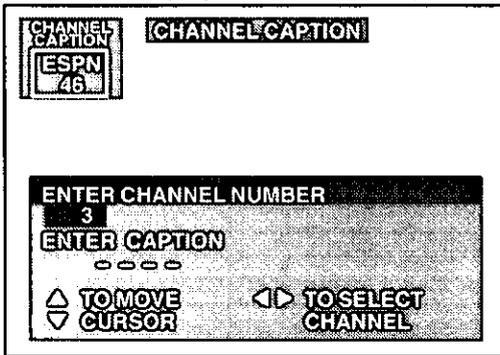
4. Press ◁ or ▷, or use the Remote Control Keypad to enter the channel number you wish to assign a Station Identifier.
5. Press ▽ to highlight ENTER CAPTION.
6. Press ◁ or ▷ to select first character in Station Identifier. Then press ▽ to move cursor to the second position and repeat until the complete Station Identifier is entered (up to 4 characters).
7. Press △ or ▽ to highlight ENTER CHANNEL NUMBER. Then repeat steps 4 through 7 to continue adding Channel Station Identifier(s).
8. Press (ACTION) twice to exit menus.

NOTE: To delete a Channel Caption (Station Identifier) from memory all four character positions in the "ENTER CAPTION" area must display a dash mark (–).

Helpful Hints:

When the Maximum amount of station identifiers are entered, "FULL" will be displayed in the caption position.

Timer Features

Sleep Timer

This feature is used for automatic turn off in 30, 60 or 90 minutes. Display will flash 3, 2 and 1 to indicate the last three remaining minutes prior to turn off. The Recall display will also appear.

NOTE: This feature will be disabled when Auto Power On is activated.

1. Press (ACTION).
2. Press △ or ▽ and ◁ or ▷ to highlight the Timer Icon.
3. Press (ACTION) to display the Timer Control Menu.

TIMER   TIMER CONTROL

SLEEP TIMER   NO
PROGRAM TIMER
   ON   --:--
   OFF   --:--
   CHANNEL   3
   SET   NO
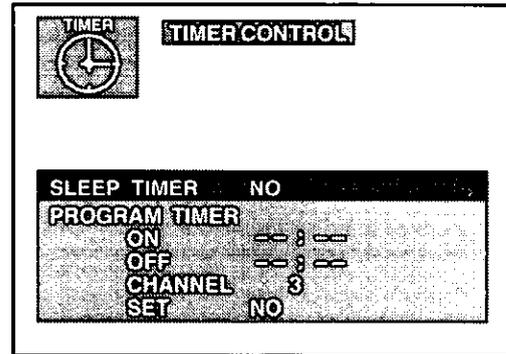
4. Press ▷ to select NO, 30, 60 or 90 minutes (Sleep Timer will be activated).
5. Press (ACTION) twice to exit menus.

NOTE: To deactivate Sleep Timer repeat steps 1 through 4. In step 4 select "NO" instead of minutes.

Helpful Hints:

Press the RECALL button to display the remaining minutes for Sleep Timer, the status will display in the bottom left corner.

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Timer Features (cont.)

Special Feature:
Automatic turn "OFF" after 90 minutes.

The TV has a special feature that will shut itself **OFF** after 90 minutes when turned **ON** by the program timer unless a function key is pressed during the 90 minutes.
This feature is useful so that the TV will not remain **ON** unattended for an extended period of time.
Programming the **OFF** timer will cancel the automatic **OFF** Special Feature.

Program Timer

This feature is capable of turning the TV on, tuned to a desired channel and off at a predetermined time (one day or daily). The clock must be set for this feature to operate. (Refer to the Set–Up Menu to set time.)

NOTE: This feature will be disabled when Auto Power On is activated.

1. Press (ACTION) .

2. Press △ or ▽ and ◁ or ▷ to highlight the Timer Icon.

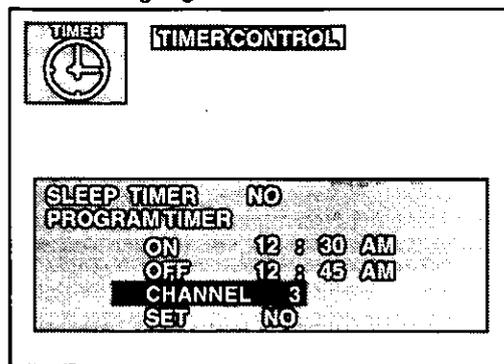3. Press (ACTION) to display the Timer Control Menu.
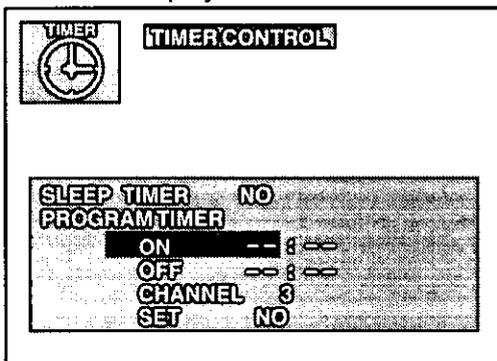
4. Press ▽ to highlight ON (time).

5. Press ◁ or ▷ repeatedly to set hours (set AM/PM accordingly).

6. Press ▽ to highlight the minutes position.

7. Press ◁ or ▷ repeatedly to set minutes.

8. Press ▽ to highlight OFF (time).
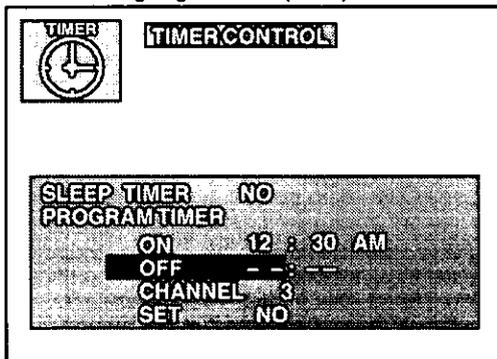
9. Repeat steps 5 through 7 for setting OFF (time).

10. Press ▽ to highlight CHANNEL.

11. Press ◁ or ▷ or use the Remote Control Keypad to enter the channel number desired when the set turns "ON".

12. Press ▽ to highlight SET.
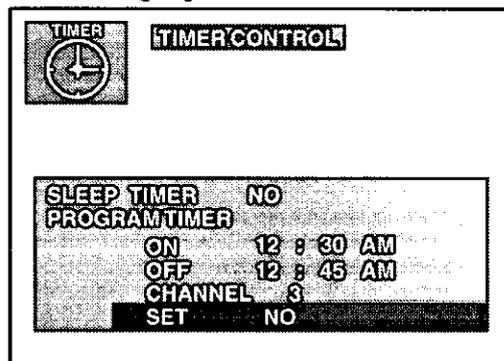
13. Press ▷ to select:
   - NO – not activated
   - ONE DAY – activated
   - DAILY – activated

14. Press (ACTION) twice to exit menus.

NOTE: To deactivate Program Timer select NO in step 13.

Helpful Hints:

- If the Program Timer "ON" functions while the set is operating, the set will automatically tune to the channel designated in the Timer Program.

Set-Up Features

Set Time

Clock (when set) will display on screen at initial "Turn On", after a channel change and when pressing the RECALL button. The time must be set first in order to operate the Program ON/OFF Timer.

NOTE: This feature will be disabled when Auto Power On is activated.

1. Press (ACTION).

2. Press △ or ▽ and ◁ or ▷ to highlight the Set–Up Icon.

3. Press (ACTION) to display the Set–Up Menu.

4. Press ◁ or ▷ to set hours (set AM/PM accordingly).

5. Press ▽ to select minutes position.

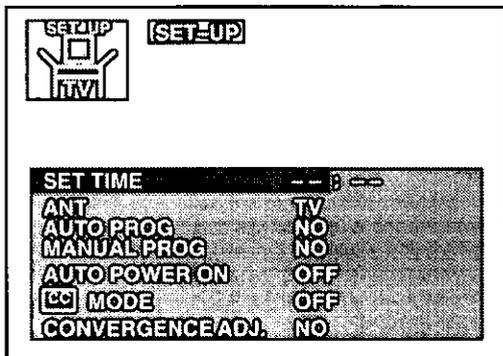6. Press ◁ or ▷ repeatedly to set minutes.
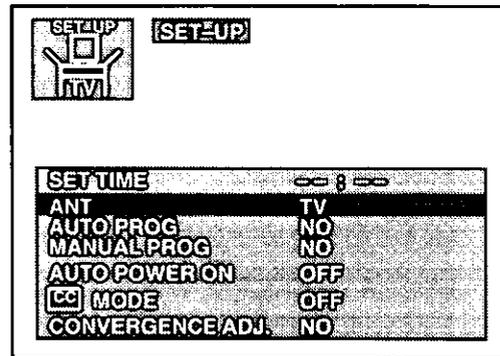
7. Press (ACTION) twice to exit menus.

Antenna (Ant)

The proper Input mode must be selected for the type of signal at the antenna input.

NOTE: This feature is disabled when Game Guard Lock is activated.

- TV mode is used when the Receiver is not connected to a cable TV system, for example when using a VHF/UHF antenna (channels 02 – 69).
- Cable mode is used when the Receiver is connected to a Cable TV system and you are not using a cable company converter box (channels 01 – 125).

1. Press (ACTION).

2. Press △ or ▽ and ◁ or ▷ to highlight the Set–Up Icon.

3. Press (ACTION) to display the Set–Up Menu.

4. Press ▽ to highlight ANT.

5. Press ◁ or ▷ to select TV or CABLE.

6. Press (ACTION) twice to exit menus.

Auto Prog

This feature allows you to place all channels with a video signal into Channel Scan Memory.

NOTE: This feature is disabled when Game Guard Lock is activated.

1. Press (ACTION).

2. Press △ or ▽ and ◁ or ▷ to highlight the Set–Up Icon.

3. Press (ACTION) to display the Set–Up Menu.
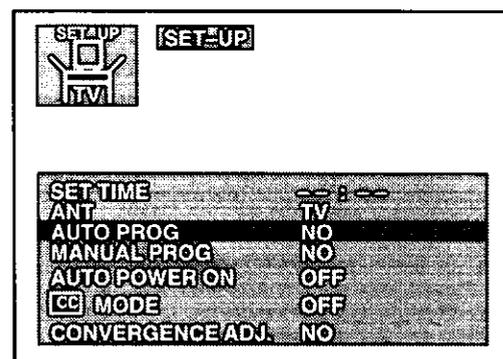
4. Press ▽ to highlight AUTO PROG.

5. Press ◁ or ▷ to start Auto Programming. Channels will automatically advance until all channels have been scanned.

6. Press (ACTION) twice after completion of Auto Programming to exit menus.

NOTE: Channel numbers with signal present will turn blue which indicates stored in Channel Scan Memory.
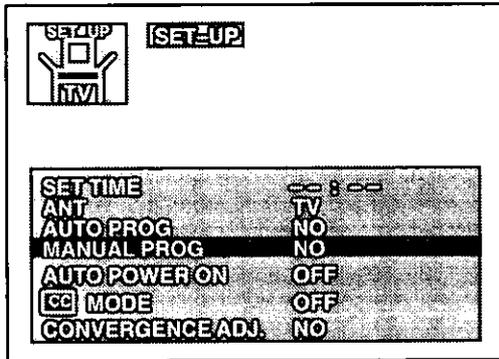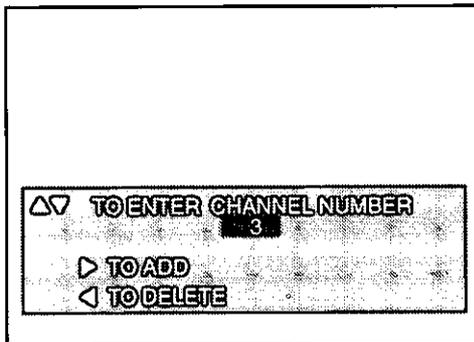
Set-Up Features (cont.)
Manual Prog

This feature allows you to select which channels are placed into Channel Scan Memory.

NOTE: This feature is disabled when Game Guard Lock is activated.

1. Press (ACTION).

2. Press ⌃ or ⌄ and ◁ or ▷ to highlight the Set–Up Icon.

3. Press (ACTION) to display the Set–Up Menu.

4. Press ⌄ to highlight MANUAL PROG.

5. Press ◁ or ▷ to display the Manual Programming Menu.

6. Use the ⌃ or ⌄ or the Remote Keypad "0 through 9" buttons to select channels.

7. Press ▷ to **add** channel(s) to memory (Blue). Press ◁ to **delete** channels from memory (Yellow).

8. Repeat steps 6 and 7 to continue adding or deleting channels.

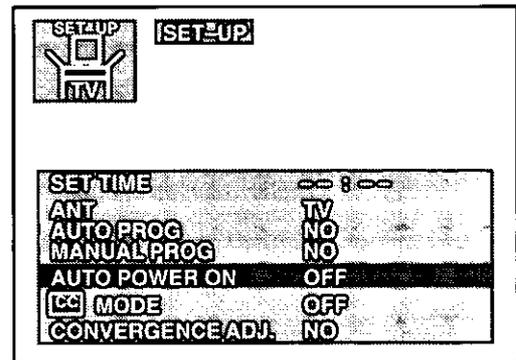9. Press (ACTION) twice to exit menus.

Auto Power On

This feature allows the user to power up the TV at the same time as the cable box (or other components). Of course, the TV must be plugged into the cable box.

NOTE: When this feature is activated (on), Timer features will be disabled.

1. Press (ACTION).

2. Press ⌃ or ⌄ and ◁ or ▷ to highlight the Set–Up Icon.

3. Press (ACTION) to display the Set–Up Menu.

4. Press ⌄ to highlight AUTO POWER ON.

5. Press ◁ or ▷ to select SET or OFF.

6. Press (ACTION) twice to exit menus.

CC (Closed Caption) Mode

This Receiver has a built in decoder that provides a visual depiction of the audio portion of a television program, in the form of written words across the screen (White or Colored letters on a black background). It allows the viewer to read the dialogue of a television program or other information.

When the Closed Caption is in the OFF Mode:
The viewer may display closed caption by pressing (MUTE) on the remote control. Press (MUTE) again to delete.

1. Press (ACTION).

2. Press ⌃ or ⌄ and ◁ or ▷ to highlight the Set–Up Icon.

3. Press (ACTION) to display the Set–Up Menu.
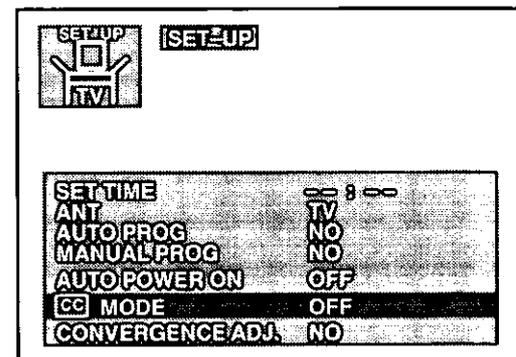
4. Press ⌄ to highlight CC MODE.

5. Press ▷ to select OFF, C1, or C2.

6. Press (ACTION) twice to exit menus.

Set-Up Features (cont.)

Convergence Adjustment

This TV incorporates a special *Digital Convergence Adjustment* feature. For the convenience of the customer, this adjustment is preset at the factory. However, adjustment may be required when the TV is moved (due to the influence of earth's magnetic field on the projection tubes.) Convergence may be adjusted as follows:
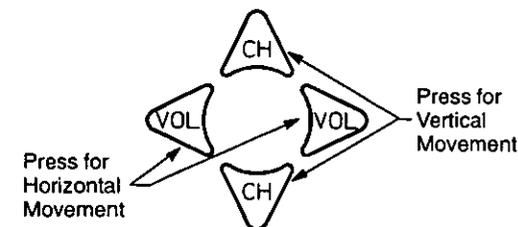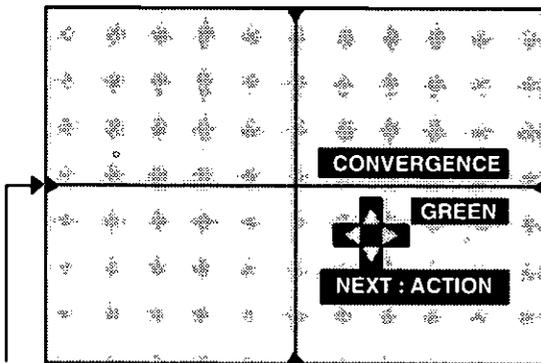
Green Adjustment

Turn the TV ON and tune in a channel that has a clear picture. The test pattern requires a received channel for stabilization. Green is the standard reference for the convergence adjustment procedure.

1. Press (ACTION).

2. Press △ or ▽ and ◁ or ▷ to highlight the Set Up Icon.

3. Press (ACTION) to display the Set-Up Menu.

4. Press ▽ to highlight CONVERGENCE ADJ.
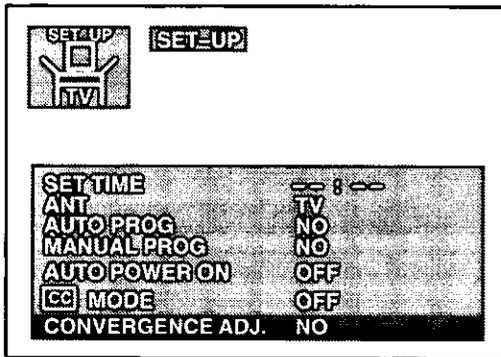
5. Press ◁ or ▷ to display the Convergence Adjustment screen.

6. Green horizontal and vertical lines appear on the screen.

mechanical reference
marks on frame
(screen center)

Press for Vertical Movement

Press for Horizontal Movement

7. Align the horizontal and vertical lines with the frame mechanical reference marks. Press ◁ or ▷ on Remote Control for moving the vertical line and and △ or ▽ for moving the horizontal line.

Red Adjustment

8. Press (ACTION) on the Remote Control to display the red adjustment menu.

   Note: A properly converged cross pattern will appear white with a minimum of red color fringing.
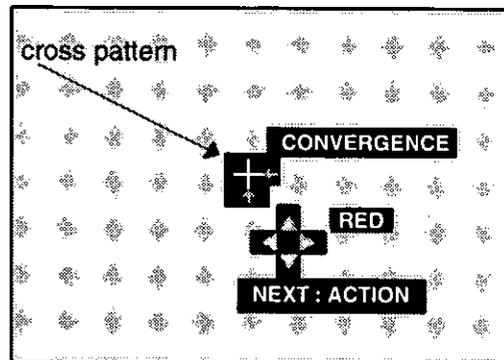
9. Align the Red Cross with the white cross pattern at the center of the screen. Press ◁ or ▷ on the Remote Control for horizontal movement and △ or ▽ for vertical movement.

Blue Adjustment

10. Press (ACTION) on the Remote Control to display the blue adjustment menu.
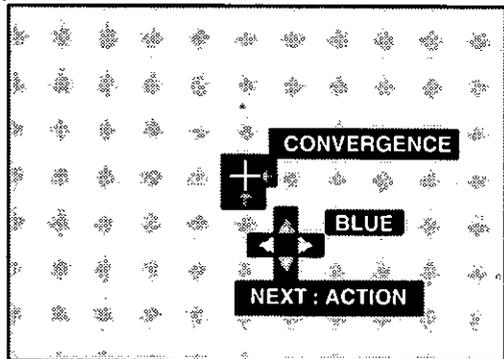
11. Align the Blue Cross with the white cross pattern at the center of the screen. Press ◁ or ▷ on Remote Control for horizontal movement and △ or ▽ for vertical movement.

12. Press (ACTION) three times to exit menus.

Note: TO PREVENT PICTURE TUBE DAMAGE, DO NOT LEAVE TEST PATTERN ON FOR A LONG PERIOD OF TIME.

Programming the Home Theater Remote

The remote control can be set to control other manufacturers components, by utilizing the **MODE SELECTION BUTTONS** for **CABLE, DSS, VCR, RCVR** (a **Receiver** or **Amplifier**), **CD, LD,** and **AUX** (for **Cassette Deck, Second VCR** or a **DVD.**)

Code Known

Use the following procedure for setting up the remote control using the numerical buttons when the component's remote code is known.

[1] Determine the brand of the component.

[2] Identify the code(s) associated with the brand from the infrared code index (see following pages). Record all possible codes.

[3] Confirm that the component is plugged in and operating properly, then turn it OFF.

[4] **Press and hold the (ACTION) button, then the (POWER) button so that both are pressed at the same time for at least 5 seconds. Then let go of the buttons.**

[5] **Press the appropriate Mode button for the component.**

[6] **Enter the 3-digit code, by using the Remote Control Keypad "0" through "9" buttons.**

Now the remote is set for the entered code.

[7] **Press the (POWER) button to test the remote. If the correct code is setup for the component (in step [6]), the component will turn on.**

NOTE: Some brands have multiple codes. Repeat the procedure using another listed code until the component responds correctly.

[6]
Code From Index Sheet

1	5	9

TNQ2AE007-1

Code Unknown

Use the following procedure for setting up the remote control when the component's remote access code is not known. This procedure uses the "sequence method".

[1] Confirm that the component is plugged in and operating properly, then turn it OFF.

[2] **Press and hold the (ACTION) button, then the (POWER) button so that both are pressed at the same time for at least 5 seconds. Then let go of the buttons.**

[3] **Press the appropriate Mode button for the device.**

[4] **Press the [vol] button to step over to the next code.**

[5] **Press the (POWER) button to test the remote. If the correct code is sent, the component will turn on.**

[6] **Once the correct code is found, press the (ACTION) button to store the code.**

[7] Repeat from step [3] above until the proper component code is found. It may take several attempts before the correct code is found.
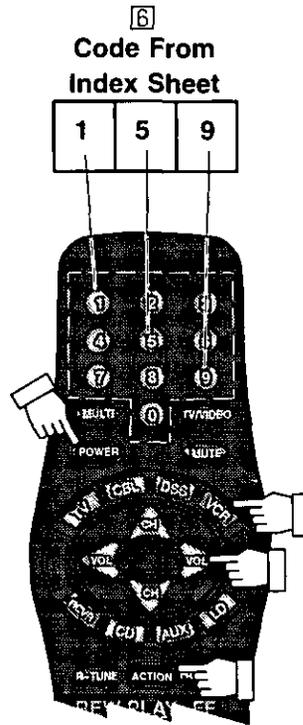
NOTE: If an incorrect code is entered, or when the operation is not completed within 30 seconds, the settings will not change.

Infrared Remote Codes for Specific Components

Helpful Hint: Write down the code numbers for your components in the space provided below. This will serve as a handy reference whenever you need to reprogram your remote control.

CABLE Cable TV Converter Box				VCR Video Cassette Recorder				CD Compact Disc Player			
DSS Digital Satellite System				RCVR Receiver or Amplifier				LD Laser Disc Player			
Other Component				Other Component				Other Component			
Other Component				Other Component				Other Component			

– 25 –

VCR Infrared Codes Index

The Universal Infrared Remote Control is capable of operating many brands of VCRs. Refer to the Programming the Remote Control section for procedures.

Note: The Universal Remote Control memory is limited; therefore, some models of VCRs may not operate. The Universal Remote Control is not designed to control all features that are available in all models.

Note: After entering the proper infrared code, press the Remote **VCR** (*) Selection Mode button. **A second VCR can be activated** using the same codes, from **AUX** (**) Selection Mode button. Then refer to the Remote Control Key Functions section, for Remote VCR and VCR 2 function key listing.

VCR

Second VCR

★★
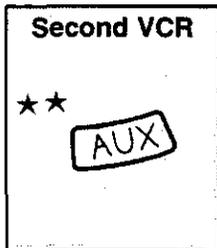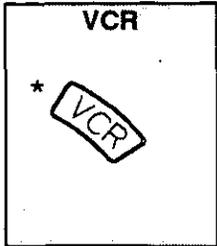
Code Index for VCRs

VCR Brand	Code(s)	VCR Brand	Code(s)
Adventura	000	MTC	000, 240
Aiko	278	Multitech	000, 072
Aiwa	000	NEC	038, 041, 067
Akai	041, 061	Nikko	037
American High	035	Noblex	240
Asha	240	Olympus	035
Audiovox	037	Optimus	037, 048, 104
Beaumark	240	Panasonic	035, 162, 225, 454
Bell & Howell	104	Penney	035, 037, 038, 042
Broksonic	121, 184		240
Calix	037	Pentax	042
Canon	035	Philco	035
Carver	081	Philips	035, 081
CCE	072, 278	Pilot	037
Citizen	037, 278	Pioneer	067
Colt	072	Protec	072
Craig	037, 047, 072, 240	Pulsar	039
Curtis Mathes	035, 041, 060	Quarter	046
Cybernex	240	Quartz	046
Daewoo	045, 278	Quasar	035
Dynatech	000	Radio Shack	000, 037
Electrohome	037	Radix	037
Electrophonic	037	Randex	037
Emerex	032	RCA	042, 060
Emerson	000, 002, 037, 043,	Realistic	000, 035, 037, 046
	061, 121, 184, 278		047, 048, 104, 240
Fisher	047, 104	Ricoh	034
Fuji	033, 035	Runco	039
Funai	000	Samsung	045, 240
Garrard	000	Sanky	039, 048
GE	035, 060	Sansui	041, 067
Goldstar	037, 038	Sanyo	046, 047, 104, 240
Gradiente	000	Scott	043, 045, 121, 184
Harley Davidson	000	Sears	035, 037, 042, 046,
Harman/kardon	038		047, 104
Harwood	072	Sharp	048
Headquarter	046	Shintom	072
HI-Q	047	Shogun	240
Hitachi	041, 042	Singer	072
Jensen	041	Sony	032, 033, 034, 035
JVC	041, 067	STS	042
Kenwood	038, 041, 067	Sylvania	000, 035, 043, 081
KLH	072	Symphonic	000
Kodak	035, 037	Tatung	041
Lloyd	000	Teac	000, 041
Logik	072	Technics	035, 162
LXI	037	Teknika	000, 035, 037
Magnavox	035, 039, 081	TMK	240
Magnin	240	Toshiba	043, 045
Marantz	035, 081	Totevision	037, 240
Marta	037	Unitech	240
Matsushita	035	Vector	045
MEI	035	Vector Research	038
Memorex	000, 035, 037, 039,	Video Concepts	045, 061
	046, 047, 048, 104	Videosonic	240
	240	Wards	000, 035, 042, 047,
MGA	043, 061		048, 072, 240
MGN Technology	240	XR-1000	000, 035, 072
Minolta	042	Yamaha	038
Mitsubishi	043, 061, 067	Zenith	033, 034, 039
Motorola	035, 048		

Cable Converter Box and CD Players
Infrared Codes Index

The Universal Infrared Remote Control is capable of operating many brands of Cable Converter Boxes and CD Players. Refer to the Programming the Remote Control section for procedures.

Note: The Universal Remote Control memory is limited; therefore, some models of Cable Converter Boxes and CD Players may not operate. The Universal Remote Control is not designed to control all features that are available in all models.

Note: After entering the proper infrared code, press the Remote **CBL** Selection Mode button (☆). Then refer to the Remote Control Key Functions section, for Remote CBL function key listing.

Cable

☆ CBL
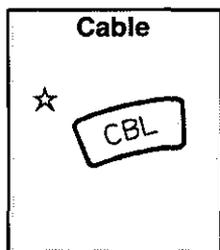
Codes for Cable Converter Box

Brand of Cable–TV Box	Code(s)	Brand of Cable–TV Box	Code(s)
ABC	003, 007, 008, 011, 013, 014, 017	Pioneer	144, 533
Archer	153	Pulsar	000
Century	153	RCA	021
Citizen	153	Regal	020, 259
Contec	019	Rembrandt	011
Dae Ryung	008	Runco	000
Garrard	153	Samsung	144
Gemini	015	Scientific Atlanta	008, 017, 477
General Instrument	011, 476	Signal	015
Goldstar	144	Signature	011
Hamlin	009, 020, 259	Sprucer	021
Hitachi	011	Starcom	003, 015
Hytex	007	Stargate	015
Jasco	153	Starquest	015
Jerrold	003, 011, 012, 014, 015, 476	Tocom	012, 013
		Toshiba	000
Memorex	000	Tusa	015
Oak	007, 019	Unika	153
Panasonic	000, 021, 107	United Artists	007
Paragon	000	United Cable	003
Philips	153	Universal	153
		Zenith	000, 525

Note: After entering the proper infrared code, press the Remote **CD** Selection Mode button (☆☆). Then refer to the Remote Control Key Functions section, for Remote CD Players function key listing.

CD Player

☆☆ CD
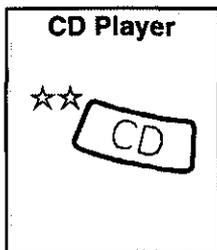
Codes for CD Players

Brand of CD Players	Code(s)	Brand of CD Players	Code(s)
Aiwa	124, 157	Onkyo	101
CA Audio Lab	029	Optimus	000, 032, 037, 305, 426, 468
Carver	157		
Denon	003	Panasonic	029, 367
DKK	000	Philips	157
Emerson	305	Pioneer	032, 468
Fisher	048	Proton	157
Genexxa	032, 305	QED	157
Harman–Kardon	426	Quasar	029
Hitachi	032	RCA	305
JVC	072	Rotel	157
Kenwood	028, 037, 048, 190	SAE	157
Krell	157	Sansui	157, 305
LXI	305	Scott	305
Magnavox	157	Sears	305
Marantz	029, 157	Sharp	037
MCS	029	Sherwood	426
Mission	157	Sony	000
Nakamichi	147	Technics	029, 303
NSM	157	Victor	072

Cassette Deck, Receivers, and Amplifiers
Infrared Codes Index

The Universal Infrared Remote Control is capable of operating many brands of Cassette Deck, Receivers, or Amplifiers. Refer to the Programming the Remote Control section for procedures.

Note: The Universal Remote Control memory is limited; therefore, some models of Cassette Deck, Receivers, and Amplifiers may not operate. The Universal Remote Control is not designed to control all features that are available in all models.

Note: After entering the proper infrared code, press the Remote **AUX** Selection Mode button (✳). Then refer to the Remote Control Key Functions section, for Remote Cassette Deck function key listing.

Cassette Deck

✳
[AUX]
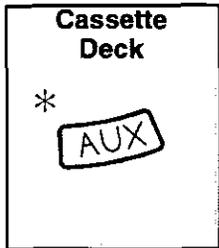
Code Index for Cassette Deck			
Brand of Cassette Deck	**Code(s)**	**Brand of Cassette Deck**	**Code(s)**
Aiwa	029	Panasonic	272
Carver	029	Philips	029
Denon	076	Pioneer	027, 220
Kenwood	070	Sansui	029
Magnavox	029	Sherwood	337, 338
Marantz	029	Sony	170, 243
Nakamichi	147	Technics	229
Optimus	027, 220, 337, 338	Wards	027
		Yamaha	094, 097

Note: After entering the proper infrared code, press the Remote **RCVR** Selection Mode button (✳✳). Then refer to the Remote Control Key Functions section, for Remote Receivers/Amplifiers function key listing.

Receivers Amplifiers

✳✳
[RCVR]

Code Index for Receivers and Amplifiers			
Brand of Receiver / Amplifier	**Code(s)**	**Brand of Receiver / Amplifier**	**Code(s)**
ADC	531	Panasonic	039
Aiwa	121, 158, 189	Penney	195
Carver	008, 042, 189, 269	Philips	189, 269
Casio	195	Pioneer	013, 014, 080, 300, 531
Clarinette	195		
Denon	004	Quasar	039
Fisher	042, 219	RCA	531
JVC	074	Realistic	195
Kenwood	027, 186	Sansui	189, 321
Lloyd's	195	Sanyo	219
Magnavox	189, 195, 269, 531	Sharp	186
Marantz	039, 189, 269, 321	Sherwood	502
MCS	039	Sony	158
Modulaire	195	Technics	039, 208, 308, 309, 518
NAD	320		
Nakamichi	321, 347	Victor	074
Onkyo	135	Wards	013, 014, 042, 080, 158, 189
Optimus	013, 080, 186, 219, 300, 531		
		Yamaha	176, 186, 354
		Yorx	195

Laser Disc, DSS (Digital Satellite System), and DVD (Digital Videodisc)
Infrared Codes Index

The Universal Infrared Remote Control is capable of operating selected brands of Laser Disc, DSS Digital Satellite System, and DVD (Digital Videodisc). Refer to the Programming the Remote Control section for procedures.

Note: The Universal Remote Control memory is limited; therefore, some models of Laser Disc, DSS Digital Satellite System, and DVD (Digital Videodisc) may not operate. The Universal Remote Control is not designed to control all features that are available in all models.

Note: After entering the proper infrared code, press the Remote **LD** Selection Mode button (◇). Then refer to the Remote Control Key Functions section, for Remote Laser Disc function key listing.

Laser Disc Player

◇
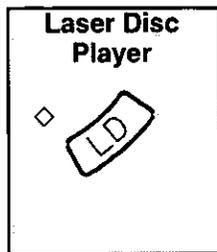
Codes for Laser Disc

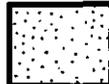| Brand of Laser Disc	Code(s)
Mitsubishi	059
NAD	059
Panasonic	204
Pioneer	059
Quasar	204
Sony	201

Note: After entering the proper infrared code, press the Remote **DSS** Selection Mode button (◇◇). Then refer to the Remote Control Key Functions section, for Remote DSS function key listing.

DSS

◇◇
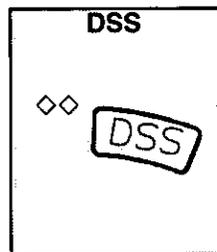
Codes for DSS (Digital Satellite System)

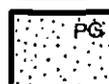| Brand of Satellite	Code(s)
Panasonic	701
RCA	566
Sony	639

Note: After entering the proper infrared code, press the Remote **AUX** Selection Mode button (★). Then refer to the Remote Control Key Functions section, for Remote DVD function key listing.

Digital Videodisc

★
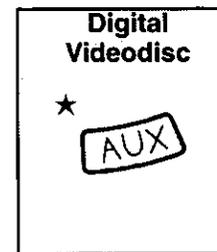
Codes for DVD (Digital Videodisc)

Brand of DVD	Code(s)
Panasonic	490

Troubleshooting Chart

Before you call for service, determine the symptoms and make a few simple checks shown below.

Symptoms		Check
Picture	**Sound**	
SNOWY PICTURE	NOISY SOUND	– ANTENNA LOCATION AND/OR CONNECTION
MULTIPLE IMAGE	NORMAL SOUND	– ANTENNA DIRECTION AND/OR LOCATION – ANTENNA LEAD–IN WIRE
INTERFERENCE	NOISY SOUND	– ELECTRICAL APPLIANCES, LIGHTS, CARS AND TRUCKS – DIATHERMY AND OTHER MEDICAL EQUIPMENT
NORMAL PICTURE	NO SOUND	– VOLUME CONTROL SETTING – MUTE CONTROL (IF APPLICABLE) – TV SPEAKER SWITCH (IF APPLICABLE) IN OFF OR EXT POSITION – TRY ANOTHER CHANNEL
NO VIDEO	NOISY SOUND	– TV/ANT–CABLE TUNING SYSTEM SET TO PROPER SETTING – ANTENNA INPUT MODE INCORRECT
NO PICTURE	NO SOUND	– CHECK THAT AC POWER LINE IS PLUGGED INTO AC OUTLET AND POWER BUTTON IS ON – BRIGHTNESS AND AUDIO CONTROLS SET PROPERLY – TRY ANOTHER CHANNEL
NO COLOR	NORMAL SOUND	– COLOR CONTROL SETTINGS – TRY ANOTHER CHANNEL
BLACK PICTURE	NO SOUND	– RECEIVER IN VIDEO MODE WITH NO SIGNAL
NO VIDEO	NOISY SOUND	– CHANNEL LOCKOUT FEATURE ACTIVATED

Notes

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.
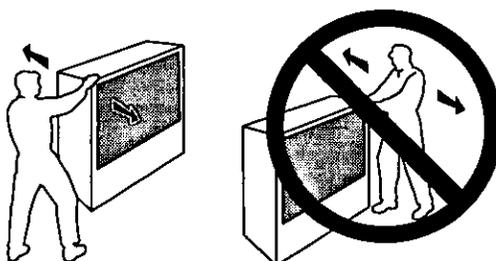
ADVERTENCIA

Para mover el conjunto, empuje desde el lado izquierdo del mismo. Los roldanas 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 des 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。